

## *Highly Viewed Articles*

### **1. Therapeutic Options in Hypertrophic Cardiomyopathy**

Hypertrophic cardiomyopathy (HCM) is one of the more common hereditary cardiac conditions. Several hundreds of mutations in genes coding for sarcomeric or energy metabolism proteins have been found to be associated with the phenotype. Myocardial disarray and fibrosis are the prominent histological findings of the disease. A more common (70%) obstructive (HOCM) has to be distinguished from the less common (30%) non-obstructive phenotype (HNCM). Symptoms include exercise limitation due to dyspnea or angina pectoris, palpitations, or dizziness.

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### **2. Immunology in Defiance: A Clinician's Perspective on Modern Organ Transplantation**

Transplantation in the absence of immunomodulation into a foreign species invariably fails. Transplantation of allograft in to unrelated members of the same species usually fails. Auto grafts almost invariably succeed. There is a primary "take" and then delayed rejection of the first graft into an unrelated member of the same species. There is accelerated rejection of a second graft in a recipient that had previously rejected a graft from the same donor, or of a first graft in a recipient that had been pre-immunized with material from the same donor.

The closer the blood relationship between donor and recipient, the higher the success rate at least in clinical terms. These guiding principles still guide the clinician and provide a framework with which those in the basic sciences can formulate future experiments.

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### **3. Application of Appropriate- Use-Criteria to Single- Photon Emission Computed Tomography Myocardial Perfusion Imaging (SPECTMPI) Test Results: A Retrospective Analysis**

Single-photon Emission Computed Tomography (SPECT)- Myocardial Perfusion Imaging (MPI) is a cost-effective and preferred mode of investigation to determine the risk of significant coronary artery disease (CAD). A negative stress study confers a 1% annual risk of myocardial infarction or cardiac death. A strategy of coronary catheterization for those with inducible ischemia on the SPECTMPI study confers significant financial savings according to the multicenter Economics of Noninvasive Diagnosis (END) in the US and Economics of Myocardial Perfusion Imaging in Europe (EMPIRE) studies [1]. Recent data indicates dramatic rise in the use of SPECTMPI among those with low risk cardiac status [2]. This has invited a debate over the wasteful ordering of these tests. Reimbursement for the test has taken a cut after the Deficit reduction Act of 2005. A significant number of such studies are being denied reimbursement by insurance companies thus transferring the burden of payment on to the patient or the testing institution.

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#### **4. Features of Cytokine Profile in Patients with Progressive TB-Induced Pulmonary Fibrosis Characterized by Various Intensities of Pulmonary Destructive Changes**

Production of pro- and anti-inflammatory cytokines (IFN- $\gamma$ , IL-2, TNF- $\alpha$ , IL-8, IL-4, IL-10) in patients with pulmonary TB infection with various spread and severity of the process were investigated in in vitro PPD- and PHA-stimulated peripheral blood mononuclear cells (PBMCs). It was demonstrated that each type of MDR-TB lung fibrosis is determined by specific traits of a multilevel cytokine network functioning according to activity of cytokine-producing cells.

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#### **5. Beliefs of Nutrition and Healthy Lifestyle among Women in a Hospital Setting**

Over the last few decades, food choices and eating habits have changed amongst Saudi Arabian families, as western food choices and food chains have become increasingly prevalent throughout the country and particularly in urban areas. While the Bedouin nomads consume a much simpler diet than that of the urban Saudi Arabians, typically fava beans, wheat, rice, yogurt, dates and chicken, several studies have identified an increase in the consumption of fast food in Saudi Arabia, particularly within the adolescent population. This, along with an increasingly sedentary lifestyle, has led to an increase in the incidence of obesity among the Saudi Arabian population with prevalence ranging from 14% in children to 83% in adults. Studies have also shown an increase in the prevalence of diabetes and hypertension in the Saudi Arabian population; particularly in women of reproductive age. It is also well established that a high number of Saudi Arabian women have low vitamin D levels and often suffer from anaemia.

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#### **6. Associations between Obesity, Body Fat Distribution, Weight Loss and Weight Cycling on Serum Pesticide Concentrations**

The incidence of breast cancer has increased markedly since the 1940s, as have environmental factors that are implicated as potential contributors to risk. Exploration of a class of environmental contaminants, known as organochlorines, and their associations with hormonally-linked cancers has been cited as an area of interest.

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#### **7. Head and Neck Cancer Adherence to Dietary Recommendations using Theory-Based Tools: Future Research Directions**

The possibility of applying social cognitive theory (SCT) as a potential framework in improving head and neck cancer (HNCA) patient adherence to dietary interventions as reported by Rogers et al. is very interesting. The very high internal reliability of the SCT scales related to diet adherence was impressive. This is the first study to examine predictors or correlates of diet adherence in HNCA patients based on a behavioral change theory. Further, this study supports the need and legitimacy of the use of SCT in assessing dietary adherence to recommendations by HNCA patients.

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## **8. Optimal Defaults in the Prevention of Pediatric Obesity: From Platform to Practice**

The term “optimal defaults” refers to imparting pre-selected choices which are designed to produce a desired behavior change. The concept is attractive to policymakers because it steers people toward desirable behaviors while preserving free choice through the ability to opt out. It has been found to be a powerful behavioral determinant in areas such as pension plan enrollment, organ donation, and green energy utilization.

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## **9. Vegetables as Sources of Antioxidants**

Dietary plant antioxidants have been considered beneficial to human health. Antioxidants can eliminate free radicals and other reactive oxygen and nitrogen species, and these reactive species contribute to most chronic diseases. Dietary plants contain variable chemical families and amounts of antioxidants. Vegetables provide the body, an added source of antioxidants to fight against free radicals. Without the necessary intake of healthy vegetables, free radicals can spread and eventually lead to various types of cancer. This review discusses about vegetables as sources of antioxidants.

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## **10. Evidence for Bone Reversal Properties of a Calcium- Collagen Chelate, a Novel Dietary Supplement**

Menopause drastically increases the risk of osteoporosis, and although drug therapies are available, having an efficacious dietary supplement as an adjuvant therapy or alternative is desirable. Recent findings suggest that a calcium-collagen chelate (CC) in the form of a dietary supplement is highly effective in improving bone mass in osteopenic rats. Therefore, we hypothesized that the consumption of CC reverses bone loss in postmenopausal women with osteopenia as early as three months.

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## **11. Rural-Urban Transfers and Household Food Security in Harare's Crisis Context**

This paper is based on research carried out in 2009 in the low-income residential area of Epworth in Harare, Zimbabwe. The paper assesses the contribution of rural-urban linkages to the food security of urban households in a crisis context. Research findings demonstrate that in conditions of extreme economic distress such as those that were besetting Zimbabwe at the time, the socio-cultural linkages that exist between the city and the village, as well as the economic relations of reciprocity embedded within these interactions are crucial to the survival of distressed urban households.

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## **12. Evaluation of Selected Toxigenic Genes and Antimicrobial Agent Susceptibility in Staphylococcus Spp Isolated from Foods Purchased from North Dakota Grocery Stores**

Staphylococcus spp are broadly divided into two groups, coagulasepositive Staphylococcus (CPS) and coagulase-negative Staphylococcus (CNS) sub-groups. Staphylococcus aureus, the prototype of the CPS sub-group, is responsible for a number of human diseases including but not limited to food poisoning,

skin infections, toxic shock syndrome and sepsis. Staphylococcal food poisoning (SFP), which is widely attributed to toxigenic *S. aureus*, occurs following ingestion of at least 1.0  $\mu\text{g}$  of preformed enterotoxin in food. Humans and animals serve as primary reservoirs of this agent and *Staphylococcus* spp are widely found as normal flora in more than 50% of healthy individuals. The FDA report cites food handlers as the main source of food contamination in majority of the SFP outbreaks. To a lesser extent, however, equipment and environmental surfaces can also be sources of contamination.

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### **13. Developing Theory-Based Measurement Tools for Improving Diet Compliance in Head and Neck Cancer Patients**

Head and neck cancer (HNCa) patients may suffer significant weight loss due to side effects such as anorexia, taste alterations, mucositis, pain, and difficulty swallowing. Counseling by a dietitian can reduce weight loss, enhance quality of life, and improve clinical outcomes but up to 57% of HNCa patients may be noncompliant with such counseling. Compliance can be improved by designing interventions based on a behavioral change theory. For example, the social cognitive theory provides principles that can be applied to assist individuals in making healthy behavior change. Self-efficacy, the most well-known construct of the social cognitive theory, is an individual's confidence in their ability to engage in a specified behavior.

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### **14. Modeling of Time Dependent Variation of Moisture Content, Density, Porosity and Specific Volume during Drying of Apple and Potato**

In this work, drying experiments were conducted for one variety of apple (Fuji) and three varieties of potato, namely, Kufri Chipsona-1, Kufri Himsona and Kufri Bahar at temperature 60, 70 and 80°C in the tray dryer. The effect of temperature on drying characteristics and quality parameters of the dried apple and potato slices was determined. For investigating the drying characteristics of apple and potato, an appropriate drying model was presented by modifying existing drying model. A non-linear regression procedure was employed to fit several drying models available in the literature to the experimental data. The models were compared according to chi-square ( $\chi^2$ ), coefficient of determination ( $R^2$ ) and root mean square error (RMSE). Results based on our model had close resemblance with experimental observations. Drying constant was correlated with temperature by using exponential equation.

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### **15. Role of IL-17 in Glioma Progression**

There is increasing evidence in the literature pointing to an important role of inflammation during initiation and progression of cancer. Glioblastoma is the most common malignant primary brain tumor with approximately 23,000 newly-diagnosed cases each year in the United States, and has a dismal median survival of only 15 months. Although the blood-brain barrier maintains an immunoprivileged status of the brain under steady state, intracranial tumors including gliomas are invariably infiltrated with various types of immune cells.

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## **16. Acute Hemorrhage Following Gamma Knife Radiosurgery to a Clival Meningioma**

Gamma Knife radiosurgery (GKS) is a primary treatment modality for small, surgically-challenging meningiomas of the skull base in carefully selected patients. Despite the overall low incidence of complications from this procedure, rare instances of hemorrhagic events following GKS have been reported. In fact, only a single, probable case of acute hemorrhage after GKS for a meningioma exists in the literature.

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## **17. Towards a Targeted Molecular Approach for Brain Metastases**

The most devastating statement a neuro-oncologist will ever make and a cancer patient will ever hear is, “Your cancer has spread to your brain” because based on the currently available treatments, that statement is likely to be followed by, “Even with surgery and radiation, you may only survive another six months.

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## **18. The Effects of Motivational Self-Talk on Self-Efficacy and Performance in Novice Undergraduate Students**

The study of self-talk in sport has provided evidence on a few of the effects of self-talk on task performance. However, one of the issues which remains unclear in the self-talk literature is the matching of task’s motor demands with the different types of self-talk cues, the so called matching hypothesis. The purpose of this study was to explore the influence of motivational self-talk on students’ selfefficacy levels and on their performance in a precision-oriented task. Forty-four ( $M_{age} = 20.93$ ,  $SD = 2.31$ ) physical education undergraduate students with no experience in dart throwing (22 females and 22 males) were randomly assigned into two groups: the experimental group that used motivational self-talk and the control group. A baseline and two performance trials were performed. Mixed model ANOVAs revealed group by time interaction for selfefficacy ( $p < 0.05$ ). Post-hoc analysis showed that self-efficacy in the motivational self-talk group increased significantly ( $p < 0.001$ ), whereas the self-efficacy of the control group had no significant changes.

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## **19. Does the Trunk Stability Push-Up Provide an Effective Measure of Upper-Body Function Specific to Male Team Sport Athletes?**

The trunk stability push-up (TSPU) is a closed-chain test that can measure upper-body functional strength, but may not relate to sport-specific performance. The bilateral medicine ball chest pass (MBCP) is a more sport-specific openchain assessment. This research investigated whether the TSPU related to bilateral MBCP to determine whether it was a valid test of team sport upper-body function. The bilateral MBCP is a more effective test of upperbody function than the TSPU, and can discriminate between athletes with different upper-body function. This assessment related to the unilateral MBCP and TSPU, indicating its applicability for team sports.

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## **20. A Comparison of Absolute, Ratio and Allometric Scaling Methods for Normalizing Strength in Elite American Football Players**

Division I football players exemplify the greatest range in body mass of any modern team sport. Body mass may differ by over 80 kg between the various positions. Absolute muscular strength is typically greater in larger individuals, but such data does not allow for accurate comparisons. Therefore, in order to compare the performance indices of individual groups allometric rather than ratio scaling has been suggested. The purpose of this study was to compare absolute strength, normalized ratio and allometrically scaled data among players of different size.

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## **21. Attitudes and Prevalence of Evidence-based Practice in Undergraduate Athletic Training Education Programs**

Evidence-based practice (EBP) has been adopted from medicine and has emerged among the various health professions and is regarded as the best approach to ensuring accurate and meaningful patient care. Previous authors have recommended the need for EBP education at the undergraduate level in athletic training education programs (ATEPs) and since that time the 5th edition educational competencies have been released and now require programs to include EBP instruction within the program.

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## **22. Baseball Resistance Training: Should Power Clean Variations Be Incorporated?**

The power clean and its variations are prescribed by many collegiate and professional strength and conditioning coaches in order to train lower body muscular power. Lower body muscular power is an essential component to the overall performance of athletes in their respective sports. Although baseball is a sport that requires lower body power to be successful, it has not followed the trend of other sports that use Olympic lifts and their variations to train lower body power. Speculation leads practitioners to believe that baseball players consider Olympic lifts to be harmful to their shoulders and wrists because of the traditional over-head catch position of the snatch and jerk and the catch position of the power clean respectively. There are several power clean variations that produce high amounts of lower body power and may decrease the chance for injury to the shoulders and wrists.

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## **23. Difficulties in Determining the Dose-Response Nature of Competitive Soccer Matches**

The monitoring of training loads within soccer is now common practice. Training sessions are monitored to evaluate the physical stimulus imposed upon players to ascertain whether the goals of training sessions have been met. An understanding of the demands of training is also required to facilitate the effective planning and timing of subsequent training sessions. Technological advances in the measurement of physical activity - such as GPS and heart rate monitors - enable sport scientists to accurately gauge the actual work performed by their players (i.e., distances covered) and the physiological response to this work (i.e., heart rates).

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## **24. Can the Influence of Running Performance in Olympic-Distance Tri-athlon be Compensated for?**

In Olympic-distance triathlon, the 10 km run is assumed to be decisive for winning. The performance in the 1.5 km swim and 40 km cycling plays only a subordinate role in winning. Simulation calculations based on the times achieved in each discipline were able to show that even above-average swimming and cycling times as well as training extensions in terms of training time by excellent swimmers and cyclists did not compensate for excellent running performance. Under the current conditions, only top running performance opens up any chance at succeeding at all.

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## **25. Diagnostic Differences for Anterior Knee Pain between Sexes in Adolescent Basketball Players**

Difference in the prevalence of specific patellofemoral disorders that cause anterior knee pain in adolescent basketball players undergoing pre-participation screening. A total of 810 (688 female and 122 male) basketball players from a single county public school district. Main outcome measures: Prior to the start of three consecutive basketball seasons, participants were evaluated for anterior knee pain. Testing consisted of completion of the Anterior Knee Pain Scale. Those with positive findings completed an IKDC form, a standardized history and a physician-administered physical examination. Anterior knee pain was noted in 410 of 1620 knees (25.3%). 26.6% of female knees and 18.0% of male knees were affected ( $p < 0.05$ ). Patellofemoral dysfunction (PFD) was the most common diagnosis with an overall prevalence of 6.4% (7.3% females; 1.2% males).

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## **26. Lance Armstrongs Era of Performance - Part I: Are his Time Trial Performances Much Different from Other Winners?**

The synthetic glycoprotein hormone erythropoietin - best known as recombinant human erythropoietin (rHu-EPO) or epo - became widespread in endurance sports such as professional cycling in the beginning of the 1990s. In 2000, the World Anti-Doping Agency (WADA) implemented a test for epo, after which cyclists are said to have resorted to blood doping as an alternative for epo to boost their performances. Since the 1990s, professional cycling suffered extensive doping scandals, all involving the illicit use of epo and / or blood doping, such as the 1998 Festina affair and the 2006 Operação Puerto blood doping affair. The last scandal concerns Lance Armstrong, the only rider ever to win seven consecutive Tours de France (1999–2005).

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## **27. The Use of Performance Tests for the Physiological Monitoring of Training in Combat Sports: A Case Study of a World Ranked Mixed Martial Arts Fighter**

The sport of mixed martial arts (MMA) is a full contact sport that has had a rapid rise in popularity and participation in recent years. Although initial attempts were made to ban MMA competitions by the medical community and politicians, changes in rules and increased fighter safety and an increased acceptance of this

style of combat sport has seen its popularity outstrip more conventional combat sports such as pro wrestling and boxing. Participation in martial arts is seen as an important form of exercise providing individuals with physical well-being as well as a sense of psychological well-being.

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## **28. Knowledge of HPV among HIV-Infected and HIV-Uninfected Adolescent Women in South Africa**

The aim of this study is to examine the knowledge of human papillomavirus (HPV) and cervical cancer among HIV-infected and HIV-uninfected female adolescents in South Africa. Methods: Subjects were recruited from a parent study of HPV infection comprised of females ages 16-21 in Masiphumelele, Cape Town, South Africa. A total of 30 subjects, 15 HIV-infected and 15 HIV-uninfected, were selected via randomization and completed a measure of HPV knowledge, based on a previously validated instrument. The study took place in May 2013. Results: The overall mean score on the measure for all subjects was 43.3% (S.D. 10.9). There was no significant difference in HPV knowledge between the HIV-infected and HIV-uninfected groups. Based on results from a previous large-scale study using the same validated measure, this sample scored significantly worse on general HPV knowledge than samples from the US, UK, and Australia. Conclusion: Given the limited knowledge of HPV in this sample, there is greater need for education about the prevention of cervical cancer, specifically among high-risk adolescent women.

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## **29. Contraceptive Counseling and Use among Women with Poorer Health**

Over 73 million women in the United States are of reproductive age, accounting for more than 48% of the female population. Of these women, over 25% suffer from chronic conditions including hypertension, diabetes, depression, and vascular disease which do not affect fertility but may increase the risk of pregnancy complications and adverse birth outcomes. Use of effective contraception by women with chronic conditions can enable them to plan their pregnancies and optimize maternal and fetal outcomes. The effectiveness of contraceptive counseling and contraception as part of preventative health efforts are recognized by their coverage without co-pay in the Affordable Care Act.

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## **30. Does Screening or Providing Information on Resources for Intimate Partner Violence Increase Women's Knowledge? Findings from a Randomized Controlled Trial**

Screening for IPV in health care settings might increase women's knowledge or awareness around its frequency and its impact on health. When IPV is disclosed, assuring women it is not their fault should improve their knowledge that IPV is the perpetrator's responsibility. Providing information about IPV resources may also increase women's knowledge about the availability of solutions. There were no differences between women screened and provided with a partner violence resource list compared to a control group as to women's knowledge of the frequency of IPV, its impact on physical or mental health,

or the availability of IPV services in their community. However, among women who experienced IPV in the year before or year after enrolling in the trial, those who were provided a list of IPV resources without screening were significantly less likely to know that IPV is not the victim's fault than those in the control or list plus screening conditions.

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### **31. Methodology of the My Body is Fit and Fabulous at Home (MyBFF@home): An Intervention Study to Combat Obesity Among Housewives in Malaysia**

The prevalence of obesity in Malaysia has reached an upward trend. In 1996, the Second National Health and Morbidity Survey (NHMS,1996) revealed the national prevalence of overweight and obesity as 16.6% and 4.4% respectively, and the mean body mass index (BMI) of the Malaysian adults at that time was 22.48 kg/m. In the third NHMS (2006), the national prevalence of overweight among the Malaysian adult was 29.1% and obesity was 14.0%, respectively. This figure has shown that in less than 20 years, the proportion of overweight adults has doubled whilst the obese proportion has tripled. In the NHMS 2011, the prevalence of obesity among female has doubled (29.6%), and this prevalence was also found to be higher than men (25.0%). Findings from both NHMS 2006 and NHMS 2011 have indicated that obesity among women was found to be higher than man. In addition, the mean Body Mass Index (BMI) among housewives was also higher than other job categories (Mean BMI: 26.6 kg/ m<sup>2</sup>). These findings have revealed that overweight and obese female adults (including housewives) are also one of the high risk groups that require specific obesity intervention or weight reduction programme.

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### **32. Association between Premenstrual Syndrome and Daily Physical Activity Levels**

The purpose of this study was to investigate the association between premenstrual syndrome (PMS) and daily physical activity. Three hundred forty-nine women (18-50 years) were analyzed. We investigated body mass index, PMS symptoms, physical activity level, and some factors related to PMS (age, sleep time, caffeine intake, alcohol intake, smoking status). Participants were grouped according to physical activity level into low, normal, and high physical activity groups. Binominal logistic regression analysis was used to examine the association between PMS and daily physical activity level. PMS rates were higher in women who have either low or high daily physical activity levels than in those with normal physical activity levels. Therefore, women should be advised to avoid inactivity or excessive daily physical activity.

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### **33. Assessment of Pelvic Shape by a Newly Developed Posture Analyzer in Young Women in Japan**

Body constitution in young Japanese women has been changing along with change in the life style environment including dietary life. Body height has increased and body shape has become slimmer.

The change in body constitution may influence pelvic size. Since it has been reported that body height was associated with pelvic size, pelvic size may be increasing with increase in body height. Also, Watanabe reported that development of the hip bone was associated with development of the pelvic cavity. It has been reported that the intertrochanteric distance, the distance between bilateral iliac spines and the intercrystal distance in parturient women in Croatia during the period from 2007 to 2009 were significantly larger than those in parturient women during the period from 1992 to 1994, suggesting that pelvic shape has changed over the 25-year period. However, to the best of our knowledge, there have been no studies on pelvic size by objective anthropometric assessment in young Japanese women.

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#### **34. Online Health-information Seeking Behavior among Pregnant Women in Prenatal Clinics at King Saud Medical City, Riyadh**

The increased growth of information technology in recent years and expanded use of computer facilities and other mass media have led to the rapid transfer of information. Internet-based health information is accessed from a variety of sources, including websites run by organizations, homepages owned by individual doctors, blogs authored by health advocates, caregivers or those pursuing self-help. According to the Nursing Outcomes Classification (NOC), health-seeking behavior is defined as personal actions to promote optimal wellness, recovery, and rehabilitation. Understanding human behavior is a prerequisite to changing behavior and improving health practices. Experts in health interventions and health policy became increasingly aware of human behavioral factors in quality health care provision. To respond to community perspectives and needs, health systems need to adapt their strategies, taking into account the findings of behavioral studies.

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#### **35. Gender Differences in Health-Related Quality of Life: A Survey of Saudis with SCD**

The literature provides limited evidence of the quality of life (QoL) distinctions between Saudi Arabian male and female patients with sickle cell disease (SCD). Gender differences were noted in terms of SCD-related complications, symptoms, daily activity, and pain. Saudi females with SCD reported significantly more fever (66.8% vs. 54.8%,  $P=0.003$ ), more swelling (59.2% vs. 38.9%,  $P=0.001$ ), and more frequent blood transfusion (88.5% vs. 80.6%,  $P=0.009$ ). Males reported more physical exercising than females (41% vs. 23%,  $P=0.001$ ), and having less family support (89.6% vs. 96.3%,  $P=0.001$ ). Saudi females with SCD reported significantly higher percentages of daily activity limitations in lifting or carrying groceries (66.7% vs. 58%,  $P=0.031$ ), climbing one flight of stairs (63.5% vs. 53.6%,  $P=0.016$ ), and walking the length of one block (59.2% vs. 42.5%,  $P=0.001$ ). Saudi females with SCD reported a higher percentage of bodily pain (94.3% vs. 87.1%,  $P=0.004$ ). The study reveals that Saudi females with SCD experience SCD-related complications, symptoms, and pain differently than Saudi males with SCD. According to our data, females reported more limitations in daily activity, more pain,

and less physical activity, than males. An interventional program is needed to address QoL among Saudi females with SCD.

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### **36. Disparity of Public Postpartum Care Services in Japan: A Nationwide Survey of Providers**

Recent changes in Japanese society, such as a declining birth rate and aging population and the trend towards smaller families have had a serious impact on families with babies and children. It was reported in 2006 that the incidence rate of the onset of major depressive episodes during pregnancy and within 3 months of delivery were 5.6% and 5.0% respectively in Japan. Health centers have played a central role in caring for mothers and babies during the postpartum period since the 1960s. This study aimed to identify current public postpartum care services and the associations between them and local demographic factors. Methods: We conducted a cross-sectional study with multiple regression analysis. Primary data were collected using a semistructured original questionnaire sent by mail to 1,742 health centers in December 2012. Data on demographic factors were acquired from a national open data source. Results: The response rate was 45.1% and the valid response rate was 41.6% (725/1,742). Of the 725 respondents, 60 were Public Health Centers and 665 were Municipal Health Centers. In the multivariate analysis, Public Health Centers had statistically significant higher ORs of carrying out the newborn visit, Hello Baby program or both, a home visit from an expert following referral, and providing help with housework (OR=2.66, 95% CI 1.35–5.24,  $p=0.005$ ; OR=7.52, 95% CI 2.56–22.10,  $p<0.001$ ; OR=4.30, 95% CI 2.01–9.17,  $p<0.001$ ).

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### **37. Optimal Weight Gain Recommendations For Non- Obese Japanese Pregnant Women**

Weight gain in pregnancy has gained attention in recent years, especially in developed countries, mainly due to the rise in obesity among reproductive age women. In 2009, the United States Institute of Medicine revised its pregnancy weight gain guideline, and stressed the importance of women to avoid excess weight gains, in order to reduce their risks for pregnancy-associated hypertension (including preeclampsia and eclampsia), risk of complications in labor and delivery, postpartum weight retention, and other long-term maternal health consequences such as increased risk for type 2 diabetes and cardiovascular disease. In Japan, weight gain in pregnancy has long been used to monitor maternal health status during pregnancy. Since 1965, obstetricians and midwives were required to measure the body weight of the pregnant women on each prenatal visit after 15 weeks, and record it in the Maternal and Child Health Handbook.

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### **38. Macrophage Cells Secrete Specific Cytokines and Accumulate Activated Interferon Regulatory Factor 3 after Multi-Walled Carbon Nanotube Exposure**

The potential for increased human exposure to engineered nanomaterials is unavoidable owing to ongoing efforts aimed at identifying novel uses for such materials that range from biomedical imaging to solar energy capture. Carbon nanotubes (CNTs) have unique properties that make them ideal for biomedical applications such as drug delivery, tissue engineering scaffolds, and for diagnostic biomedical imaging.

While applications utilizing CNTs hold great promise, potential human health impacts associated with exposing humans to CNTs are poorly understood.

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### **39. Preparation of a Colloid Solution of Au/Silica Core-Shell Nanoparticles Surface-Modified with Cellulose and its X-ray Imaging Properties**

The imaging technique of using X-rays is one of the representative techniques for medical diagnosis and has become indispensable to modern medical diagnosis. The use of contrast agents in the X-ray imaging process makes X-ray images clear. Typically, commercially available X-ray contrast agents are solutions of iodine complexes. They have been used in the X-ray imaging process for many years because they function well as an X-ray contrast agent. However, some problems have been identified with using the iodine-based contrast agents. One problem is related to their residence time in living bodies, which some researchers have noted. Because iodine compounds are present in solution at the molecular size range, the viscous resistance of body fluid does not act strongly on the iodine compounds in living bodies. As a result, the iodine compounds move fast, and then cannot reside in the living body for a long time. This makes it difficult to obtain clear and steady X-ray images using commercial X-ray contrast agents.

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### **40. A Novel Carbon Paste Electrode Based on Ion-Imprinted Polymer for Determination of Iridium**

The problem relevant to the presence of platinum group metals (PGMs) in the environment, normally at ultratrace level concentration, and specifically in particulate matter ( $PM < 10 \mu m$ ) owing to vehicle emissions, considered a new class of pollutants, and has been attracting researchers increasing interest and attention. In fact, the use of autocatalytic converters, containing platinum group metals (PGMs), allows obtaining the decrease of pollutants in exhaust gases from motor vehicles, like lead, carbon monoxide, nitrogen oxides and unburned hydrocarbon. But, contemporaneously, it is the cause of a widespread distribution of fine particulate matter and dust originated from deterioration or abrasion of the bulk catalysts.

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### **41. Crossing the Blood-Brain Barrier with Antibody-Labeled, Gold-Coated Nanoconjugates: A Preliminary Step in Targeting and Eradicating Brain Tumors**

A long held goal of neurooncology has been the creation of targeted therapies to attack tumor cells while sparing normal tissue. One promising solution is to use antibodies targeting antigens expressed exclusively by the tumor cells. To that end, theranostic (diagnostic and therapeutic) macromolecules may provide an effective treatment for a wide variety of metastases and tumors, including deadly brain tumors such as glioblastoma.

According to the Central Brain Tumor Registry of the United States (CBTRUS), the most common primary brain tumor is glioblastoma. During the 2006-10 period, 50,872 cases of glioblastoma were registered-an average annual incidence rate of 3.19 cases per 100,000 population. The average life expectancy following initial diagnosis without other treatment is 3-4 months. With optimal surgical excision, external beam

radiation, and chemotherapeutic intervention, average life expectancy rises to 12-15 months. Sadly, in spite of significant advances in imaging, chemotherapy, and radiation therapy technology, these numbers are only slightly improved over those reported 25 years ago.

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#### **42. High Efficiency of Multiwalled Carbon Nanotubes Filters for Benzene Removal from Aqueous Solutions: Quantitative Analysis using Raman Spectroscopy**

Water pollution phenomena have rapidly become more and more frequent and acute in recent decades. Benzene is one of the most typical groundwater petroleum contaminants which have toxic and carcinogenic properties. Benzene pollutes groundwater through the leakage from underground storage, pipelines, improper waste disposal, in advertent spills and landfills. There are concerns about adverse health effects of benzene including cancer, respiratory problems and disruption of liver and kidney. Benzene can be detected by odor at levels of 2.5 ppm or greater in air, and in water it is detected by taste/odor at levels of 0.5-2.0 ppm. Therefore, removal of benzene from water and wastewater is essential and has been widely studied. Several processes have been successfully applied, including bioremediation, volatilization (air stripping), chemical oxidation, as well as adsorption. The utilization of these removal processes on a large scale presents certain advantages and disadvantages as far as applicability, site dependence, efficiency and cost parameters are concerned.

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#### **43. Characterization and Cellular Fluorescence Microscopy of Superparamagnetic Nanoparticles Functionalized with Third Generation Nanomolecular Dendrimers: In-vitro Cytotoxicity and Uptake study**

Magnetite,  $\text{Fe}_3\text{O}_4$ , is a common magnetic iron oxide that has a cubic inverse spinel structure with oxygen forming a fcc closed packing and Fe cations occupying interstitial tetrahedral sites and octahedral sites. They can have controllable sizes ranging from a few nanometers up to tens of nanometers which is smaller or comparable to a cell (10-100  $\mu\text{m}$ ), a virus (20-450 nm) a protein (5-50 nm). When the size of these nanomagnets becomes so small (<15 nm) they are considered as single magnetic domain where the magnetic moment of the particle as a whole is free to fluctuate in response to thermal energy. Under such a condition the nanoparticle is said to be superparamagnetic iron oxide nanoparticle (SPION), which lacks hysteresis loop and posses high field irreversibility, high saturation field and extra anisotropy contributions.

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#### **44. An Alternative Way to Prepare Biocompatible Nanotags with Increased Reproducibility of Results**

Currently, nanotechnology is successfully used in numerous different medical applications. Especially NPs with diameters between 1-100 nm are ideal tools for diagnostic applications in medicine because of their large surface to volume ratio. Surface Enhanced Raman Scattering (SERS) is an ultrasensitive method for the investigation of molecules in close proximity to plasmonic metallic nanostructures and plays an important role in nanomedicine. In comparison to other established labeling approaches such as fluorophores, dyes or enzymes, the SERS methodology offers several unique advantages in analytical and life sciences. One key benefit of SERS labels is their spectral multiplexing capacity due to the small line width of vibrational Raman bands. Furthermore, only a single laser line is needed for simultaneously exciting the spectrum of

several SERS labels. The major disadvantage of SERS methods, similar to other nanotechnology based methods could be the low reproducibility of results. Previous studies report instability of NPs reacting with salt especially during transfer of NPs in biological buffers before and during their application.

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#### **45. Preparation of Copper Selenide Platelets**

Copper selenide ( $Cu_x Se$ ) particles were prepared by heating copper carbonate and selenous acid in diethylene glycol in the presence of various dispersing agents. The impact of reaction conditions on the structural and morphological properties of the precipitated particles were assessed by X-ray diffraction (XRD) and electron microscopy. Although all additives promoted anisotropic growth, it was found that polyvinyl alcohol (PVA) was particularly effective in generating dispersed high aspect ratio  $Cu_x Se$  platelets. The optimum reaction conditions for the formation of hexagonal copper selenide were  $190^{\circ}C$  and a Cu: Se molar ratio of 1 to 1.2. Copper selenide platelets prepared by reacting copper carbonate and selenous acid in hot diethylene glycol in the presence of polyvinylalcohol (PVA)

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#### **46. Field Emission Simulations of Carbon Nanotubes and Graphene with an Atomic Model**

Few years after their discovery carbon nanotubes (CNTs) were recognized as good electron emitters and triggered abundant research on the application of CNTs in field emission (FE) devices. Since then, the most popular geometrical representation of capped CNTs for evaluating their field emission has been a hemisphere-on-a-post as in Figure 1a. For open single wall CNTs a toroidal edge is generally used as shown in Figure 1b, while graphene sheets are represented as a wall with a cylindrical top as represented in Figure 1c. Slightly different geometries such as pill capsules, floating spheres and ellipsoids caps have also been used to represent the CNT surface. Although these simplified geometries (SG) can give good insights in the qualitative behavior of the emission, the accuracy of the current obtained was never tested in geometries that have wrinkled surfaces that come into sight at atomic scales, indicated in Figures 1d-1f. Thus, it may be expected that the FE capability in the range of atomic dimensions is better represented by ball-stick geometry (BS), because field enhancement is very sensitive to the surface morphology also at molecular dimensions. Field Emission Microscopy images demonstrate that electron emission occurs preferentially at the atoms and their bonds.

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#### **47. The Anisotropic Elasticity of the Human Vocal Fold**

Understanding if vocal fold viscoelasticity is isotropic or anisotropic is essential, as it brings to bear on multiple evolving approaches related to restoring or reconstructing the vocal fold lamina propria. Mitchell & Tojeira present methodologies for the construction of augmentation materials using scaffolds which are inherently anisotropic, and the need for anisotropic structures are found in other fields, such as musculoskeletal tissue engineering, regenerative cardiac tissue engineering, and nerves. As vocal folds are required to perform mechanically, it is reasonable to extend the need to deploy anisotropic engineered tissue to phonosurgery. We therefore undertook a rheologic evaluation of human cadaveric vocal folds to confirm the results presented by Rohlf, which demonstrated that the vocal folds inherently exhibit

an anisotropic nature using the Linear Skin Rheometer; and present immunochemical results obtained by Tateya et al., which show that there is an alignment of elastins and collagens in the longitudinal axis of the vocal folds.

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#### **48. A Case of Large Pseudocyst Originating from the Submandibular Gland Presented with a Systematic Review**

The majority of mucous cysts originate from the sublingual gland. Mucoceles originating from the submandibular glands are extremely rare. We report the case of a 24-year-old girl with submandibular gland mucocele. Magnetic resonance imaging (MRI) revealed cystic lesions in close proximity to the submandibular gland without tail sign. The cyst with submandibular gland was successfully removed through a cervical approach without complications. The pathologic and intraoperative examination confirmed the pseudocyst originating from the submandibular gland. The patient has no evidence of recurrence. We review previous cases of mucoceles originating from the submandibular gland.

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#### **49. Volume Expansion of Tissue Engineered Human Nasal Septal Cartilage**

Cartilaginous craniofacial defects range in size and autologous cartilaginous tissue is preferred for repair of these defects. Therefore, it is important to have the ability to produce large size cartilaginous constructs for repair of cartilaginous abnormalities. To produce autologous human septal neocartilage constructs substantially larger in size than previously produced constructs 2. To demonstrate that volume expanded neocartilage constructs possess comparable histological and biochemical properties to standard size constructs 3. To show that volume expanded neocartilage constructs retain similar biomechanical properties to standard size constructs. The study used remnant human septal specimens removed during routine surgery at the University of California, San Diego Medical Center or San Diego Veterans Affairs Medical Center. Cartilage from a total of 8 donors was collected.

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#### **50. Role of Fine Needle Aspiration Cytology (FNAC) as a Diagnostic Tool in Paediatric Head and Neck Lymphadenopathy**

A neck mass that is present for longer than a week might be pathological requiring rapid and thorough evaluation. This study aims to evaluate the positive role Fine needle aspiration cytology plays in the diagnosis of pediatric patients with lymphadenopathy in the head and neck region. Fine needle aspiration of lymph nodes was carried out, fixed and stained by cytopathologists for 56 patients at the Jos University Teaching Hospital, 43 (76.8%) were inflammatory and 13 (23.2%) malignant. Reactive hyperplasia (72.1%), acute suppurative (18.6%) and tuberculosis (9.3%) constituted the inflammatory lesions. Non Hodgkins lymphoma was the commonest malignant lesion (76.9%) followed by Hodgkins lymphoma (15.4%), the least being Rhabdomyosarcoma (7.7%). Age range 10-14 years had the highest number of cases (46.4%). Males were 36 (64.3%) while females were 20 (35.7%). All malignant cases diagnosed by FNAC had to undergo confirmation/ characterization by histology and had 100% concordance. Thus there were no false positives and specificity was 100%, sensitivity 100%. Of the 43 diagnosed as inflammatory by FNAC, 12

cases which did not resolve after treatment or where patients condition worsened had to undergo surgical biopsy. Out of these only 1 (8.3%) case of fungal infection was misdiagnosed by FNAC. The lymph nodes were generalized 4 (7.1%) and localized in 52 (92.9%).

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### **51. Adenoid Stones - "Adenoliths"**

Stones made of bacterial aggregates can be found in chronically inflamed lymphoid tissue such as hypertrophied tonsils. Although it is common to find tonsilloliths in cryptic tonsils, it is rare to find stones in adenoid tissue. Here we present an interesting case of a patient who underwent adenoidectomy for adenoid hypertrophy, recurrent malaise and upper respiratory infections. Intraoperatively we found numerous bright green stones in the crypts of the adenoid tissue, reminiscent of tonsilloliths in tonsillar crypts. Pathology revealed polymicrobial bacterial aggregates surrounded by neutrophils. Our findings suggest that the pathophysiology is similar to that of tonsillolith formation. Thus, we should at least consider the presence of adenoid stones and consider adenoidectomy for symptoms often attributed to tonsilloliths. We have coined the term "adenoliths" to describe this interesting finding and present it as a potential source of recurrent infection.

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### **52. Metastatic Prostate Adenocarcinoma to the Mandible Presenting Like Primary Osteosarcoma - A Case Report and Review of the Literature**

The purpose of this article is to present a case of metastatic prostate cancer in the jaw that was initially thought to be primary osteosarcoma due to sunburst pattern on imaging, which has rarely been reported for prostate cancer metastasis, and to discuss current recommendations concerning approach to metastatic prostate cancer in the jaw. A case of a 70 year-old male who presented with metastatic prostate cancer to the jaw is reported. A literature review regarding this uncommon phenomenon was performed. The authors report a case of a patient who presented with a jaw mass initially thought to be osteosarcoma due to imaging findings. Upon further investigation the diagnosis of metastatic prostate cancer was confirmed. Treatment for this disease is usually palliative. Fewer than 100 cases of prostate cancer spreading to the jaw have been described in the literature. Lesions may be both radiopaque and/or radiolucent on imaging, which can pose difficulty in achieving a correct diagnosis.

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### **53. Misleading Clinical Presentation of the Superior Semicircular Canal Dehiscence Syndrome before Electrophysiological Testing and High Resolution Computed Tomography**

The superior semicircular canal dehiscence syndrome (SSCDS) is a recently reported condition. Initially described by Minor, when study patients who showed vestibular and auditory symptoms, including oscillopsia, eye movements in response to intense auditory stimuli and hearing loss, with subsequent evidence of a disruption of the bone covering the superior semicircular canal of the affected ear through

the use of computed tomography of the temporal bone. Its pathogenesis is uncertain, postulating various theories framing from alterations in the embryonic development to posttraumatic alterations. The absence of bone coverage at the superior semicircular canal (SSC) determines a communication between the canal and the middle cranial fossa creating a “third window phenomenon”, which in turn triggers audiological and clinical manifestations such as mixed hypoacusia with a conductive component in low frequencies, similar to that observed in the cochlear hydrops, in Meniere disease.

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#### **54. Persistent Postural-Perceptual Dizziness (PPPD): A systematic review of 10 years’ progress in diagnosis and treatment**

The first descriptions of phobic postural vertigo (PPV) were done by Brandt T. and Dieterich M. in 1986. At that time the diagnosis of PPV was rarely considered despite its frequent prevalence in neurotologic practice. Later on Staab and Ruckenstein initiated a series of studies in order to refine and update the former concept of PPV calling it Chronic Subjective Dizziness (CSD). In 2013 it was renamed Persistent Postural-Perceptual Dizziness (PPPD). PPPD is defined as a neurotologic disorder of non-vertiginous dizziness or unsteadiness over at least a 3 months’ period that is persistent throughout the day. It is a frequent condition observed in neurotologic practice. It can be the second most common diagnosis among patients with vestibular symptoms in tertiary neurotology centers. The symptoms can be aggravated by upright posture (i.e. walking, standing). Provocative factors are the patients’ own movements (active or passive), exposure to large-field moving visual stimuli (shopping malls, cinema) or performing precise visual tasks (using computer, fine tasks with hands). Best et al. stated that PPPD may develop in about 25% of patients after a neurotologic incident, such as vestibular neuritis, benign paroxysmal positional vertigo, Meniere’s disease (MD), vestibular migraine (VM) or any other event causing acute attacks of vertigo (e.g. traumatic brain injury, panic attack, dysrhythmia, adverse drug reaction etc.).

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#### **55. Management of Intracranial Complications of Acute Sinusitis: Our Experience Regarding a Series of Clinical Cases**

Sinusitis is a common ear, nose and throat disease which develops from viral or bacterial upper respiratory airway infection. Complications of rhinosinusitis vary from relatively benign to fatal and severe and have been classified into local (5-10%), orbital (60- 75%) and intracranial (15-20%) complications. Intracranial complications consist of meningitis, epidural abscess, subdural abscess, intracerebral abscess, cavernous sinus thrombosis and superior sagittal sinus thrombosis. We present a series of 3 cases of intracranial complications of acute paranasal sinusitis treated in our department of oto-rhino-laryngology from January to December 2015 and review the literature.

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#### **56. MRI Safety with Cochlear Implants up to Three Tesla – Experiences by Performing an In Vitro Test**

Magnetic Resonance Imaging (MRI) is a non-invasive medical investigation, which depicts the different

structures of the human body. It is used as a diagnostic tool; in contrast to computer tomography it does not emit radiation to the body. To date, over 400 million people have undergone MRI scans, and young people today are expected to have an MRI at least once in their lifetime. However, for cochlear implant (CI) patients, MRI scans carry a certain risk as the static magnet field, gradient magnetic field and RF field of the MRI scanner can interact with the implant in the patient's body. The interaction between the static MRI field and ferromagnetic materials in the CI can cause translation or rotation of the ferromagnetic components leading to local pain, demagnetization and/or dislocation of the ferromagnetic components resulting in implant malfunction and the need for surgical intervention.

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### **57. Using Na<sub>3</sub>PO<sub>4</sub> to Enhance In vitro Animal Models of Aortic Valve Calcification**

Accumulation of fibrotic tissue and calcium in the aortic valve leads to decreased pliability and narrowing of the valve orifice. Over the past several decades, the etiology of aortic valve stenosis has changed considerably. The decline of rheumatic heart disease and increased longevity in industrialized countries has resulted in a pattern shift from rheumatic aortic stenosis to degenerative calcification as a dominant etiology of aortic valve stenosis. Severe stenosis of calcific aortic valve disease (CAVD) is the most common cause of valve replacement surgery in Europe and North America affecting > 2% of individuals over age 65 and > 50% of those over age 85 years. Recent evidence suggests that CAVD is due to an active inflammatory process affecting the valve and leading to the activation of the receptor activator of nuclear factor kappa-B (RANK) in valvular interstitial cells (VICs), leading to osteoblastic transformation with bone formation.

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### **58. Utilization of the Electronic Health Record to Improve Provision of Smoking Cessation Resources for Vascular Surgery Inpatients**

Identification of hospitalized patients who smoke has shown significant improvement in recent years, but provision of evidence-based tobacco cessation treatment remains a challenge. This study evaluated the utilization of an electronic health record (EHR) to facilitate implementation of evidence-based clinical practice guidelines for smoking cessation on a vascular surgery inpatient unit. A pre- and post-intervention cohort study was conducted over 6 months at a single academic medical center with a comprehensive EHR. All patients admitted to the vascular surgery service and documented as current smokers were included. A vascular surgery discharge order set with an evidence-based smoking cessation module was developed and implemented. The primary outcome was prescription of nicotine replacement therapy (NRT) at the time of discharge. The secondary outcome was referral for smoking cessation counselling at the time of discharge.

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### **59. Early Results of a Novel Mitral Valve Repair Procedure: The Interpapillary Polytetrafluoroethylene Bridge Formation**

Ischemic heart disease is the most frequent cause of mitral regurgitation (MR) today, particularly in developed countries where rheumatic mitral valve disease has been nearly eradicated. Ischemic mitral regurgitation (IMR) is caused by a complex interplay of abnormal structural and functional processes.

The surgical treatment of choice for most cases of IMR is mitral valve repair, because it preserves the mitral apparatus and competence, does not require the lifelong anticoagulation, and is associated with an improved quality of life with less morbidity as well as better longterm survival as opposed to replacement.

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## **60. Denosumab could be a Potential Inhibitor of Valvular Interstitial Cells Calcification in vitro**

Calcific aortic valve disease (CAVD) is a slowly progressive disorder with a disease continuum that ranges from mild valve thickening without obstruction of blood flow, termed aortic sclerosis, to severe calcification with impaired leaflet motion, or aortic valve stenosis. CAVD has a multifactorial etiology. On a microscopic level, the aortic leaflets contain disorganized collagen fibers, chronic inflammatory cells, extracellular bone matrix proteins, lipidic proteins and bone mineral. Mechanical and shear stress, endothelial damage and lipid deposition (LDLs) trigger inflammatory events and attract inflammatory cells: monocytes-macrophages and T cells. These cells produce cytokines: transforming growth factor beta (TGFB) which regulates cell proliferation and differentiation; tumor necrosis factor alfa (TNF $\alpha$ ) whose primary function is the regulation of the immune cells; and interleukin 2, which is produced by activated T-lymphocytes with growth factor activity.

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## **61. Collagen Metabolism Biomarkers and Health Related Quality of Life in Pulmonary Arterial Hypertension**

We prospectively enrolled 68 stable idiopathic, anorexigen-associated, and hereditary PAH subjects and 37 healthy controls. Serum samples were analyzed for N-terminal propeptide of type III procollagen (PIINP), c-terminal telopeptide of collagen type I (CITP), matrix metalloproteinase 9 (MMP-9) and tissue inhibitor of metalloproteinase 1 (TIMP-1). The Minnesota Living with Heart Failure (MLWHF), Euro QoL-5D (EQ-5D), Cambridge Pulmonary Hypertension Outcome Review (CAMPHOR) and Short Form (SF-36) general health survey were administered at the time of blood draw. General linear models, as well as logistic regression models were used to assess associations between variables.

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## **62. Maintaining the Benefit of Cardiovascular Disease Prevention Programs: The Challenge for Future Generations**

Cardiovascular diseases (CVD) account for 1 in every 3 deaths in the United States at an annual cost of \$149 billion dollars or 17% of total medical expenditure. Over the next 20 years, the prevalence of CVD will increase by 10% with a 3-fold increase in cost. CVD has emerged as a leading cause for mortality in both males and females in the United States.

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### **63. Administration of a Synthetic Peptide Derived from the E-domain Region of Mechano-Growth Factor Delays Decompensation Following Myocardial Infarction**

Insulin like growth factor-I (IGF-1) isoforms expressed differ structurally in their E-domain regions and their temporal expression profile in response to injury. We and others have reported that Mechano-growth factor (MGF), which is equivalent to human IGF-1c and rodent IGF-1Eb isoforms, is expressed acutely following myocardial infarction (MI) in the mouse heart.

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### **64. The Novel Development of an Experimental Model of Dihydropyridine Calcium Channel Blocker Poisoning using Intravenous Amlodipine**

Cardiovascular drug poisoning remains a leading cause of fatality. Within this class, calcium channel blockers (CCBs) account for the majority of deaths. CCBs are typically categorized as dihydropyridines (i.e. amlodipine or nifedipine) versus the non-dihydropyridine (i.e. verapamil and diltiazem) which are the most potent and once considered the CCB type responsible for all CCB-related deaths. Most recently, dihydropyridine deaths have increased. While there are established models of nondihydropyridine poisoning there currently are no established experimental models of dihydropyridine poisoning.

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### **65. Implications of Hemodialysis in Patients Undergoing Coronary Artery Bypass Grafting**

The prevalence of chronic kidney disease (CKD) in the United States has steadily risen over the past 20 years due to the increasing number of obese individuals with diabetes and hypertension. During this period, the prevalence of CKD stages 1-4 increased by 31%. Additionally, the number of individuals with end-stage renal disease (ESRD) requiring hemodialysis (HD) has increased from 209,000 to 472,000. Patients with ESRD have a greater than 5-fold increased risk for all-cause mortality and a 3-fold increased risk for cardiovascular-related mortality.

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### **66. Cardiac Malformations in EMILIN2 Deficient Mice**

Deletion of 18p is one of the most common chromosomal deletion syndromes with an incidence of about 1:50,000 births [1,2]. A recent study found that 56% of 18p subjects have documented cardiac defects [3]. Heart malformations reported in several studies include tetralogy of Fallot, pulmonary valve stenosis, mitral valve prolapse, aortic coarctation, VSDs, and aortic stenosis [4-15]. However, the identity of the causative gene of the cardiac anomalies in the 18p deletion subjects is unknown. There are 67 known genes [3] in the 18p region, but only a few of these genes have been implicated with the clinical symptoms. TGIF [16], and HPE4 [17] have been associated with the holoprosencephaly, DYT7 with the dystonia [18], SMCHD1 [19] with the facioscapulohumeral muscular dystrophy type 2, and a locus for susceptibility to alopecia [20]. However, none of the known genes in 18p have been associated with cardiac malformations.

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### **67. Resistant Hypertension and Sleep Duration among Blacks with Metabolic Syndrome MetSO**

Resistant hypertension (RHTN) is an important condition affecting 29% of the hypertensive population. Sleep disturbances are increasingly recognized as underlying disorders among patients with RHTN. We evaluated associations of RHTN with short sleep duration among blacks with metabolic syndrome (MetS), a vulnerable population characterized by high prevalence of RHTN. Data from the Metabolic Syndrome Outcome Study (MetSO), a NIH-funded cohort study characterizing metabolic syndrome (MetS) among blacks. MetS was defined according to criteria from the Adult Treatment Panel (ATP III). According to the American Heart Association RHTN is defined as blood pressure that remains above goal in spite of the use of 3 antihypertensive drugs of different classes, one of the three prescribed pharmaceutical agents should be a diuretic and all agents prescribed at optimal dose amounts.[1] Short sleep was defined as self-reported sleep durations < 7 hours, referenced to healthy sleep (7-8 hours).

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### **68. Concordance of Mother/Child Sleep Patterns Using Actigraphy: Preliminary Findings**

Sleep problems are common in children with autism spectrum disorder (ASD) and are often associated with problem behaviors. Problematic sleep in the child may impact maternal sleep. We examined the association of sleep in mother-child dyads to child daytime behavior and maternal insomnia and daytime sleepiness in 11 children with ASD and 6 children of typical development (TD) using wrist actigraphs over 14 consecutive nights. Early morning awakenings were significantly associated with poorer daytime behavior as measured by the Child Behavior Checklist in both ASD and TD children. Additionally, associations were found between mother and child sleep and between the child's sleep and maternal daytime sleepiness. These results highlight the need to consider the potential interaction of maternal-child sleep in future studies.

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### **69. Daytime Sleepiness, Circadian Preference, Caffeine Consumption and Khat Use among College Students in Ethiopia**

To estimate the prevalence of daytime sleepiness and circadian preferences, and to examine the extent to which caffeine consumption and Khat (a herbal stimulant) use are associated with daytime sleepiness and evening chronotype among Ethiopian college students. Methods: A cross-sectional study was conducted among 2,410 college students. A self-administered questionnaire was used to collect information about sleep, behavioral risk factors such as caffeinated beverages, tobacco, alcohol, and Khat consumption. Daytime sleepiness and chronotype were assessed using the Epworth Sleepiness Scale (ESS) and the Horne and Ostberg Morningness/Eveningness Questionnaire (MEQ), respectively. Linear and logistic regression models were used to evaluate associations.

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### **70. Sleep Problems, Suicidality and Depression among American Indian Youth**

Study background: Mental health and sleep problems are important public health concerns among adolescents

yet little is known about the relationship between sleep, depressive symptoms, and suicidality among American Indian youth. Methods: This study examined the impact of sleep and other factors on depressive symptoms and suicidality among Lumbee American Indian adolescents (N=80) ages 11-18. Results: At the bivariate level, sleepiness, was associated with depression but not with suicidality. Time in bed (TIB) was not associated with depression, but more TIB decreased the likelihood of suicidality. Higher levels of depressive symptoms were associated with increased likelihood of suicidality. At the multivariate level, sleepiness, suicidality, and self-esteem were associated with depression. TIB and depressive symptoms were the only variables associated with suicidality. Conclusion: In working with American Indian youth, it may be helpful to consider sleep patterns as part of a comprehensive assessment process for youth who have or are at risk for depression and suicide.

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### **71. Validation of the STOPBANG Questionnaire among Patients Referred for Suspected Obstructive Sleep Apnea**

The STOP-BANG is a simple obstructive sleep apnea (OSA) screening tool, part questionnaire (STOP) and part demographic or physical measures (BANG), developed for use in preoperative surgical clinics. This study assessed sensitivity and specificity of the instrument among patients referred to a sleep disorders laboratory, and also its performance characteristics when BANG physical measures are patient-reported rather than measured. Methods: Adults referred for diagnostic polysomnography completed the STOP questions and answered four yes/no questions (BANG self-reported) about their body mass index (weight and height), age, neck circumference, and gender, which were also assessed by laboratory technologists (BANG-measured).

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### **72. Feasibility and Effects of Touch Massage and Nurse Led Sleep Counselling in the Treatment of Primary Insomnia**

Insomnia is a public health issue in the Western world where up to 25% of US citizens report occasional insomnia and 9% persistent insomnia. Similar prevalence's are reported in France, Canada and Norway. Persistent insomnia is more reported among women as compared to men. Even though insomnia is a prevalent problem, few people seek professional consultation for their problems. Primary insomnia, accounting for approximately 25% of all chronic insomnia cases, is a sleep disorder without medical, psychiatric or environmental cause where the predominant complaint is "difficulty initiating or maintaining sleep, or nonrestorative sleep, for at least 1 month". The sleep disturbance (and associated daytime fatigue) causes clinically significant distress or impairment in social, occupational, or other important areas of functioning.

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### **73. Examining the Relationship between Sleep Posture and Morning Spinal Symptoms in the Habitual Environment Using Infrared Cameras**

Sleeping is generally considered a period for rest and recovery however some people wake with spinal

symptoms not present on going to sleep. Yet in the past 80 years, research examining sleep has focused on the electrophysiological nature of sleep, with little emphasis placed on the physical effects of posture on sleep quality.

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#### **74. Validation of the STOPBANG Questionnaire among Patients Referred for Suspected Obstructive Sleep Apnea**

Background: The STOP-BANG is a simple obstructive sleep apnea (OSA) screening tool, part questionnaire (STOP) and part demographic or physical measures (BANG), developed for use in preoperative surgical clinics. This study assessed sensitivity and specificity of the instrument among patients referred to a sleep disorders laboratory, and also its performance characteristics when BANG physical measures are patient-reported rather than measured. Methods: Adults referred for diagnostic polysomnography completed the STOP questions and answered four yes/no questions (BANG self-reported) about their body mass index (weight and height), age, neck circumference, and gender, which were also assessed by laboratory technologists (BANG-measured).

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#### **75. Prevalence of Obstructive Sleep Apnea in Patients Undergoing Coronary Artery Bypass Graft Surgery (CABG). A Pilot Study**

Impact of Obstructive Sleep Apnea during postoperative period is not fully understood. This study aims to determine the impact of Obstructive Sleep Apnea (OSA) on postoperative complications in patients undergoing coronary artery bypass graft (CABG). Methods: A total of 128 consecutive patients undergoing CABG were evaluated prospectively. Patients were screened for OSA using the by Berlin questionnaire. Post-operative course of patients was followed including length of stay until discharge and 30 days thereafter to record any readmission during that period of time. Results: From the cohort evaluated, 81 patients (67%) were found to have OSA. Complication rate between OSA and non OSA group was not significantly different between OSA and non-OSA (6.9% vs. 5.9%,  $p=NS$ ). Subset analysis for gender, race and age did not reveal any differences.

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#### **76. Phrygian Cap Appearance of a Mouse Gallbladder on Magnetic Resonance Imaging**

We used live-animal magnetic resonance imaging (MRI) to examine the gallbladders of male mice. These healthy mice were fasted overnight before the study and anesthetized in an animal chamber, with a gas mixture of oxygen and isoflurane for small animal MRI. In the course of these live-animal MRI studies, we observed a Phrygian cap appearance to the gallbladder of one healthy-appearing 6-week-old male mouse, similar to that of the human gallbladder described in many reports.

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### **Seroprevalence of Brucellosis and Q-Fever in Southeast Ethiopian Pastoral Livestock**

To assess seroprevalences of Brucella and *C. burnetii* in pastoral livestock in southeast Ethiopia, a cross-sectional study was carried out in three livestock species (cattle, camels and goats). The study was conducted from July 2008 to August 2010, and eight pastoral associations (PAs) from the selected districts were included in the study. Sera from a total of 1830 animals, comprising 862 cattle, 458 camels and 510 goats were screened initially with Rose Bengal plate test (RBPT) for Brucella. All RBPT positive and 25% of randomly selected negative sera were further tested by ELISA. These comprise a total of 460 animals (211 cattle, 102 camels and 147 goats).

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### **78. Comparison of Antibiotic Susceptibility Patterns of Selected Bacterial Species from Bovine, Agricultural and Human Sources**

Bacterial resistance to antibiotics is a major concern for both human health and production agriculture. Resistant bacteria are on the increase and have become a significant human health issue. Researchers agree that overuse and misuse of antibiotics in humans play a major role in the increase of resistant bacteria. There is less certainty in the scientific community concerning the impact of antibiotic use in animals on bacterial resistance to antibiotics. Considerable effort has been expended in recent years to determine the extent of agriculture's role and what measures can be taken and are needed to mitigate the problem. The FDA has published guidelines to help prevent antimicrobial resistance that may result from antibiotic use in animals. These guidelines provide a scientific process for assessing the likelihood that an antibiotic used to treat an animal might cause antimicrobial resistance problems in humans.

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### **79. Differences in NSAID Toxicity in Four Avian Species**

The non-steroid anti-inflammatory drugs (NSAID) are the most frequently used analgesic agents in small animal practice. The acetylsalicylic acid and the diclofenac were the objects of our investigations. These agents are approved veterinary drugs, even in livestock production. The acetyl-salicylic acid is the only NSAID which is licensed for application in birds even in poultry farming. Furthermore they are characteristic active ingredients commonly used in human medicine. These human licensed products are typical over the counter (OTC) drugs; uninitiated use in bird species is highly possible. Numerous NSAIDs are recommended to use in avian species, although the effect of NSAIDs in bird species is a blank field in the scientific literature. The application and dosages of several NSAID formulations continues to be clinically applied in birds. The decline of the Asian vultures called the attention for the danger of the use of NSAIDs in birds.

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### **80. A Novel Multiplex Polymerase Chain Reaction Method for the Identification of Brachyspina Syndrome Carriers in Chinese Holstein Cattle**

Brachyspina syndrome (BS) is a recessive, monogenic disorder in Holstein cattle that causes either early-

term abortion (most common) or stillborn calves (rare) when a fetus is homozygous recessive for the lethal allele. Affected fetus delivered near term display lesions such as severely reduced body weight, a significantly shortened spine (brachyspina), long and slender limbs, inferior brachygnathism, and malformation of the internal organs. The first case of BS was reported in Denmark in 2006, and then more cases were subsequently reported in the Netherlands, Italy, Germany and Canada. Similar to other Holstein cattle genetic defects (such as complex vertebral malformation and bovine leukocyte adhesion deficiency) that have been spread internationally through disproportionate insemination using frozen semen mainly from one elite ancestor, most of the reported BS cases can be traced back to just two individuals: an elite USA Holstein bull, named Sweet Haven Tradition, and a Canadian ancestor named Round Oak Rag Apple Elevation. Two sons of Sweet Haven Tradition, Bis-May Tradition Cleitus and Roth rock Tradition Leadman are primarily responsible for spreading the recessive lethal allele of BS.

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### **81. An Overview of Mastitis Management and Therapy in Dairy Goats**

In the United States the dairy goat is increasing in popularity, with the dairy goat inventory increasing from 290,789 in 2002 to 413,540 by 2012. Dairy goats were milked on approximately 30,000 farms. Goat milk is used for making cheese, yogurt and ice cream, and can be fed to other animals. While the sale of any raw milk is illegal in many states, raw goat milk can be used to make cheese as long as the cheese ages 60 days or more before sale. Pasteurized goat milk can be sold fresh for consumption or used for making fresh cheese. Many goat owners maintain just a few animals and produce milk for personal use only. Many of these owners consume raw milk. A recent review of raw milk laws listed 16 states prohibiting the sale of raw milk for human consumption. The remaining states vary on raw milk sales with some allowing on farm sale and other allowing retail sale under certain restrictions.

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### **82. Detection of MDV Very Virulent Strain by Polymerase Chain Reaction and Analysis of its Meq Gene**

Marek's disease virus (MDV) also known as Gallid herpes virus 2 (GaHV-2), was an oncogenic poultry herpes virus, causing lymph proliferative and demyelinating disorder in infected chickens. In the 1970s, herpes virus of turkey (HVT) vaccine, which belonged to serotype 3 vaccines, was mainly used to control the disease. In the mid-1980s, a serotype 2 vaccine, such as SB-1 strain was used in combination with HVT against the enhanced virulence strains. With further increase in virulence of field viruses, CVI988 vaccine, which belonged to serotype 1 vaccine, was introduced for widespread use in the 1990s. Recently, the failures of CVI988 vaccination have been reported, when CVI988 vaccine is used either alone or in combination with serotype 2 and/or serotype 3 vaccines, suggesting the emergence of high virulent strains. At present, the widespread use of vaccines against Marek's Disease (MD) was suggested to have led to the evolution of field viruses with greater virulence, and a number of patho types classified as vMDV, vvMDV, and vv+MDV have been isolated, and more virulent strains could overwhelm the protection conferred by currently available vaccines.

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### **83. Bridging Stem Cell Research from Humans to Animals**

Translational stem cell research is a relatively young subspecialty of clinical research in animals. Although the success of therapeutic stem cell therapies in humans was based on research in small animal models, namely mice, development of clinical applications for farm and companion animals has been very limited so far. Because basic mechanisms regulating the physiology and function of stem cells are likely to be highly conserved between humans and animals, current practices and techniques that have been developed for human subjects can now be translated to improve animal welfare.

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### **84. Sustained Glutathione Deficiency Interferes with the Liver Response to TNF- $\alpha$ and Liver Regeneration after Partial Hepatectomy in Mice**

Glutathione (GSH) is a tripeptide of glutamate, cysteine, and glycine. It is the most abundant non-protein thiol in the cell, and is present at 5-10 mM in hepatocytes. GSH scavenges reactive oxygen species (ROS) and acts as a cofactor in the metabolism of xenobiotics through reduction and conjugation reactions. Several methods have been used in vivo and in vitro to study the effects of short-term GSH depletion on the hepatocyte cell cycle.

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### **85. Human Hepatocellular Carcinoma Metabolism: Imaging by Hyperpolarized $^{13}\text{C}$ Magnetic Resonance Spectroscopy**

A characteristic feature of cancer cells is the alteration of their central carbon metabolism. It is generally acknowledged that for energy production cancer cells enhance their utilization of glycolysis and diminish that of oxidative phosphorylation irrespective of oxygen supply [1]. However, although mechanistic explanations for this enhanced glycolytic phenotype are controversial, it is likely due to the need for a versatile method for ATP production to serve as a direct form of energy, or as energy to drive both biosynthesis of vital intermediates for cell growth and provide anaplerotic flux for the tricarboxylic acid (TCA) cycle.

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### **86. Evaluation of Genomic Evidence for Oxidative Stress in Experimental Radiation Nephropathy**

Chronic persistent oxidative stress has been proposed as a mechanism for late radiation injury to normal tissue. Using biochemical, histological, and pharmacological techniques, we have not been able to confirm this hypothesis for late renal radiation injury. Gene expression may be more revealing, especially since the initial effects of radiation are to damage DNA.

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### **87. Erring on the Side of Life: Children with Rare Trisomy Conditions, Medical Interventions and Quality of Life**

The prevailing viewpoint on children with rare trisomy conditions such as trisomy 18 (t18) and trisomy 13 (t13) is almost uniformly negative. Yet, case studies offer information about long-term survivors. What is missing in the discussion is an unbiased examination of surviving children within the context of necessary, rather than “aggressive”, medical interventions and overall quality of life. A move beyond palliative or comfort care must be an option for this population.

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### **88. Posttraumatic Stress Symptoms in Parents of Pediatric Cancer Patients: A Mediation Analysis**

Prior research finds that anxiety and depression among parents of pediatric cancer patients are associated with posttraumatic stress symptoms in response to children’s cancer. This study examined whether this relationship is mediated by parents’ negative affective reactions in response to their children’s cancer-related treatment procedures.

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### **89. Hair Cortisol, Perceived Stress and Dispositional Optimism: A Pilot Study among Adolescents**

Psychological stress is often associated with poor health-related outcomes. One potential biomarker for chronic stress, hair cortisol, is minimally invasive compared to other cortisol collection techniques. This pilot study examined the relationships between hair cortisol and self-reported perceived stress, stressful life events, depressive symptoms, and dispositional optimism among adolescents.

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### **90. Extending Findings of a Relation between Posttraumatic Stress Disorder and Emotion Dysregulation among African American Individuals: A Preliminary Examination of the Moderating Role of Gender**

Although previous literature highlights the robust relationship between posttraumatic stress disorder (PTSD) and emotion dysregulation across diverse racial/ethnic populations, few studies have examined factors that may influence levels of emotion dysregulation among African American individuals with PTSD. The goal of the current study was to extend previous findings by examining the moderating role of gender in the relationship between PTSD and emotion dysregulation in an African American sample.

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### **91. Gender Differences in Trauma and Posttraumatic Stress Symptoms among Displaced Zimbabweans in South Africa**

Posttraumatic stress symptoms (PTSS) and posttraumatic stress disorders (PTSD) are syndromes recognized in clinical practice as a significant health problem because of their nature and diagnoses and the staggering costs that comes with it to the individual and society at large. PTSS is so named because of the symptoms that are experienced after a traumatic event. PTSS and PTSD are the same thing except psychiatry prefers to differentiate between symptoms (PTSS) and the fully activated disorder (PTSD).

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### **92. Psychometric Properties of the Modified Posttraumatic Stress Disorder Symptom Scale among Women with Posttraumatic Stress Disorder and Substance Use Disorders Receiving Outpatient Group Treatments**

The use of psychometrically sound measures to assess and monitor PTSD treatment response over time is critical for better understanding the relationship between PTSD symptoms and Substance Use Disorder (SUD) symptoms throughout treatment. We examined the psychometric properties of the Modified Posttraumatic Stress Disorder (PTSD) Symptom Scale, Self-Report (MPSS-SR).

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### **93. Proximal-type Epithelioid Sarcoma of the Head and Neck (HN): A Study with Immunohistochemical and Molecular Analysis of SMARCB1**

Proximal-type epithelioid sarcoma is an aggressive variant of epithelioid sarcoma most often occurring in soft tissues of the proximal limbs, characterized by polygonal cells, marked nuclear atypia, and varied rhabdoid features. Malignant rhabdoid tumor is an aggressive, well characterized entity typically with rhabdoid morphology and involving the kidney of pediatric patients. Rarely, tumors with morphologic and biologic features identical to those in kidney occur in extra-renal sites and are regarded as an extrarenal presentation of the same entity in kidney, named malignant extra-renal rhabdoid tumor.

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### **94. Expression of Voltage-Gated Sodium Channel Nav1.8 in Human Prostate Cancer is Associated with High Histological Grade**

Voltage-gated sodium (Nav) channels are required for impulse conductance in excitable tissues. Navs have been linked to human cancers, including prostate. The expression and distribution of Nav isoforms (Nav1.1-Nav1.9) in human prostate cancer are not well established. Here, we evaluated the expression of these isoforms and investigated the expression of Nav1.8 in human prostate cancer tissues. Nav1.8 was highly expressed in all examined cells. Expression of Nav1.1, Nav1.2, and Nav1.9 were high in DU-145, PC-3 and PC-3M cells compared to LNCaP (hormonedependent), C4-2, C4-2B, and CWR22Rv-1 cells. Nav1.5 and Nav1.6 were expressed in all cells examined. Nav1.7 expression was absent in PC-3M and CWR22Rv-1, but expressed in the other cells examined. Immunohistochemistry revealed intensive Nav1.8 staining correlated with more advanced pathologic stage of disease.

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### **95. Effect of Vaccination with Different Types and Dosages against a Very Virulent Marek's Disease Virus Strain**

In this study, Marek's disease(MD) vaccines including herpesvirus of turkeys (HVT) vaccine, attenuated serotype 1 Marek's disease virus (MDV) CVI988 vaccine and nonpathogenic serotype 2 MDV (SB1 strain) culture were used individually or jointly to immunize 1-day-old specific pathogen free (SPF) chickens at different dosages, the immunized chickens were intradermally infected with 2000 plaque forming unit (PFU) of duck embryo fibroblast (DEF) passaged SD2012-1, a very virulent Marek's disease virus. All chickens of the experiments and control chickens were observed daily throughout the entire experimental period to assess the vaccines efficacy and immunization dose against MDV SD2012- 1 Strain. CVI988, CVI988+HVT and CVI988+SB1+HVT could partially protect chickens against Marek's disease after infection with SD2012-1.

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### **96. Gemcitabine-(C4-amide)-[anti-HER2/neu] Anti-Neoplastic Cytotoxicity in Dual Combination with Mebendazole against Chemotherapeutic-Resistant Mammary Adenocarcinoma**

Gemcitabine is a pyrimidine nucleoside analog that becomes triphosphorylated and competitively inhibits cytidine incorporation into DNA strands. Diphosphorylated gemcitabine irreversibly inhibits ribonucleotide reductase thereby preventing deoxyribonucleotide synthesis. Functioning as a potent chemotherapeutic, gemcitabine decreases neoplastic cell proliferation and induces apoptosis which accounts for its effectiveness in the clinical treatment of several leukemia and carcinoma cell types. A brief plasma half-life due to rapid deamination, chemotherapeutic-resistance and sequelae restrict gemcitabine utility in clinical oncology. Selective "targeted" gemcitabine delivery represents a molecular strategy for prolonging its plasma half-life and minimizing innocent tissue/organ exposure.

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### **97. Endogenous Voltage Potentials and the Microenvironment: Bioelectric Signals that Reveal, Induce and Normalize Cancer**

Cancer may be a disease of geometry: a misregulation of the field of information that orchestrates individual cells' activities towards normal anatomy. Recent work identified molecular mechanisms underlying a novel system of developmental control: bioelectric gradients. Endogenous spatio-temporal differences in resting potential of non-neural cells provide instructive cues for cell regulation and complex patterning during embryogenesis and regeneration. It is now appreciated that these cues are an important layer of the dysregulation of cell: cell interactions that leads to cancer. Abnormal depolarization of resting potential ( $V_{mem}$ ) is a convenient marker for neoplasia and activates a metastatic phenotype in genetically-normal cells in vivo.

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## **98. Global Warming and Future Food Production**

A continuing challenge facing the ongoing growing world human populations is global food security. The most threatening environmental planetary problem is global warming. In this review I suggest that bread wheat, the major world staple food, needs genetic improvement to cope with its genetic impoverishment also due to the climate change predicament. The best hope to genetically improve bread wheat is to use the rich biotic and abiotic genetic resources of the wheat progenitor, wild emmer wheat, *Triticum dicoccoides* (TD), whose place of origin and highest genetic diversity is in northern Israel, the eastern Upper Galilee and Golan Heights. Remarkably, TD is affected both negatively and positively by global warming. Hence, it is imperative to conserve TD both in- situ, and ex- situ, in order to secure its genetic resources for future bread wheat improvement. This will in turn, secure future food production and prevent the predicament of a massive world hunger.

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## **99. Berkeley Earth Temperature Averaging Process**

A new mathematical framework is presented for producing maps and large-scale averages of temperature changes from weather station thermometer data for the purposes of climate analysis. The method allows inclusion of short and discontinuous temperature records, so nearly all digitally archived thermometer data can be used. The framework uses the statistical method known as Kriging to interpolate data from stations to arbitrary locations on the Earth. Iterative weighting is used to reduce the influence of statistical outliers. Statistical uncertainties are calculated by subdividing the data and comparing the results from statistically independent subsamples using the Jackknife method. Spatial uncertainties from periods with sparse geographical sampling are estimated by calculating the error made when we analyze post-1960 data using similarly sparse spatial sampling. Rather than “homogenize” the raw data, an automated procedure identifies discontinuities in the data; the data are then broken into two parts at those times, and the parts treated as separate records.

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## **100. Influence of Urban Heating on the Global Temperature Land Average using Rural Sites Identified from MODIS Classifications**

The effect of urban heating on estimates of global average land surface temperature is studied by applying an urban-rural classification based on MODIS satellite data to the Berkeley Earth temperature dataset compilation of 36,869 sites from 15 different publicly available sources. We compare the distribution of linear temperature trends for these sites to the distribution for a rural subset of 15,594 sites chosen to be distant from all MODIS-identified urban areas. While the trend distributions are broad, with one-third of the stations in the US and worldwide having a negative trend, both distributions show significant warming. Time series of the Earth’s average land temperature are estimated using the Berkeley Earth methodology applied to the full dataset and the rural subset; the difference of these is consistent with no urban heating effect over the period 1950 to 2010, with a slope of  $-0.10 \pm 0.24/100\text{yr}$  (95% confidence).

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### **101. Spatial Distribution Analysis of Groundwater Quality Index Using GIS: A Case Study of Ranchi Municipal Corporation(RMC) Area**

The exploration, exploitation, and unscientific management of groundwater resources in the capital of Jharkhand (Ranchi) have posed a serious threat of reduction not only in quantity but also deterioration in quality. The aim of the present study is to provide an overview of current status of groundwater quality and to analyse spatial distribution of groundwater quality in Ranchi Municipal Corporation (RMC) area for the risk assessment.

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### **102. Suitability of Markov Random Field-Based Method for Super-Resolution Land Cover Mapping**

Super-resolution mapping (SRM) works by dividing the coarse pixel into sub-pixels and assign the class proportion estimated by subpixel classification to each corresponding sub-pixels then the class labelling is optimized based on the principle of spatial dependency. Among the existing SRM techniques Markov random field (MRF)-based SRM is one of the most recently introduced technique. This study attempts to assess the suitability of the technique for superresolution land cover mapping.

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### **103. Nature-Inspired Metaheuristic Algorithms: Success and New Challenges**

Many business activities require planning and optimization, this is also true for engineering design, Internet routing, transport scheduling, objective-oriented task management and many other design activities. In fact, optimization is everywhere; the most important part of optimization is the core algorithms used to find optimal solutions to a given problem, though in many cases such algorithms may not exist at all.

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### **104. An Object-Oriented Library for Real-Time Processing of NASDAQ Order Book Data**

Data mining for extremely data-intensive applications (big data)presents a number of challenges to the computer programmerbeyond the typical issues of numerical accuracy, algorithm speed, and stability. The specific data-intensive application we consider in this paper is an object-oriented library intended to efficiently construct and maintain the order books for the daily flow of stock market information on the NASDAQ stock exchange. We develop and optimize this library using the Microsoft .NET 4.0 productivity framework.

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### **105. HIV Gp120 Sequence Variability Associated with HAND in Hispanic Women**

The pandemic of infection with the human immunodeficiency virus, type 1 (HIV-1), continues to significantly affect the lives of millions (CDC Report, 2013). Some HIV+ subjects manifest neurocognitive

comorbidities termed as HIV-associated neurocognitive disorders (HAND). HAND is clinically categorized as three subsyndromic comorbidities: 1) asymptomatic neurocognitive impairment (ANI), 2) mild motor cognitive disorders (MCMD), and 3) HIV associated dementia (HAD). The use of combined antiretroviral therapy (cART) has attenuated neurocognitive comorbidities since its introduction in 1996. However, at least 50% of HIV diagnoses who are taking cART manifest neurocognitive impairments (NCI), in which the most prevalent are the asymptomatic cases. ANI is prevalent in 33% of cases, whereas MCMD and HAD are 12 and 2%, respectively.

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### **106. Role of Coatmer Protein I in Virus Replication**

Coatmer protein I (COPI) is well known as the protein coat surrounding vesicles involved in returning endoplasmic reticulum (ER)-resident proteins to the ER. COPI coats are also found in vesicles involved in other trafficking processes including endocytosis, autophagy and anterograde transport in the secretory pathway. In view of the diverse functions of COPI proteins, it is expected that they will affect virus replication, and many reports of such COPI involvement have now appeared. The experimental approaches most often employ specific siRNA to deplete COPI subunits or brefeldin A to block COPI activation.

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### **107. Influence of HIV-1 Genetic Variability on Vertical Transmission and Pathogenesis**

HIV-1 exists as a genetically heterogeneous population within infected individuals and in infected population. Genetic variability or viral heterogeneity plays an important role in transmission, pathogenesis, immune response, disease progression and therapy as well as is the most effective way for the virus to evade the host immune response and persists in infected individuals. We have used HIV-1 infected mother/infant pairs as a transmitter-recipient model to elucidate the role of the molecular and biological properties of HIV-1 associated with transmission and pathogenesis. HIV-1 sequences derived from infected mothers were more heterogeneous than their younger infected infants' HIV-1 sequences. However, the infants' HIV-1 sequences diversified as they grew older. HIV-1 infants' sequences were different from each other but similar or closer to their mother's sequences. We found that the minor genotypes of HIV-1 found in mothers were transmitted to their infants, which was initially maintained as a homogeneous population in infants and diversified as the infants grew older.

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### **108. Diversity of and Implications from the Viral Genomes and Viral Proteins of Zika Virus**

The Zika virus (ZIKV), together with the West Nile virus, Yellow fever virus, Japanese encephalitis virus, Dengue fever virus, and other classified and unclassified viruses, forms the genus Flavivirus within the family Flaviviridae. The family Flaviviridae consists of many other viruses as summarized in a recent review. This family of viruses has an enveloped icosahedral capsid containing a single strand, positive sense RNA genome (about 11,000 nucleotides). Therefore, the infected viral RNA can be directly translated to a large polyprotein precursor, which is co- and post-translationally processed by viral and cellular proteases

into structural and non-structural proteins. The three structural proteins are critical for the formation of the envelope and capsid, and the seven non-structural (NS) proteins play important roles in virus replication.

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### **109. Cordycepin an Adenosine Analogue Executes Anti Rotaviral Effect by Stimulating Induction of Type I Interferon**

Rotavirus (RV), a nonenveloped virus belonging to family Reoviridae, is considered as the most common cause of severe and dehydrating diarrhea in children. Due to lack of proper disease management and unavailability of health care facilities RV accounts for half a million deaths among infants annually. Majority of these deaths occur in lower socioeconomic countries because of limited access to health care facilities as well as rotavirus vaccines, RotaTeq (Merck and Co., PA, USA) and Rotarix (GSK Biologicals, Rixensart, Belgium). Other than vaccination and Oral rehydration solution for prevention of dehydration, no other effective antivirals have been successfully implemented for treatment of RV infection. Early studies have reported that pretreatment of cells with Interferon (IFN) can restrict RV replication effectively. Supportingly, IFN treatment of newborn calves and piglets prior to RV infection reduces virus replication and disease severity. Both high and low sensitivities of bovine RV infection in response to bovine IFN- $\alpha/\beta$  have been reported from cell culture. Thus, the virus is sensitive to the IFN induced antiviral effects.

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### **110. Effect of Different Routes of Inoculation on Plant-Derived VP2 Immunogenicity and Ability to Confer Protection Against Infectious Bursal Disease**

Infectious Bursal Disease is an acute, highly contagious, immunosuppressive disease that affects young birds causing important economic losses in the poultry industry worldwide. Its etiological agent is the Infectious Bursal Disease Virus (IBDV), a non-enveloped icosahedral bisegmented double-stranded RNA virus, member of the Birnaviridae Family [1]. IBDV infects and destroys IgMbearing B-lymphocytes in the bursa of Fabricius (BF), which results in immunosuppression and T cells infiltration into this organ.

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### **111. Adefovir plus Entecavir Therapy in Chronic Hepatitis B Patients with Treatment Failure to Lamivudine-Entecavir Sequential Therapy: Outcome at 2 Years**

While oral antiviral agents with low resistance and high potency are available for the treatment-naïve patients in the current clinical setting, limitations have been persistent in the treatment of patients with lamivudine (LAM) resistance. Currently, the treatment of choice for LAM-resistant hepatitis B virus (HBV) is combination therapy based on adefovir dipivoxil (ADV) or tenofovir, with add-on medications such as LAM, telbivudine, and entecavir (ETV). An adequate antiviral effect can be expected in only 20 to 30% of patients when they are treated with ADV or ETV monotherapy. If those monotherapies are continued in patients showing an inadequate treatment response, there is a high risk of developing a mutant strain with resistance to second-line treatment; the risk is 10% per year. In case of tenofovir, there is a high probability of therapeutic success, even with monotherapy, but the accumulated evidence is not enough. On the other

hand, there have been studies on combination therapy that resulted in reduced resistance to second-line treatment and long-term efficacy in terms of virus reduction.

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### **112. The Influence of Porcine Reproductive and Respiratory Syndrome Virus Infection on the Expression of Cellular Prion Protein in Marc-145 Cells**

Cellular prion protein (PrPC) is a glycosylphosphatidylinositol (GPI)-anchored glycoprotein concentrated in lipid rafts of the plasma membrane. PrPC is widely expressed in various of cells including haematopoietic stem cells and immune cells in addition to cells of the central nervous system. PrPC plays a complex role in the regulation of cell signalling and protein trafficking. Posttranslational modification of the PrPC is intimately associated with the pathogenesis of prion disease, yet the normal function of the protein remains unclear. The highly conserved nature of PrPC during evolution suggests that it may serve as a link between innate and adaptive immunity. PrPC has been proposed to represent a potential regulator of cellular immunity [6]. Accumulating evidence confirmed that many infectious agents and their toxins use GPI-anchored proteins to gain entry into host cells.

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### **113. A Randomized Clinical Trial of Pegylated Interferon for Acute Hepatitis C Virus Infection in Active Injection Drug Users**

Participants with acute HCV were recruited from Seattle area site of the multi-site Third Collaborative Intravenous Drug Users Study/ Drug Users Intervention Trial (DU-IT) from September 2003 to December 2005 [1-3]. In the DU-IT trial, actively using PWID were seen every 6 months to measure the effect of a behavioral intervention designed to promote safe drug use. One of the DU-IT study outcomes included HCV seroconversion; thus, the presence of HCV antibody was measured every 6 months, allowing us to identify PWID who had been infected with HCV in the preceding 6-12 months. Study recruitment was initiated on September 4, 2003 and recruitment and follow-up were completed on August 16, 2007.

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### **114. Leadership Styles of Oxford House Officers**

Oxford House recovery homes are unusual compared to most recovery homes in that they function entirely without the use of staff; instead members are elected to officer positions. The aim of this study was to perform preliminary analysis of the types of leadership styles utilized by members of Oxford House. Twenty-nine house residents of five Oxford Houses were asked to rate their own leadership styles using the leader behavior description questionnaire and the multifactor leader questionnaire. Results showed that participants were more likely to use person-oriented behaviors above task-oriented actions. Transformational leadership was associated with higher outcomes than Transactional leadership. Implications for future research are discussed.

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### **115. Opioid Use Disorder During and After Acute Hospitalization: A Case-Based Review Clarifying Methadone Regulation for Acute Care Settings**

Treatment with an opioid agonist such as methadone or buprenorphine is the standard of care for opioid use disorder. Persons with opioid use disorder are frequently hospitalized, and may be undertreated due to provider misinformation regarding the legality of prescribing methadone for inpatients. Using a casebased review, this article aims to describe effective management of active opioid withdrawal and ongoing opioid use disorder using methadone or buprenorphine among acutely ill, hospitalized patients.

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### **116. Racial/Ethnic Disparities in Consistent Reporting of Smoking-Related Behaviors**

Despite substantial efforts to close the gap in health and health care for racial/ethnic minority subpopulations in the US and worldwide, disparities persist. Recent literature indicates that some racial/ethnic subpopulations still have considerably higher mortality rates from cancer, heart disease and other leading causes of death. In 2006, 15 leading causes of death accounted for about 81.5% of all deaths in the US. For 9 of these leading causes, the age-adjusted death rates for Blacks were higher than the rate for Whites.

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### **117. Buprenorphine Prescribing Availability in a Sample of Ohio Specialty Treatment Organizations**

Buprenorphine, a medication for treating opioid dependence, is underutilized in specialty addiction treatment organizations. Only physicians who have obtained a buprenorphine prescribing license or “waiver” may administer this medication. A limited number of physicians are pursuing this waiver, and a concern in the substance use disorder treatment field is that the shortage of prescribers could be contributing to the low use of buprenorphine at specialty addiction treatment centers. The objective of this study is to assess Ohio specialty treatment organizations’ access to buprenorphine prescribers and the barriers they encounter when seeking new physician prescribing capacity.

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### **118. Factors Linked to Substance Use Disorder Counselors (Non) Implementation Likelihood of Tobacco Cessation 5 As, Counseling, and Pharmacotherapy**

Despite efforts to promote the use of tobacco cessation services (TCS), implementation extensiveness remains limited. This study investigated three factors (cognitive, behavioral, environmental) identified by social cognitive theory as predictors of substance use disorder counselors’ likelihood of use versus non-use of tobacco cessation (TC) 5 A’s (ask patients about tobacco use, advise to quit, assess willingness to quit, assist in quitting, arrange for follow-up contact), counseling, and pharmacotherapy with their patients who smoke cigarettes.

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### **119. Perception of Time Since Smoking Cessation: Time in Memory Can Elapse Faster**

Self-reports concerning smoking behaviors are subject to different types of response bias that may severely affect the data quality. This study examined the evidence and extent of backward telescoping

bias in reports on time since completely quitting smoking among former smokers. The study goals were to determine whether the extent of bias differs, on average, across subpopulations with diverse sociodemographic characteristics, prior smoking habits and duration of smoking abstinence, and across the survey administration mode (phone, in-person, mixed). The sample included 1,611 subjects who responded to the 2002-2003 Tobacco Use Supplement to the Current Population Survey. Multiple.

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### **120. Women Leaders in Oxford House**

Oxford Houses are democratically run recovery home systems that serve over 10,000 individuals in the United States. The essential principles of Oxford House are self-help, discipline, and self-support. The democratic, self-run property of Oxford Houses differentiates them from many recovery models; instead of employing staff to manage day to day house operations, house members elect house officials to take on these responsibilities. This feature not only gives residents an opportunity to build responsibility, but also keeps the costs associated with maintaining Oxford Houses low when compared to other substance abuse treatment options, such as staffed inpatient treatment facilities.

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### **121. Mirtazapine In Comorbid Major Depression And Alcohol Use Disorder: A Long-Term Follow-Up Study**

Previous studies of antidepressant medications among persons with comorbid major depressive disorder in combination with alcohol dependence have focused on selective serotonin reuptake inhibitors or tricyclic medications, and the results of those trials have been disappointing. Lovieno et al. also noted the complete lack of study data on a number of newer antidepressants such as mirtazapine for treating comorbid populations. Thus, to date, no medications have consistently demonstrated efficacy for treating the large population of persons with comorbid major depressive disorder and alcohol dependence. Therefore, comorbid major depression and alcohol dependence currently represent a considerable unmet treatment need.

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### **122. Smoking Cessation Interventions in HIV-Infected Adults in North America: A Literature Review**

Advances in the medical treatment of persons infected with human immunodeficiency virus (HIV) over the past 25 years have led to an increased lifespan for HIV-infected individuals. In fact, recent studies show that mortality rates for HIV-infected persons now mirror that of the general population. Over the past 10 years, however, cardiovascular disease (CVD) has emerged as a major cause of morbidity and mortality in adults with HIV-infection. Cigarette smoking, a traditional risk factor for CVD, is more prevalent in this population and contributes to the elevated rate of risk. In addition, smoking in this population has

been associated with increased rates of pulmonary diseases and infections, including bacterial pneumonias, lung cancers, and other malignancies. Furthermore, HIV-infected smokers lost more years due to cigarette smoking than to HIV infection in a recently published study.

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### **123. Substance Use Related Stigma: What we Know and the Way Forward**

To conduct a systematic review of the literature investigating the relationship between stigma experienced by individuals who use drugs. Methods: We conducted an online literature search and identified articles related to stigma among individuals who use drugs. Studies evaluating associations between stigma and socio-demographic variables and if applicable clinical and substance use variables are presented. In addition, recommendations for future research are provided. Results: We identified 26 articles describing 28 studies evaluating stigma. The majorities of studies were published in the last 11 years and conducted in the U.S. Samples were relatively diverse: 41.7% of all participants who provided data identified as racial/ethnic minorities.

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### **124. Provider Adherence to Neonatal Resuscitation Program Recommendations for Coordinated Neonatal Chest Compressions and Ventilations**

Neonatal chest compressions are essential for maintaining adequate cerebral and coronary perfusion during profound cardiac depression after birth. However, chest compressions and extensive cardiopulmonary resuscitation (CPR) are performed in only 0.08-0.12% of term infants after birth, so limited data exist regarding the quality of chest compressions and ventilations performed by neonatal providers. Chest compression performance in adult and pediatric populations often deviates from international resuscitation guidelines, raising the concern that the coordinated chest compressions performed in neonates also may not adhere to neonatal resuscitation guidelines.

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### **125. Fludarabine- (C2-methylhydroxyphosphoramidate)- [anti-IGF-1R]: Synthesis and Selectively Targeted Anti-Neoplastic Cytotoxicity against Pulmonary Adenocarcinoma (A549)**

Fludarabine([(2R,3R,4S,5R)-5-(6-amino-2-fluoro-purin-9-yl)-3,4-dihydroxy-oxolan-2-yl]methylhydroxyphosphonic acid) is a phosphorylated adenosine deaminase-resistant purine nucleotide analog that enters the cytosol of neoplastic cells by active transport as does methotrexate (5-FU enters by facilitated transport processes). The mechanisms-of-action for fludarabine are dependent upon it functioning as a biochemical substrate for deoxycytidine kinase which converts the chemotherapeutic to the primary active metabolite, 5'-fludarabine-ATP (F-ara-ATP) [1]. Anti-neoplastic cytotoxicity is primarily associated with competitive substitution for deoxyadenosine triphosphate (dATP) which profoundly inhibits DNA polymerase and terminates progressive DNA strand synthesis at the site of incorporation. In addition, the active metabolite F-ara-ATP suppresses ribonucleotide reductase biochemical activity thereby causing declines in cytosol dATP and further increases fludarabine potency.

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### **126. EMOTE-conv: A Computational Pipeline to Convert Exact Mapping of Transcriptome Ends (EMOTE) Data to the Lists of Quantified Genomic Positions Correlated to Related Genomic Information**

The determination of 5'-ends of RNA molecules is important for understanding various steps of gene expression and regulation in all organisms, such as transcription initiation, RNA maturation, and degradation. While previous methods like Phosphorylation Assay, By Ligation of Oligonucleotides, Rapid Amplification of Cdna Ends, Capped Analysis of Gene expression, tag RNA-seq and differential RNA-seq have their own specifications and limitations, Exact Mapping Of Transcriptome Ends (EMOTE) assay has been designed to determine the 5'-ends of RNAs on a transcriptome-wide scale. EMOTE-conv exploits the raw sequence reads generated from the EMOTE assay which is, to the best of our knowledge, the only method that can map the exact RNA 5'-ends of all types on a transcriptome wide scale.

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### **127. Combined Effect of Plant Density and Nitrogen Input on Grain Yield, Nitrogen Uptake and Utilization of Winter Wheat**

The nitrogen input and plant density have significant effects on nitrogen uptake and utilization of winter wheat. The objective of this work was to optimize nitrogen input and plant density for higher nitrogen uptake and utilization while maintaining grain yield. Field experiments were performed during the 2011-2012 and 2012-2013 growing seasons using two cultivars under different nitrogen input rates (0, 180 and 240 kg ha<sup>-1</sup>) and plant densities (120, 180 and 240 plants m<sup>-2</sup> for Jimai 22 and 135, 270 and 405 plants m<sup>-2</sup> for Tainong 18, respectively). The results showed that increasing plant density improved yield and increased nitrogen-use efficiency owing to the increased nitrogen uptake efficiency.

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### **128. Chloroplast trnD-trnT Region Sequencing for Quick Haplotyping of Oak Populations**

Method of DNA isolation from young oak leaves is described that enables efficient amplification of trnD-trnT region of chloroplast DNA and direct sequencing of crude PCR reaction mixture. Sequence data of trnD-trnT region have been used to examine *Quercus robur* and *Q. petraea* population's variability. High discrimination power of this method is demonstrated, comparable with previously used restriction analysis of four similar chloroplast DNA regions. Variable positions in trnT-trnD chloroplast DNA fragment are mapped and their use for oak haplotyping indicated.

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### **129. A High Concentration of Genistein Induces Cell Death in Human Uterine Leiomyoma Cells by Autophagy**

Uterine fibroids (leiomyomas or myomas) are benign tumors that arise from the smooth muscle cells of the uterus, and generally occur in women 30-50 years of age. These tumors clinically affect approximately 25% of all women in the United States, with African American women having a higher risk of development of fibroids compared to Caucasian women. Uterine fibroids are also prevalent worldwide affecting women in

Europe, Africa, Asia and South America. Fibroids can be asymptomatic or symptomatic depending on the tumor size and location in the uterus, with common symptoms such as menorrhagia and pelvic pressure. Additionally, fibroids significantly impact fertility and pregnancy, and have been associated with obstetric complications, which cause a significant economic burden. It is been estimated that uterine fibroids cost the United States \$5.9-34.4 billion annually.

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### **130. Uterus Didelphys with Septate Cervix and Unilateral Endometrial Carcinoma: A Case Report.**

Uterine malformations owing to defects of fusion of müllerian ducts are not rare, but cases of complete duplicity (didelphys or bicornuate-bicollis uterus) with double vagina are rarer and usually have two cervixes, one connecting each vagina. However, the combination of a uterus didelphys in the superior uterine segment with a septate cervix is either uncommon or not well diagnosed or reported. This case report describes a 74-year-old woman who had given birth several times and now exhibits uterus didelphys with an endometrial carcinoma in one of the hemiuteri; there was no pathology in the other hemiuterus.

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### **131. Cervical Polypectomy during Pregnancy: The Gynaecological Perspective**

The finding of a cervical polyp during pregnancy is uncommon condition. In some cases a polyp can be symptomatic, in others it is an incidental finding during vaginal examination. However in both situations it can be a cause of major anxiety for the pregnant woman. The management depends on the symptoms.

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### **132. Obturator Neuralgia: Complete Resolution after Laparoscopic Retropubic Sling Removal: A Report of 2 Cases**

The retropubic tension-free vaginal tape mesh sling (RP sling) had a large impact on the treatment options for female SUI. The RP mesh tape sling has become a gold standard treatment of female SUI; however, it is not without the possibility of complications, some of them severe. These complications can include bowel injury, major vascular injury, bladder perforation, hematoma, post-operative detrusor instability, obstructive symptoms, vaginal erosion, and pain [2]. Abdominal pain, dyspareunia, groin/leg pain and wound infection have also been documented but at a much lower rate [3] and therefore generally not considered to be an issue with this classification of slings.

[Read More...](#)

### **133. Cervical Cancer Screening: The Challenges of Tracking and Follow-up**

The ability of a patient to attend a screening clinic, to return for possible treatment, and to return to clinic for follow-up evaluation (“the patient factor”) is an important component to the success of a screening program. The patient factor has not been addressed in the discussion of cervical cancer screening techniques and guidelines. Challenges and barriers to tracking screening results and returning for follow-up include patient

factors, limited resources, and inadequate medical infrastructure. The various elements that lead to loss to follow-up in a screened population are discussed. Potential solutions to improve continued surveillance and interventions to prevent the development of cervical cancer are reviewed.

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### **134. Global Health: Role of HPV Testing in Resource Poor Environment**

There have been numerous efforts directed at improving primary and secondary prevention of cervical cancer. Clinical trials have found that HPV vaccination (Gardasil, Gardasil 9, Cervarix) is at least 95% effective in preventing HPV-16 or -18 persistent infection, and at least 93% effective in preventing vaccine-type specific lesions when given to girls prior to onset of sexual activity, or to those without prior infection with these subtypes. The data also demonstrates that the HPV vaccine is widely accepted in LMICs. Vaccine coverage ranging from 55-75% can be achieved when delivery is school-based, health center based or combined with other health interventions.

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### **135. The Emerging Concept of Hormonal Impact on Wound Healing in Feminizing and Masculinizing Genital Surgery**

Wounding, through surgical incision, as in the case of feminizing genitoplasty and masculinizing surgeries such as hypospadias repair, involves all layers of epithelium from the superficial epidermis of labia, vaginal introitus, clitoris or penis, subcutaneously to the deep layers of the basement membrane, and the vaginal mucosa, urothelium and their deeper layers. Incisional injury and healing of the corporal and spongiosal tissues, as well as that of the pediculated dartos tissues invariably interposed in the repair, and possibly other tissues such as intestinal, buccal mucosal or epithelial grafts may also be involved. Each, consequently, contributes their molecular roles in the healing process. This complex variation of possibilities that includes surgical technique, surgical flap construction, tissue undercutting and changes to vascularity and innervation, cannot be excluded from consideration for contributions to wound healing parameters.

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### **136. A Review of Radiologic Imaging in Patients with Androgen Insensitivity**

Disorders of sex development (DSD) are a group of disorders resulting from congenital abnormalities in development of the reproductive organs. Androgen Insensitivity (AIS), previously known as testicular feminization, is a DSD resulting from a relatively rare condition affecting the androgen receptor (AR). The incidence is approximately 1 in 20,000 to 1 in 64,000 births [1]. The pathophysiology of the condition begins with the XY genotype, which all AIS patients are born with. The SRY gene of the Y chromosome directs the gonad to become a testicle, and produce the Sertoli and Leydig cells. The Sertoli cells then secrete Anti-Mullerian Hormone (AMH), resulting in regression of the Mullerian ducts that would have formed into the uterus, fallopian tubes and upper vagina. The Leydig cells secrete testosterone, which would normally stabilize the Wolffian ducts and cause masculinization of the external genitalia.

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### **137. Isolation and Purification of Satellite Cells for Skeletal Muscle Tissue Engineering**

Engineered skeletal muscle holds promise as a source of graft tissue for the repair of traumatic injuries such as volumetric muscle loss. The resident skeletal muscle stem cell, the satellite cell, has been identified as an ideal progenitor for tissue engineering due to its role as an essential player in the potent skeletal muscle regeneration mechanism. A significant challenge facing tissue engineers, however, is the isolation of sufficiently large satellite cell populations with high purity. The two common isolation techniques, single fiber explant culture and enzymatic dissociation, can yield either a highly pure satellite cell population or a suitably large number of cells but fail to do both simultaneously. As a result, it is often necessary to use a purification technique such as pre-plating or cell sorting to enrich the satellite cell population post-isolation.

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### **138. Targeted MicroRNA Interference Promotes Postnatal Cardiac Cell Cycle Re-Entry**

Mammalian heart cells undergo a marked reduction in proliferative activity shortly after birth, and thereafter grow predominantly by hypertrophy. Our understanding of the molecular mechanisms underlying cardiac maturation and senescence is based largely on studies at the whole-heart level. Here, we investigate the molecular basis of the acquired quiescence of purified neonatal and adult cardiomyocytes, and use microRNA interference as a novel strategy to promote cardiomyocyte cell cycle re-entry. Expression of cyclins and cyclin-dependent kinases (CDKs) and positive modulators were down-regulated, while CDK inhibitors and negative cell cycle modulators were up-regulated during postnatal maturation of cardiomyocytes.

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### **139. Human Stem Cell Derivatives Retain More Open Epigenomic Landscape When Derived from Pluripotent Cells than from Tissues**

The ability of a stem cell both to self-renew and differentiate into desired phenotypes makes it a potentially inexhaustible cell source for tissue and functional restoration. Discerning the complex identities of human stem cell derivatives from various developmental stages and sources is essential for selection of an optimally lineage-committed human stem cell with sufficient plasticity along the fate restriction continuum to address a particular disease.

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### **140. A Viable and Simple Self-Sampling Method for Human Papillomavirus Detection among South African Adolescents**

Self-sampling for Human Papillomavirus (HPV) testing may offer improved patient acceptability, decreased cost, and greater practicality than clinician collection of specimens. HPV testing among adolescents is necessary to conduct vaccine surveillance and may play a role in cervical cancer screening among some populations.

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#### **141. High Rate of Multiple Concurrent Human Papillomavirus Infections among HIV-Uninfected South African Adolescents**

Human papilloma viruses (HPV) cause cervical cancer, the single largest cause of years of life lost from cancer in the developing world. While most infections with HPV are transient, some infections persist, causing cervical dysplasia, and ultimately invasive cervical cancer. The impact of multiple concurrent infections with two or more different HPV genotypes on the natural history of infection and cervical disease is a matter of controversy.

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#### **142. Bilateral Idiopathic Solitary Granuloma of the Uveal Tract: Diagnosis and Treatment**

We present a case of sequential bilateral idiopathic solitary granuloma of the uveal tract in a 51 year-old woman, who underwent enucleation in one eye due to complications of this condition, but was then successfully treated in the contralateral eye with anti-tumor necrosis-alpha therapy followed shortly by intraocular steroids and a steroid-releasing implant. Her visual acuity at its worst was 20/200 due to vitreous haze and cystoid macular edema, but then stabilized after successful treatment with a final visual acuity of 20/25 in her only seeing eye at 1 year follow-up. This represents the first known biopsy-proven case of bilateral idiopathic solitary granuloma, which additionally, has responded favorably to treatment.

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#### **143. Acute Retinal Necrosis with Multiple Viral Infections: A Case Report**

A 52-year-old male presented with acute retinal necrosis in his left eye. Slit lamp examination revealed stellate keratic precipitates and cells in the anterior chamber and vitreous. Funduscopy of his left eye revealed multiple yellow deposits. Pathological examination of the vitreous showed both small, reactive lymphocytes and a few macrophages. IL-6 and IFN- $\gamma$  were elevated in the vitreous. Microdissected macrophages from the vitreous revealed DNAs from multiple viruses. The patient responded to oral valacyclovir. We conclude that multiple viral infections can be involved in the pathogenesis of acute retinal necrosis and that adequate anti-viral therapy has a beneficial effect on disease progression. However, retinal detachment can be a consequence for a poor visual outcome.

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#### **144. Ophthalmomyiasis Externa: Case Report of the Clinicopathologic Features**

Ophthalmomyiasis externa is the infestation of the superficial external ocular structures by fly larvae. This is a particularly rare condition, which has nevertheless been reported in several countries worldwide. Presented herein are the clinicopathologic features of ophthalmomyiasis externa which occurred in an adult patient. The patient responded well to treatment following thorough ophthalmological examination and prompt diagnosis.

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#### **145. Tackling Primary Cilia Dysfunction in Photoreceptor Degenerative Diseases of the Eye**

Perception of what is occurring around us relies extensively on our senses, such as vision, smell and touch. Among these, vision attracts remarkable attention. The ability to see makes us appreciate life. For years, investigators have been seeking answers to remarkable capabilities of the eye to perceive and interpret light signal and any kind of disturbances causing loss of vision and degenerative ocular diseases. Answers to such questions are essential to develop a cure for people suffering from dysfunction of visual process. This editorial summarizes recent trends in the development of our understanding of a class of degenerative diseases of eye, which are caused by defects in polarized protein trafficking in photoreceptors, the light-sensing neurons in the retina.

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#### **146. Exposure to Exogenous Female Sex Hormones is Associated with Increased Risk of Orbito-Cranial Meningioma in Females: A Case-Control Study**

Meningioma is the most common tumour of all non-malignant brain and central nervous system tumours (53.4%) with the highest incidence rate (7.86 per 100,000 population). In 2007, it is estimated that over 100,000 women in the United States had been diagnosed with intra-cerebral meningioma and approximately 9000 new cases were diagnosed in women each year. Previous studies have suggested that exposure to female sex hormones may influence the development and growth of brain tumours, particularly meningioma. Consistent with this, higher female to male ratio (2-3:1) in meningioma especially during the female reproductive years, and accelerated growth of the tumour during pregnancy and the luteal phase of menstruation supported this hypothesis. Nevertheless, evidence in this regards remain less consistent.

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#### **147. Optimal Therapy for Polycythemia Vera and Essential Thrombocythemia: A Different Perspective**

Recent publications have de-emphasized the importance of recombinant interferon alpha ( $rIFN\alpha$ ) for the treatment of polycythemia vera (PV) or essential thrombocythemia (ET), favoring the use of phlebotomy and/or hydroxyurea. Here we express our reasons for the use of  $rIFN\alpha$  early in the course of PV or ET in the absence of a phase 3 trial.

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#### **148. Influence of the Textile Parameters on the Complex Shape Forming Properties of Flax Based Fabrics**

Natural fibres such as flax fibres are particularly interesting because they are renewable, have low density and high specific mechanical properties. Recently, lots of works have studied the tensile behaviour of individual fibres or group of few fibres of different nature and origin. However, few studies deal with the mechanical behaviour of fibre assemblies or analyse the deformability of these structures.

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#### **149. Prediction of Fabric Bagging Occurred by an Artificial Arm Under Dynamic Conditions**

Textile fabrics are exposed to variable dynamic and/or static loads in temporary cycles which can cause change in the shape of garments. During wearing, the shape of a garment keeps changing, but due to the elasticity of fibers, these changes are temporary unless the stresses are too great or last too long. Based on their elastic or viscoelastic character, the changes permanent and irreversible deformation can result if the stresses are great and last too long especially elbows, knees and hips of garments with woven and knitted fabrics.

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#### **150. Piezoresistive Sensors Fabricated with Conductive Textiles for Monitoring the Step Rate with Read-Out Electronics and Wireless Connection to a Smart Watch**

For smart soft sensor design, conductive fibers are the key element to build smart fabrics with defined electrical properties (resistance, capacitance etc.). The current flow in fabrics depends on the conductive material used percentage of conductive fibers, the fabric structure, and the conductive fiber contact surface. Fabrication technologies are described that use metal fibers only, and also those including a mixture with textile fibers. These yarns are produced using textile production technologies. Advanced processes of metallization of polyamide fibers with silver coating are also developed because polyamide gives the yarn strength and elasticity, while thin compliant silver coating guarantees electrical conductivity and biocompatibility for skin electrodes.

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#### **151. Determining the Optimum Size Combination of Three-Layered Cold Protective Clothing in Varying Wind Conditions and Walking Speeds: Thermal Manikin and 3D Body Scanner Study**

In cold conditions, the thermal insulation of clothing must be adequate for sustaining body heat balance. If both ambient temperature and physical activity are low, the required thermal insulation is so high that a multi-layered clothing system is needed. It is well known that garment fit and still air between clothing layers and in textiles affect heat transfer through the clothing and thus also affect thermal insulation. In a previous study using one clothing layer on the torso, the thermal insulation value increased with a thicker air layer entrapped between the clothing and skin, but the value started to drop if being higher than the optimum air layer thickness. Another study determined the maximum thermal insulation value of twolayered clothing on the torso in relation to air volume between the garment layers.

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#### **152. Degradation of Textile Dye by UV Light Using Nano ZnO/Bamboo Charcoal Photocatalysts**

Bamboo charcoal (BC) is regarded as a new environmentally friendly and functional material. It is produced as a residue from the pyrolysis of bamboo; BC has a high adsorption capacity, of 1 cm<sup>3</sup> for a surface area of 350 m<sup>2</sup>. As bamboo can be grown readily, BC is considered a renewable resource; if BC is subjected to activation, it can be used as a suitable alternative to activated carbon (AC), which is a natural but depletable

resource; for this reason, BC has attracted considerable attention for research and development in recent years. BC is produced from rapidly growing moso bamboo plants, which are abundant in China. BC is inexpensive, with its price approximately 1/3–1/5 of that of AC available in China.

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### **153. Endometrium Cancer: Evidence of Cooperative Effect of P53 Codon 72 and ACP1 Genetic Polymorphisms on Cancer Grade**

In the present paper we have searched for a possible cooperative effect of p53 codon 72 and ACP1 genetic polymorphisms on cancer grade. Methods: 69 women with endometrium cancer and 696 adults without cancer have been studied. P53 codon 72 and ACP1 genotypes were determined by DNA analysis. Results: The analysis has shown a cooperative interaction between ACP1 and p53 codon 72 concerning the effect on cancer grade: the proportion of the joint genotype \*Arg/\*Arg carrying the low activity \*A/\*A and \*A/\*B ACP1 genotypes is lower in high grade than in low grade. The proportion of gametic type \*A/\*Arg is significantly lower in high than in low grade cancer. Conclusion: The combination of the effect of low activity ACP1 that may favor cellular growth with the increase of apoptosis due to \*Arg allele could act against the progression towards forms with immature and undifferentiated cells protecting from severe manifestation of cancer.

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### **154. Fertility Preservation for Cancer Patients: “We Need to Foot the Bill ”**

A 27-year-young G0 P0 female presented to the office for a consultation on fertility preservation after a referral from her oncologist with her friend as her sole medical supporter. She was distraught by a recent medical diagnosis of cancer, but leaned in as we broached the subject of possibly losing her fertility. We sat for about an hour discussing the likelihood of damage to her reproductive functioning and the options available to attempted to preserve her fertility. She anxiously reiterated “My oncologist says I need to start cancer therapy within the next three weeks.”

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### **155. Role of Lipid Peroxidation and Total Antioxidant Activity in Women with Preeclampsia**

Preeclampsia, a multisystem syndrome in pregnancy, is still a very important cause of maternal and fetal morbidity and mortality. Preeclampsia, recognized by ancient Greeks, was only sporadically investigated until late last century, current literatures still labelling this disorder a “disease of theories”. Thus, not surprisingly, the new millennium was started unable to predict or revert preeclampsia, and management strategies remain just supportive, with pregnancy termination still the only definitive “therapy”. This may be about to change, as focused research, mainly in the past decade, has resulted in dramatic progress regarding pathogenesis of disease manifestations and risk assessment, while investigators have begun designing and testing definitive therapy. Established preeclampsia is associated with increased concentrations of oxidative stress markers including lipid peroxidation products, and a reduction in antioxidant concentrations.

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### **156. Tree Species Diversity and Dominance in Ketumbeine Forest Reserve, Tanzania**

Ketumbeine Forest Reserve, an isolated forest on a small protruding hill located in the dry area of northern Tanzania has unknown tree species diversity and dominance. Using a systematic grid of 390 m by 780 m in 77 randomly selected plots of 0.071 ha, located along nine transects, botanical names of tree species, diameter above breast height (dbh), regenerants and key shrub species were recorded in order to determine species diversity index, dominance index, number of shrubs and regenerants, forest stocking and tree basal area, respectively. A total of 26 tree species and 17 shrubs were recorded. The tree species with the highest importance values were *Cassipourea malosana* (37%), *Nuxia congesta* (20%), *Olea europaea* (10%), and *Juniperus procera* (10%), among others.

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### **157. Spatial Variation in Dominant Height and Basal Area Development in a Coast Redwood Forest: Implications for Inventory and Modeling**

Forest carbon stocks and growth vary in space and over time. Land managers that are aware of spatial variations in forest growth and carbon can design appropriate inventories for forest data and adjust management accordingly. Forest inventory often involves systematic sampling along transect lines or within a network of permanent plots. If these plots are too close together, data collected in neighboring sample plots can be spatially autocorrelated (covariance). This intensity of sampling is unnecessary and may lead to population variance being underestimated and sample precision over estimated due to lack of independence between samples.

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### **158. Changes in Vegetation Cover and Productivity in Yosemite National Park (California) Detected Using Landsat Satellite Image Analysis**

Changes in subalpine vegetation growth and species distribution with elevation have been reported in association with recent climate trends in the mountainous areas of California and in other mountain ecosystems elsewhere in the world. Evidence from montane and high-elevation field studies around the world has indicated that more cold-adapted plant species have experienced growth declines, whereas the more warm-adapted species have had increased growth responses.

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### **159. Recent and Past Trees and Climates at the Arctic/Alpine Margin in Swedish Lapland: An Abisko Case Study Review**

Hypothetical future climate change, with anticipated profound and extensive consequences for man and biota is one of the most addressed topics within present-day geocology and vegetation science. In particular, marginal plant and animal communities in alpine and arctic regions are frequently concerned as objects with a high potential to manifest early biotic and landscape ecological responses to changing climatic conditions, possibly in conjunction with other drivers, e.g. ceasing human impacts. In this context, the

border zone between boreal forest and alpine/arctic tundra, i.e. the treeline ecotone, with all its component species and ecological interactions and services, is generally believed to respond profoundly to systematic climate warming.

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### **160. Vegetation Cover Change in Yellowstone National Park Detected using Landsat Satellite Image Analysis**

Late-20th century snowpack declines have been unprecedented in magnitude across the northern Rocky Mountains region when placed within the context of reconstructions over the past millennium. Snowpack reductions and associated springtime temperature warming may be having important impacts on streamflow and water supplies across the western United States.

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### **161. Changes in Meadow Vegetation Cover in Yosemite National Park (California) Based on Three Decades of Landsat Image Analysis**

Meadows are found throughout practically every landscape of the montane and subalpine zones of the Sierra Nevada region of California. A water table generally at a depth of less than 1 m and fine-textured soils are required to support wet meadows. These are valley-bottom alluvial landforms on slopes commonly less than 6%. An open meadow type is composed predominately of perennial sedges, rushes, and grasses, although wet meadows in the lodgepole pine montane zone may also support fringes of low ericaceous shrubs and willows, or stands of pine and aspen on the margins, particularly in the absence of wildfire.

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### **162. Use of Chemical Protection and Host Tree Reduction to Control an Emerald Ash Borer Infestation in West Virginia**

The destruction of the ash (*Fraxinus* spp.) resource in North America by the emerald ash borer (EAB) (*Agrilus planipennis* Fairmaire) (Coleoptera: Buprestidae) has progressed rapidly since it was first identified in 2002 in the Detroit metro area and in Windsor, Ontario. A survey in late 2004 estimated that 15 million ash trees had been severely impacted or killed by this pest insect and by the end of 2005 areas with infested trees had been identified in numerous counties throughout Michigan as well as in several counties in Indiana and Ohio. The emerald ash borer infestation has continued to spread and currently encompasses 24 states and various locations in southern Ontario and Québec. Considering the rapid spread and the general lack of resistance to this insect by North American *Fraxinus* species, the entire ash resource in North America is now considered at risk.

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### **163. Vegetation Cover Change in Glacier National Park Detected using 25 Years of Landsat Satellite Image Analysis**

The northern Rocky Mountains is a semi-arid region, supporting conifer forests at relatively high elevations, where cool temperatures and snow-dominated moisture sources can sustain tree growth during the short summer season. Treeline vegetation change in Glacier National Park (GNP) Montana has been documented in numerous previous studies. Roush et al. applied spatial analysis to digital photo-pairs at 12 sites within the alpine treeline ecotone of GNP to examine vegetation changes over more than 70 years. Tree cover at the ecotones increased in 10 out of the 12 sites, with a mean increase of 60%, and new tree establishment occurred at all study sites. Increases in minimum summer temperatures and declines in early spring snow water equivalent (SWE) were linked too much of the increase in tree cover at these GNP ecotones.

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### **164. Forest Fuels and Wildfire Hazard in Two Fire-Excluded Old-Growth Ponderosa Pine Stands: Contrasting Stand-Average Calculations with Measures of Spatial Heterogeneity**

In the western United States, old-growth stands dominated by ponderosa pine (*Pinus ponderosa* Laws.) have been in a state of decline for decades. Forest and fire management practices have substantially altered fire regimes, allowing uncharacteristic accumulations of shade-tolerant and more fire-sensitive tree species. Such conditions predispose old-growth stands in the interior northwestern United States to wildfire intensities and severities that are atypical of historic behaviors.

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### **165. Thinning Intensity and Ease-of-Access Increase Probability of Bear Damage in a Young Coast Redwood Forest**

Precommercial thinning is an integral part of coast redwood (*Sequoia sempervirens* (D Don) Endl.) forest management but is often followed by bear damage in northern parts of redwood's natural range. We counted incidences of black bear (*Ursus americanus* Pallas) damage along transects oriented perpendicular to forest roads in thinned and unthinned stands. Damage decreased slightly at greater distances from roads, suggesting that bears were traveling along forest roads and damaging nearby trees that were easier to access. Frequency of damage was higher among larger trees in these conifer-dominated mixed even-aged stands. Redwood was more likely to be damaged than coast Douglas-fir (*Pseudotsuga menziesii* var. *menziesii* (Mirb.) Franco). Precommercial thinning (PCT) incited damage to redwood, and PCT to lower residual densities incited more damage in Douglas-fir.

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### **166. Impact of Small-Scale Logging in Semi Deciduous Forest of Togo (West Africa)**

The degradation of forest ecosystems represents one of the most important causes of the depletion of biodiversity in the world. All over the world, developing countries register the most important reduction rates of forest areas. Togo is one of the countries where the annual variation of the forest cover is high i.e. 20,000 hectares (ha) between 2000 and 2010, representing a deforestation rate of 5.1%. This situation

is due to abusive logging combined with the development of shifting agriculture. Forests' degradation and fragmentation resulting from these human activities lead to the disappearance or to the scarcity of a great number of plant species, and the loss of ecological services (climate control, soil protection, humus production that improves the fertility and the yield of the soils, water cycle control, protection of the habitat, etc.) which are very important for sustainable development.

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### **167. Servant Leadership: An Emerging Paradigm for Union-Management Relations**

The recession that began in December 2007 has affected every sector of the economy. The private sector has had to make difficult decisions balances the demands of shareholders and their employers. Most organizations are able to make unilateral decisions concerning the terms and conditions of employment. However, unionized organizations must negotiate any changes before they are enacted.

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### **168. Social Media's Influence on Hospitality & Tourism Management**

Social media, which are based on web-based, mobile based or cloud based technologies have created wonders as far as accessibility is concerned. For decades in hospitality management we used to say "you do one thing bad ten people will know by the word of mouth." Social media has changed that proverb overnight as the "word of million mouths." So rapid is the spread of communication that it can make or break businesses, governments, or any agency. It is not plain communication but it leads to an interactive dialogue which creates a viral impact. Social media has the advantage of (a) reaching global audience, even in remote corners of the world; (b) immediacy with no time lag; (c) easy accessibility by those receiving the communication as long as they can get their hands on a computer keyboard; (d) twenty four hours, seven day operations thereby overcoming the time difference; and (e) ubiquitous versatility for interactive exchanges.

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### **169. Should We Really Care if Our Employees are Happy or Satisfied?**

It is almost counterintuitive to think that a company should not care about whether its employees are happy. But does all the time and energy that companies spend measuring employee satisfaction and engagement really lead to higher levels of productivity, customer service and employee retention. Companies in the hospitality industry have long stated that people are their most precious resource. Is this done so that employers can be good corporate citizens who improve working conditions for their employees and thus the quality of life for their employees? Or is it done to make a profit. One approach is a very positive and proactive attitude towards HR while the other attitude could be called skeptical or reactive. However if we are honest, the truth is probably somewhere in the middle.

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### **170. Chronic Obstructive Lung Disease, Stem Cells and Telocytes: Review of Therapeutic**

Chronic Obstructive Lung Disease (COLD) is responsible for leading causes of mortality and morbidity worldwide and a major public health problem worldwide. In 2000, according to the World Health

Organization - WHO, COPD was the 5th leading cause of mortality worldwide, with 4.5% of deaths, second only in brain and heart, AIDS or AIDS-vascular diseases (Acquired Immunodeficiency Syndrome.

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### **171. Modulation of Neurobehavioral and Biochemical Alterations Induced by Aluminum Chloride with Cannabis sativa Extract**

Cannabis sativa preparations in the form of marijuana (the dried flowering tops and leaves) and hashish (the dried resin and compressed flowers) from the female plant Cannabis sativa is the most widely used illicit drugs worldwide. In humans, cannabis is associated with a spectrum of central nervous system effects. These include euphoria, relaxation and perceptual alterations, which are mediated by  $\Delta^9$ -tetrahydrocannabinol ( $\Delta^9$ -THC) the primary psychoactive constituent of cannabis. Other cannabinoids include cannabidiol, cannabigerol, cannabichromene, and cannabidivarin. Cannabinoid CB1 receptors have been cloned and identified in high concentration in several brain regions eg., hippocampus, basal ganglia, cerebellum and cerebral cortex.

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### **172. Spontaneous Regression of Cancer, an Ever Actual Inspiration for the New Cancer Treatment**

Spontaneous regression (SR) of cancer (or remissions as in the case of the hematopoietic system cancer e.g. leukemia) is defined Everson and Cole's book as "the partial or complete disappearance of a malignant tumor in the absence of all treatment or in the presence of therapy which is considered inadequate to exert significant influence on neoplastic disease" [1]. Dr. William Cole developed the procedure of vaccination of tumor patients with the bacteria Streptococcus pyogenes directly into the tumor which resulted in SR. Since it was too dangerous to use living bacteria, later on the heatkilled Serratia marrescens were used to induce the regression, and the 29% of terminally ill sarcoma patients had a relapse-free survival of more than 10 years, an efficacy comparable to that today's modern chemotherapy.

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### **173. Proliferative Activity and Changes in the Relative Proportion of TI and TII Populations in Cultured Primary Epithelial Cells, Isolated from Mouse Lung**

Mouse lung tissue was digested with dispase and collagenase enzymes to dissociate cells and primary lung epithelial (PLE) cells were isolated by removing leukocytes, erythroid cells, endothelial cells and fibroblasts, using a magnetic-bead based negative selection process. Purified PLE cells were cultured on fibronectin coated plastic dishes. Proliferative activity in PLE cell in culture was monitored by using time lapse live imaging technique. Proliferative activity of PLE cells started after 3 days in culture and peaked on day 4 to 5 when about 11% of the cells in culture were seen to divide. Proliferation activity ceased after day 6 to 7. There was a marked change in the morphology of the cells as the cultured cells became flattened and significantly larger in size. Type I and type II PLE cells were enumerated in culture by flow cytometry based upon staining with anti-podoplanin antibody (type I cells) or CD74 antibody (type II cells).

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#### **174. Papillon Lefevre Syndrome with Hepatic Abscess**

A 5-year-old boy was admitted to our dermatology department from the Pediatric Surgery Department of the Erciyes University. The patient presented hyperkeratosis on the palms, soles, and knees. He had these lesions for about four years. He admitted to Pediatric Surgery Department with stomachache and fever. His parents noticed that he had painful swelling of the gums and loosing of his primary teeth. They also emphasized that he had skin abscess for three times. His medical history revealed no previous serious illness and he was of normal intelligence. His family history showed that he was born from a consanguineous marriage and his uncle also had palmoplantar hyperkeratosis.

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#### **175. Variation in Utilization and Spending for the Management of Actinic Keratosis**

In 2004, the US health care spending for actinic keratosis (AK) management was \$1.2 billion so any change in the money spent per person could equate to large cost differences due to the high prevalence. The total cost of AK-related care was \$40,719,495 for 95,294 patients with AK; prescriptions accounted for 8.6% and outpatient care for 91.4%. The use of extensive destruction (CPT 17004), prescription therapy, male gender and age were associated with a higher mean three-year cost per patient. The mean threeyear cost was \$447.74; when outliers outside of the 1st and 99th percentile and 5th and 95th percentiles were replaced, the mean decreased by about \$35 or \$64, respectively. Age, gender, and treatment factors all influence the total cost of AK management. The mean and total costs for are sensitive to the effects of outliers.

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#### **176. On Suicide Bombing- By Talal Asad, Columbia University Press 2007, Pp. 128. ISBN: 0-231-14152-1**

Many people seem to presume that the motivation for the current surge in brutal terrorism is associated with a religious factor—Islamic fundamentalism. This perceived connection has unleashed a wave of Islamophobia, particularly in Western societies [1]. However, Talal Asad’s concise but thought-provoking book challenges that widespread assumption. Asad asks in his introduction: “Is there a religiously motivated terrorism? If so, how does it differ from other cruelties? What makes its motivation—as opposed to the simple intent to kill— religious? Where does it stand in relation to other forms of collective violence? How is the image of the suicide bomber, bringing death to himself and others, addressed by Christians and post-Christians?” (p. 1). Asad then proceeds to address these questions, while protecting against possible misinterpretation by indicating that he does not intend to provide moral justification for terrorist atrocities.

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#### **177. An Assessment of Academic Dishonesty among Secondary School Students in Makurdi l.g.a.**

This study examined Academic Dishonesty among secondary school students in Makurdi Local Government Area. The study employed a cross sectional survey design. 250 participants were selected using simple

random sampling technique. The participants were 141 males and 109 females with a mean age of 16.2 years. The Eze Nwonke dishonesty scale (2011) was used to sample the opinions of respondents. Three hypotheses were formulated and tested using independent t-test and One- Way ANOVA. Findings revealed a significant sex difference on academic dishonesty among secondary school students [ $t(248) = 2.73$ ;  $P < .05$ ]. It was also found that religion significantly influenced academic dishonesty among secondary school students [ $F(2,247) = 5.09$ ;  $P < .05$ ].

[Read More...](#)

### **178. Patterns of Dental Trauma in Children Presenting in Hospital Based Dental Clinics: A Review**

Dental trauma is a common dental emergency worldwide and understanding the patterns of its presentation is useful to plan prevention and management. The aim of this paper is to review the literature on dental trauma in children presenting to hospital dental clinics. Three different databases were searched and a total of 139 titles were identified of which 16 met the selection criteria. Data were extracted into a table and the pattern of presentation, common causes and types of dental trauma were researched.

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### **179. Oral Health Related Quality of Life in Adolescent Students Living in Rural Areas**

To assess the impact of oral health related quality of life (OHRQoL) in adolescent students living in rural areas in Guanajuato, Mexico Methods: A cross-sectional study was conducted including adolescent students aged 15-20 years. Oral Health Impact Profile questionnaire (OHIP-14) was applied and clinical examination performed to evaluate caries experience thorough DMFT index and Thylstrup Fejerskov Index (TFI) was used to assess the presence and severity of dental fluorosis. Clinical variables were dichotomized and to identify association between OHIP-14 scores these variables.

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### **180. Masking Potential of Ceramic Veneers in Thin Sections: Effect of Ceramic Type, Ceramic Thickness, Background Color and Framework Addition**

Purpose of the study: Evaluate the influence of ceramic type, tooth color, and presence of framework on the masking potential of ceramic veneers. Materials and methods: Two types of CAD/CAM milling blocks were used to prepare thin veneer sections: a glass ceramic (IPS Empress CAD, Ivoclar vivadent, Shaan, Liechtenstein) and a ceramic-filled resin (LAVA Ultimate, 3M ESPE, Seefeld, Germany). Different shades and translucencies of each material were sectioned into 0.5, 1 and 1.5 mm thick slabs. Nine shades of natural dentin dies were prepared by incremental layering and polymerization of resin composite material to act as a background for the prepared veneers. 0.5 mm thick zirconia disks were sectioned (IPS ZirCAD, Ivoclar vivadent, Shaan, Liechtenstein) to act as a framework underneath the ceramic veneers.

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### **181. Accidental Ingestion of Dental Prosthesis: A Propos of 14 Cases**

The purpose of this study our experience in the management of accidental ingestion of dental prosthesis. Department of ORL, Head and Neck Surgery, Faculty of Medicine, Cheikh Anta Diop University, Dakar, Senegal, West Africa. All cases of ingestion of dental prosthesis managed in our department from January 1st 2007 to December 31st 2013. Of 332 patients with inadvertent swallowed foreign bodies, 14 cases of impacted dental prosthesis were recorded. Following data were studied: gender, age, signs and symptoms, radiological findings, endoscopic and/or open surgical extraction of foreign body and complications.

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### **182. Sample Collection Procedures and Impact on QuantiFERON®-Gold in Tube Results**

Accurate diagnosis of infection with Mycobacterium tuberculosis is important in low prevalence populations, such as healthcare workers, subjected to serial- or mass entry screen testing. There is no gold standard laboratory test for detecting latent tuberculosis infections (LTBI). Interferon- $\gamma$  (IFN- $\gamma$ ) release assays (IGRAs) are in vitro immunodiagnostic tests that measure the effector T cell– mediated IFN- $\gamma$  response to synthetic Mycobacterium tuberculosis– specific polypeptides. When compared to the tuberculosis skin test (TST) IGRAs, including the QuantiFERON-TB Gold In-Tube (QFTGIT, QIAGEN GmbH, GER), have been shown to reduce the number of false positive LTBI diagnoses and thus substantially lower followup costs.

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### **183. Incidence of Infectious Mononucleosis in Universities and U.S. Military Settings**

The reported incidence rates for Infectious Mononucleosis (IM) within universities and military settings vary widely from study to study. Several factors may have contributed to the discrepancy in these incidence rates include misdiagnosis, ambiguity in the reported sample populations, and number of students who visited and were diagnosed at their campus's health service centers. The current review examines previously reported literature on the incidence rate in universities and military settings of infectious mononucleosis taking into account these possible confounding factors.

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### **184. Novel Evaluation of Intravoxel Incoherent Motion Using Fourier Analysis for Prostate Cancer Detection**

To evaluate both a novel approach of data acquisition and the use of intravoxel incoherent motion (IVIM) as an analytical detection method in patients with prostate cancer. This study retrospectively evaluated 34 patients who had prostate cancer diagnosed on biopsy. Diffusion-weighted images (DWIs) were obtained at specific values. The IVIM diffusion model was used to ascertain the  $D^*$ , ADC, and perfusion fraction (f). The fitting curve was determined using the Fourier transform. An intercept value at 0.05 of the Fourier transform curve was defined as the vascularity-value (V-value). The V-values were compared with the  $D^*$ , f, and ADC.

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### **185. Average Mathematical Modeling of the Electric Cars Autonomy**

The main objective of this work is to develop a highly parameterized model of the electric cars autonomy compatible to optimization algorithms. Control models are not recommended because they require a significant simulation time, which makes their integrations to optimization approaches unprofitable. In addition, these models need the change of the regulators parameters at each iteration. In this context, the present paper describes an average mathematical modelling approach of the electric cars autonomy with reduced simulation time. This approach offers the advantage of a significant reduction in simulation time of the autonomy model in relation to autonomy model based on control models. In conclusion, the average model of the autonomy validated by comparison to a control model is highly compatible with optimization approaches.

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### **186. Analyzing Behavior of Differential Drive Mobile Robot by Using Statistical Tools**

Now a day's robotics provides better service to people anywhere in the world in every sector of life. This standard does not come in a day. Day by day the research on 'analyzing behavior' on robotics by roboticists, engineers, physicists, and mathematician made this standard of life. This paper is presented an analytical approach to comparing the performance of mobile robot. A scenario has been considered in which robot is in world coordinate frame along with a definite boundary. The test run has been taken by varying the microcontrollers and microcomputer. Then analyzed the data's by graphical and numerical methods that predict a slope which confirms that more the advanced device has been used the robot reached the goal earlier.

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### **187. Iron Man Suitcase**

Iron Man Suitcase is a new portable system and an advanced feature of an Iron Man Suit that can fold itself into a suitcase and can be deployed almost anywhere for use. It utilizes various advanced mechanism and motors to unpack by itself to assemble into Iron Man Suit. Unlike traditional Iron Man Suit, it does not has interlocking large plates instead it has inter-weaving bands of small plates, lowering defenses, but allowing it to be collapsed into a much smaller size, roughly the size of a suitcase, when not in use. Iron Man Suitcase is a sophisticated system designed to carry, protect and charge armors. In many ways the case is a subset of the armor using many of the same technologies to keep the suit mobile.

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### **188. Mitigation of Subsynchronous Oscillations with Common Controller Based Statcom and SSSC**

This paper proposes a powerful common controller to mitigate the Turbine-generator shaft oscillations due to Subsynchronous resonance (SSR) with Statics synchronous compensator (STATCOM) and Static synchronous series compensator (SSSC). The mitigation of SSR is achieved by increasing the network damping at frequencies which are close to the torsional mode frequency of the turbine-generator shaft.

The increase of network damping is done by the extraction of subsynchronous component of voltage and current from the measured signal of the system. From the knowledge of subsynchronous components, a shunt current is injected by STATCOM and a series voltage is injected by SSSC into the transmission line to make the subsynchronous current to zero which is the main cause of turbine oscillations.

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### **189. Adrenomedullary Hyperplasia in a Patient with Poorly Controlled Hypertension and Neurofibromatosis Type 1: A Case Report**

A 73-year-old male with a known diagnosis of neurofibromatosis type 1 (or Von Recklinghausen's disease) was referred to the authors' unit because of suspected pheochromocytoma. He had poorly controlled hypertension with elevated metanephrine levels and incomplete cortisol suppression at 1 mg overnight dexamethasone test. Adrenal CT showed bilateral adrenal hyperplasia and a nodule suspected of being a pheochromocytoma, while 123I-MIBG SPECTCT showed intense hyperfixation in the left adrenal gland. Left transperitoneal Laparoscopic adrenalectomy was performed and the histologic diagnosis was diffuse and nodular adrenal medullary hyperplasia. We believe that medullary adrenal Hyperplasia is, among the causes of secondary hypertension, a separate entity and should be considered as a possible diagnosis in all patients with poorly controlled hypertension and radiological findings not typical of adenoma.

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### **190. Adjustment to Type 1 Diabetes Mellitus and its Relation with Anxiety and Depression in Pediatric Patients**

Around 26 and 43% of pediatric patients diagnosed with type 1 diabetes mellitus presents psychological problems, being anxiety and depression the more frequent ones. An important factor regarding the wellbeing of these patients is the presence of good adjustment indicators in the process of adapting to this chronic disease. The present study aims to analyze the relationship between the difficulties of adapting to type 1 diabetes mellitus and the presence of clinical symptoms of anxiety and depression in pediatric patients. Our research is an exploratory cross-sectional study in which participated 23 children and adolescents in the age range of 6 to 16 years. All of them were attended in the Pediatric Endocrinology Unit of the General Hospital of Valencia. Our results point out the presence of psychological problems in these patients and a deficient adaptation to the disease.

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### **191. Validation of Reported Single Nucleotide Polymorphisms in the TLR4 Gene Associated with Diabetic Foot Ulcer**

Type 2 diabetes mellitus (T2DM) is a multifactorial disease is one of the most significant public health problems being faced today by about 387 million people worldwide and the count will be raised to 529 million by 2035. Uncontrolled blood sugar for long duration leads to many long term and short term complications. Among all the Macrovascular complications of diabetes, Diabetic Foot Ulcer is one with serious adverse effects responsible for most of the amputations performed. The present study is the part of

case control study of Genetic and Non-genetic risk factors study among the subjects taken from the states of Andhra Pradesh and Telangana in India. A total of 180 subjects were selected. Out of these, 90 were diabetic cases and 90 were controls. All these subjects were used for non-genetic risk factor study. Only 41 diabetic cases and 10 controls were used for the SNP study. This study evaluates the presence of genetic polymorphism (A→G) rs1927911 in the Toll Like Receptor 4 (TLR4) gene, with proven role in predicting the risk Diabetic Foot Ulcer in the discrete diabetic population under study.

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### **192. Considering the Role of the Persistent Organic Pollutants in Diabetic Nephropathy**

This journey began with the observation that cross-sectional studies of persistent organic pollutants (POPs) and diabetes have shown significant associations, but several longitudinal studies of POPs and diabetes have not [1]. POPs include dioxin, furans, polychlorinated biphenyls (PCBs), and organochlorine pesticides. An additional factor was a desire to study the full spectrum of diabetes from pre-diabetes to diabetes complications. I noted in Everett [1], that the association of dioxins, furans, and dioxin-like PCBs with diabetic nephropathy (microalbuminuria and macroalbuminuria) was significant and substantial. My initial thinking was that perhaps this relationship could be exploited in longitudinal studies.

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### **193. Study of Dyslipidemic Pattern and Glycosylated Hemoglobin Status in Diabetic Patients**

Diabetes causes about 5% of all deaths globally each year. Total 50% of people with diabetes die of cardiovascular disease (primarily of heart disease and stroke). Dyslipidemia is one of the most important cardiovascular risk factor that co-occurs with diabetes and it can be termed as diabetic dyslipidemia. This study is an attempt to evaluate the diagnostic value of glycated hemoglobin (HbA1c) in predicting diabetic dyslipidemia. Glycated hemoglobin (HbA1c) is routinely used marker for long term glycemic control. In accordance with its function as an indicator for the mean blood glucose level, HbA1c predicts the risk for the development of diabetic complication in diabetes patients. Estimated risk of cardiovascular disease (CVD) has shown to be increased by 18% for each 1% increase in absolute HbA1c value in diabetic.

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### **194. Synthetic Cannabinoid Product Surveillance by LC/ ToF in 2013-2015**

For the last several years, herbal incenses sold in smoke shops and on the Internet have been shown to contain various synthetic cannabinoids. As these compounds are subsequently controlled by either federal or state governments, new compounds are used and become prevalent. In 2013-2015, we detected new chemical structure subsets of cannabinoid compounds - the quinolinyndole carboxylates and the indazole carboxamides.

Following a solvent extraction with acetonitrile:methanol, we used liquid chromatography-time of flight mass spectrometry (LC/ToF) to identify these compounds. Separation was performed via a gradient elution of acidified water and acetonitrile mobile phases on a C18 stationary phase held at 60°C. Time of flight

mass spectrometry was performed in positive electrospray ionization mode. One low voltage scan was performed for precursor mass identification and one higher voltage scan was performed for product mass identification via insource collision induced dissociation.

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### **195. Phytochemical Analysis of Solanum virginianum and its Effect on Human Pathogenic Microbes with Special Emphasis on Salmonella typhi**

Solanum virginianum belongs to the family Solanaceae, with medicinal properties as per folk medicine. Solanum virginianum is used for treating in cough and fever in India, especially Manipur. The objective of the present study was to scientifically evaluate typhoid potential of Solanum virginianum. Phytochemicals present in leaves, stem, roots and fruit of Solanum virginianum was studied in the current study by biochemical tests. It was found that various phytochemical were present in high proportion alkaloids, terpenoids, glycosides, flavonoids, saponins, coumarins, tannin, proteins and amino acids.

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### **196. Mercury Poisoning - The Cause of Death Assessed 6 years Posthumously**

Fatal cases of mercury poisoning are reported very rarely. They are difficult to recognize because of a small number of specific symptoms. Most cases reported in the literature relate to suicidal or accidental poisoning with mercury. Cases of deliberate homicidal administration of mercury are uncommon. We present a fatal case of a woman who was hospitalized twice because of gastrointestinal symptoms which were later overlapped with signs of the central nervous system damage. After 6 years, findings indicated chronic poisoning with mercury.

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### **197. Biochemical and Histopathological Alterations as Forensic Markers of Asphyxiated Rats and the Modifying Effects of Salbutamol and/or Digoxin Pretreatment**

In the forensic context asphyxia resulting in death and defined as a forensic situation in which the body unable to receive or utilize oxygen. Asphyxia can be classified from forensic point of view into four main categories: suffocation, strangulation, mechanical asphyxia, and drowning. Suffocation subdivides by its role into smothering, choking, and confined spaces/entrapment/vitiated atmosphere. The outcome of asphyxia depend on the severity of hypoxemia which has adverse insult on various body organs as liver, kidney, heart, brain and other organs, respiratory failure or disturbance resulting in insufficient brain oxygen which leads to loss of consciousness or death if severe enough and prolonged. The classical signs of asphyxia include cyanosis (due to stasis and congestion), increased capillary permeability (causing tissue edema), petechial hemorrhage, persistent fluidity of blood (due to fibrinolysis) and cardiac dilatation.

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### **198. Prediction of Metal Remobilization from Sediments under Various Physical/Chemical Conditions "Design of Experiments Cd, Co and Pb"**

Metal pollution from previous commercial and industrial use continues to plague many of the world's water systems. Within surface waters, the mobility and bioavailability of heavy metals are directly related to their partitioning amongst suspended solids and water which is dependent on the state of the metal and other compounds that the metals may interact with. In general, one percent of metal pollutants remain suspended in the water column; the remaining 99% of metals are stored within the sediments, which create a sink for heavy metals [1]. The precipitation or adsorption of metals onto active sites of sediment particles are the result of this sink. These metals that are bound to solids within the sediment are considered to be sorbed. The metal partition coefficient  $K_d$  (L/kg) is the relationship between the sorbed state to the dissolved state of these metals as indicated in the following equation.

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### **199. Effect of Temperature and Pressure on the Bulk Modulus of a Poroelastic System**

Pressure and temperature are ubiquitous physical parameters that affect subsurface porous systems both under ambient geologic conditions and under engineering operations related to fluid injection and thermal operations. Consequently, for efficient planning of subsurface operations, trends in elastic parameter variations with temperature and pressure need to be understood. In the petroleum literature, measurements have been made on the effect of temperature and pressure on bulk modulus of saturated porous systems. Reported experimental results predict interesting and definite trends. In this paper, the effect of pressure and temperature on the bulk modulus of the saturated porous system under undrained conditions, mostly applicable to low permeability environments has been mathematically investigated.

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### **200. Study of FEM Method Sensitivity to Detect Leachate Infiltration**

A Frequency Domain Electromagnetic (FEM) survey was carried out in a dumpsite of waste. The dumpsite lies on a lateritic layer above an unconfined sand aquifer with water table at 14–19m depth. This study is focused on the evaluation of 1D Electromagnetic (EM) method sensitivity to detect the leachate infiltration. Synthetic models have been built to test various medium. The PCLOOP software has been used for direct calculation and FreqEM software for reverse calculation of the models. The obtained 1D calculated model has showed that EM method detects perfectly all the layers of distinct conductivities. Nevertheless, the method under-estimates of 8% the values of conductivities and over-estimates of 6% those of thicknesses of the layers. A field test of this sensitivity to detect layers has been done on a dumpsite. The models of ground on the dumpsite showed that in the unpolluted zones the leachate did not reach the water table and in the polluted zones, the water table is polluted by the leachate. EM method is sensitive to the detection of the leachate infiltration in the point of survey. However, this sensitivity decreases with the increase of the computing heterogeneous volume.

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### **201. Field GPS Tests for Estimation of Water Level**

Stormwater-harvesting systems, those are capable of delivering wastewater with good quality for non-potable uses, while taking into account environmental and health requirements must be developed. The Global Positioning System (GPS) was applied for recording of water level vs. time, in field tests. The GPS measurements of water levels proved to be sensitive in the 0.05 to 0.6 m range. Typical difference between GPS data and control, obtained by direct rule measurements were in the 0.001-0.029 m range. The graphic GPS capability provides strong tools for conveying information of water level in irrigational water reservoir.

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### **202. Applying Wavelet Decomposition Hydrological Time Series and the Optimization of Model Groups in Flood Forecasting**

This study applies a redundant wavelet transform (WT) and an optimization of model groups to accurately forecast the flood of a watershed. Effective rainfall and direct runoff can be decomposed into detailed signals and an approximation by using a redundant WT. The Autoregressive model with exogenous Input (ARX), nonlinear ARX (NARX), time-varying ARX, and time-varying NARX models are implemented in parallel at each resolution level, and the optimal model is selected as the forecasting model. The summation of the forecasting results obtained at various resolution levels yields the overall flood forecasting by applying the inverse WT. The first-stage validation results indicate that the optimal forecasting model at each resolution level for six events is timevarying NARX.

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### **203. A Qualitative Analysis of Substance Use among Liberian Youth: Understanding Behaviors, Consequences, and Protective Factors Involving School Youth and the School Milieu**

In 2003, the West-African nation of Liberia emerged from fourteen years of civil war, which ravaged the country's economic, health, and education infrastructures. Chronic diseases such as HIV/AIDS, mental illness, and substance use disorders continue to plague Liberia's population, and hinder recovery efforts. Economically, Liberia remains one of the poorest countries in the world. One strategy to reverse this statistic would be to improve the education, and high unemployment rate of Liberia's population, the majority of which are youths (comprising approximately 65% of Liberia's population of 4.1 million persons). Such an intervention was cited by Liberia's president as being critical to improving the country's future peace and security, and preventing the country from lapsing back into civil war.

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### **204. The Economic Cost of Suicide and Non-fatal Suicidal Behaviour in the Australian Construction Industry**

Suicide has gained recognition worldwide as a significant public health problem. This paper quantifies the economic cost of suicide and non-fatal suicide behaviour (NFSB) in the Australian Construction Industry (CI). Suicide data were obtained from the National Coronial Information System and occupational

information was coded according to Australian standards with CI workers falling into three major groups: technicians and trades worker; machine operators; and, drivers and labourers. The analysis used a costing methodology endorsed by the National Occupational Health and Safety Commission. Costs were derived for the year 2012 using an incidence-based approach with future costs discounted to 2012 dollars.

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### **205. Nurses Attitudes towards People with Mental Illness**

Stigma toward people with mental illness was found to be the greatest barrier to treatment and recovery. Nurses were found to face several challenges in nursing people with mental illness, such as patients being more acute, demanding, and aggressive. These challenges may impact the nurses' role and practice. Little is known about the attitude of nurses toward people with mental illness in Saudi Arabia. Positive nurses' attitudes toward people with mental illness are an important outcome indicator for the prospect to improvement with treatment and prospect of recovery. The understanding of such a phenomenon may also result in an increased possibility of provided care, as well as recovery and a better life for people with mental illness. Suggestions for mental health practices, nursing education, and future research were discussed.

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### **206. Physical Health Monitoring and Care of Inpatients with SMI in a Rehabilitation Setting**

The aim of the audit project that was undertaken in May to June 2015 was to assess whether the standards of the physical health monitoring and care in an inpatient low secure and general adult rehabilitation unit met current recommended clinical guidelines into delivery of appropriate care and interventions for patients with severe mental illness. The audit results recommend changes in inpatient physical health policy in assessment and treatment to include appropriate delivery of health promotions.

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### **207. The Effect of Mobile usage on Quality of Sleep and Health Related Quality of Life in Elderly**

To detect the levels of salivary amylase with mobile usage and its correlation with sleep deprivation and impaired Health related quality of life (HRQL) in a sample of Egyptian elderly. Methodology: This study was conducted on 100 elderly, all participants underwent comprehensive geriatric assessment. Sleep assessment was done using the ? Pittsburgh Sleep Quality Index (PSQI)? and assessment of QOL using The SF-12 and saliva was collected in a sterile suitable sampling device for Salivary amylase measurement. Significant correlations were found between hours of mobile usage and age, both components of HRQL and quality of sleep but insignificant relation to salivary amylase, Yet, there was a significant correlation between absolute usage and non-usage of the mobile and salivary amylase level  $X^2=0.901$ ,  $p=0.036$  (mean users=53.44, nonusers=37.97). There was significantly higher salivary amylase levels with poor quality of sleep ( $x^2=13.873$ ,  $p=0.001$ ). Conclusion: Significant correlations were found between hours of mobile usage and age, both components of HRQL and quality of sleep.

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### **208. Reduction in Forebrain Parenchymal and Cortical Grey Matter Swelling across Treatment Groups in Patients with Inflammatory Illness Acquired Following Exposure to Water-Damaged Buildings**

Chronic inflammatory response syndrome (CIRS) is a chronic, progressive, multi-system, multi-symptom syndrome characterized by HLA genetic predisposition, exposure to biotoxins, altered innate and adaptive immunity, peripheral hypoperfusion at multiple sites and multiple hypothalamic-pituitary-end organ dysregulations. Several objective lab abnormalities in patient plasma are commonly seen, including key regulators of inflammation such as elevated TGF  $\beta$ -1 (transforming growth factor beta 1) and depressed VIP (vasoactive intestinal peptide) and MSH (melanocyte stimulating hormone). This inflammatory dysregulation can affect virtually any organ system of the body and if left untreated can become debilitating.

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### **209. Brain Lesions: To Biopsy or Not To Biopsy. A Single Institution Experience**

Patients with intracranial lesions represent a diagnostic dilemma. Computerized tomography (CT) or magnetic resonance imaging (MRI) can aid in the diagnosis by evaluating lesion properties such as extension, heterogeneity and gadolinium uptake. Yet, these techniques lack enough diagnostic specificity. Once the diagnosis of certain brain lesions is known or presumed, the available literature offers management recommendations, from which observation, empirical therapy, or surgery can be indicated [5-9]. On the contrary, we couldn't find a general approach to the problem we present here: the patient with a brain lesion without a known underlying diagnosis.

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### **210. Using Eye-Tracking as Support for the TEACCH Program and Two Teenagers with Autism-Spectrum Disorders.**

TEACCH (Treatment and Education of Autistic and related Communication Handicapped children) is an educational program for children and adults of all ages with ASD (Autism Spectrum Disorder). The TEACCH approach is called "formal education" and is based on the fact that people with ASD suffer from neuropsychological deficits. It is important to remember that the goal of this approach is to teach the person to live with his disability, not to cure it. Although people with ASD are heterogeneous, it seems however, as demonstrated by Mesibov et al. and confirmed by many writers like Dawson, Ozonoff et al. and Tsatsanis, constant characteristics which are described as follows : (1) a significant preference for visual information; (2) more attention to detail with sequencing difficulties and integration signals; (3) strong attentional variability due to hyperacusis or contrary to the extreme focus on specific interests (reduction of sensory gating); (4) the major problems in social functioning with marked impairment in social interaction (5) difficulty with abstract concepts and especially with the concept of time, which includes fast activities, early recognition of problems and the end of an activity and its duration

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### **211. Measurement of U diffusion in Nb using alpha-Spectrometry**

U bulk diffusion in Nb was measured by mean  $\alpha$ -spectrometry in the temperature range 1533 to 1673 K (1260 to 1400°C). Measurements obey the Arrhenius law with diffusion parameters  $Q = 423 \pm 10$  KJ/mol and  $D_0 = (2.5 \pm 1) \times 10^{-4}$  m<sup>2</sup>/s very close to the Nb self-diffusion ones found in the literature. This behaviour is compatible with the hypothesis that U diffuses in the Nb lattice via a vacancy mechanism, at the same time it is in disagreement with previous measurements of U diffusion performed at higher temperatures, where the activation energy is significant lower.

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### **212. Burn up Effects on Kinetic Parameter's Variations in an Electron Accelerator Driven Subcritical Reactor**

One of the key components in nuclear reactors is calculation of the neutronic parameters and the burnup effect on the variation of these parameters. In this study, neutronic parameters such as neutron flux and power distributions, effective multiplication factor ( $K_{eff}$ ), neutron mean generation time ( $\Lambda$ ), effective delayed neutron fraction ( $\beta_{eff}$ ) and fuel burn up are calculated in an Accelerator Driven Subcritical ALMR reactor to transmutation of TRUs by MCNPX code for the parabolic spatial distribution of electron beam. The results this study shows that with increasing in the fuel burn up the values of  $K_{eff}$  and TRU decrease while the fission products rate increase. In addition, it observes that in comparison with the beginning-of-cycle (BOC) values, at end-of-cycle (EOC), the  $\Lambda$  parameter increases but the  $\beta_{eff}$  parameter more or less constant as a function of burn up in the multiplication factor of 0.93. Also, according to the results, the average relative difference between the results of calculations with reference data is within 3%.

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### **213. Investigation on Heat Transfer Behaviour of Molten Salt Natural Circulation Loop using Numerical Simulations**

Molten salts are used as a coolant/heat transfer fluid in various high temperature engineering systems owing to their high boiling point at low pressure. Natural circulation of molten salt is being preferred in some systems like solar thermal power plant or in some nuclear reactors. Such systems can be studied with the help of a natural circulation loop. In this work, heat transfer characteristics of Molten Salt Natural Circulation Loop (MSNCL) are studied using 3D CFD simulations. Molten Nitrate salt,  $\text{NaNO}_3 + \text{KNO}_3$  (60:40 ratio by weight), is used as a fluid in MSNCL. In the MSNCL, in heater section, flow is developing and also mixed convection flow regime exists. The local Nusselt number variation in heater is calculated from computed data and is compared with that from Boelter correlation. Steady state heat transfer characteristics are obtained over a wide range of Reynolds number using CFD simulations. Unsteady heat transfer characteristics in the oscillatory flow formed in MSNCL with horizontal heater configuration are also studied and are found to be different as compared to vertical heater placed in vertical heater horizontal cooler configuration.

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#### **214. Proliferation Resistance and Safeguardability of Different Fuel Cycles**

Nuclear energy is a green source of electricity which can meet the growing demands for the global requirement of power. The nuclear fuel cycles are based on uranium, plutonium and thorium based fuels and can be classified as once through nuclear fuel cycle or the closed fuel cycle. One of the concerns of using nuclear energy is the risk of proliferation for acts of nuclear and radiological terrorism. There are predominantly two type of nuclear fuel cycles, viz. once through fuel cycle and closed fuel cycle. These fuel cycles are based on the type of fuels and have their own advantages and limitations with respect to proliferation risk. The current paper describes the two fuel cycles based on the different type of fuels and discusses the safeguardability concerns for such fuel cycles.

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#### **215. An In Vitro Study of Binding of Aceclofenac and Pantoprazole with Bovine Serum Albumin by UV Spectroscopic Method**

Plasma protein binding is one of the most important pharmacokinetic parameter of drug. The study was designed to determine the binding of Aceclofenac and Pantoprazole to Bovine Serum Albumin. The study was conducted by equilibrium dialysis method followed by measurement using a spectrophotometer at pH 7.4 and 37°C

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#### **216. Antibacterial Activity of Selected Essential oils against Streptococcus sobrinus and Porphyromonas gingivalis**

Plant essential oils have been used medicinally in history. The antibacterial screening of selected plant essential oils against Porphyromonas gingivalis and Streptococcus sobrinus was evaluated by MIC (minimum inhibitory concentration) and MBC (minimum bactericidal concentration) assay. Among them, thujopsis dolabrata (Asunaro) essential oil was selected as a fairly effective sample against P. gingivalis (MIC=1 mg/ml) and S. sobrinus (MIC=1 mg/ml) respectively. Moreover, Callitrisinratropica (Australian blue cypress; cypress) was also screened as a fairly effective sample only against S. sobrinus (MIC=0.5 mg/ml). Furthermore, five effective compounds, (+)-cuparene, (-)-thujopsene, (+)-cuparenol, (-)-guaiol and a novel sesquiterpenoid were isolated by a performance of a series of chromatography, and identified by nuclear magnetic resonance (NMR) and matrix assisted laser desorption/ionizationtime of flight mass spectrometry (MALDI-TOFMS). Among them, (+)-cuparenol was the most effective compound with a MIC of 0.125 mg/ml against P. gingivais. Additionally, the novel sesquiterpenoid (MIC=0.25 mg/ml) was identified as the first time isolation from C. intratropica.

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#### **217. Evaluation of the Potential of Natural Biodegradable Polymers(Echinochloa Colonum Starch) and its Derivatives in Aqueous Coating of Hydrophilic Drugs**

The two starch derivatives viz. acetyl starch and Carboxymethylated starch (CMS) were prepared in the laboratory. These derivatives and starch evaluated for their film forming and coating properties. The

Metformin Hydrochloride, Acetyl Salicylic Acid, Ascorbic Acid were selected as model drugs as they are moisture sensitive for the preparation of core tablets. The prepared core tablets were coated with Echinochloa colonum pure starch, its acetyl and carboxy methylated derivative. Physical properties viz., microscopy, swelling capacity, bulk density, tapped density, packing fraction of Echinochloa colonum were better than its other derivatives. Amylase content and film characteristics of pure starch were better. The coated tablets were evaluated for mechanical and chemical properties. It was observed that Carboxymethylated starch of Echinochloa colonum successfully sustained the drug release above 10 hours with excellent mechanical and chemical properties.

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### **218. Synthesis, Antiproliferative Activity of Nitrile Containing Pyranes and 1,2,5,6,7,8-Hexahydroquinoline-3,3,4,4-Tetracarbonitriles**

Methyl 6-Amino-3-acyl-4-aryl-5-cyano-4H-pyran-2-carboxylates, 9-aryl-12-imino-10,11 dioxatricyclo-[5.3.2.0<sup>1,6</sup>]-dodecan-7,8,8- tricarbonitriles, 2-R-1,2,5,6,7,8-hexahydroquinoline-3,3,4,4- tetra?arbonitriles were synthesized. The antiproliferative activity of obtained compounds was investigated. At a concentration of 10  $\mu$ M test substances activity higher than that of the drug busulfan and cisplatin showed a compounds containing in its composition fragment of ethyl 1,1,2,2-tetracarbonitrile - 2-R-1,2,5,6,7,8-hexahydroquinoline-3,3,4,4-tetra?arbonitriles.

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### **219. Fludarabine- (C2-methylhydroxyphosphoramidate)- [anti-IGF-1R]: Synthesis and Selectively Targeted Anti-Neoplastic Cytotoxicity against Pulmonary Adenocarcinoma (A549)**

Fludarabine([(2R,3R,4S,5R)-5-(6-amino-2-fluoro-purin-9-yl)- 3,4-dihydroxy-oxolan-2-yl]methylhydroxy-phosphonic acid) is a phosphorylated adenosine deaminase-resistant purine nucleotide analog that enters the cytosol of neoplastic cells by active transport as does methotrexate (5-FU enters by facilitated transport processes). The mechanisms-of-action for fludarabine are dependent upon it functioning as a biochemical substrate for deoxycytidine kinase which converts the chemotherapeutic to the primary active metabolite, 5'-fludarabine-ATP (F-ara-ATP). Anti-neoplastic cytotoxicity is primarily associated with competitive substitution for deoxyadenosine triphosphate (dATP) which profoundly inhibits DNA polymerase and terminates progressive DNA strand synthesis at the site of incorporation.

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### **220. Transdermal Iontophoresis of Non-Polar Drugs: A Mini Review**

Transdermal iontophoresis is one of the most studied active technique involves passage of small electrical current to drive the charged drug molecules through the skin. However, iontophoresis is not suitable for nonpolar drugs as they lack any charge and possess poor water solubility. Therefore, the main objective of this review was to discuss the potential approaches to render the lipophilic drugs amenable to iontophoretic delivery across the skin.

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### **221. Solvent Effect on Phenolic Compounds Extraction, Antioxidant Capacities and A-Amylase and A-Glucosidase Inhibition of Clematis flammula and Periploca angustifolia**

Phytochemicals are extensively found at different levels in many medicinal plants. This work had three objectives: the first, to evaluate the total phenolic, flavonoids content, anthocyanins concentration and condensed tannins of two Tunisian medicinal plants, second, to assess their potential antioxidant activities using systems such as a, adiphenyl-b-picrylhydrazyl (DPPH•), ABTS•+, O<sub>2</sub>•<sup>-</sup>, H<sub>2</sub>O<sub>2</sub> scavenging activity, Hydroxyl OH• and linoleic acid inhibition and third, to screen α-amylase and α-glucosidase inhibitors from common natural products found in traditional Tunisian medicines. The present study was performed that C. flammula (Ranunculaceae family) has the highest levels of total phenols followed by P. angustifolia (Asclepiadaceae family). On the other hand, the results show that the antiradical activity (DPPH) varies from 52 to 77% for P. angustifolia and 56 to 84% for C. flammula.

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### **222. Multifunctional Bile Acid Derivatives as Efficient RNA Transporters (Carriers)**

RNAi is a sequence-specific endogenous gene-silencing mechanism conserved in many organisms to regulate gene expression. Two types of small ribonucleic acid (RNA) molecules – microRNA (miRNA) and small interfering RNA (siRNA) – are central to RNA interference. RNAs are the direct products of genes, and these small RNAs can bind to other specific messenger RNA (mRNA) molecules and either increase or decrease their activity, for example by preventing an mRNA from producing a target protein. The specificity of RNAi also allows the inhibition of previously undruggable targets. The ubiquity of the RNAi pathway within the body and the ease with which siRNA can be used to suppress a specific target of interest make siRNAs a promising class of molecules for the treatment of cancer, viral infections, ocular disorders, and genetic diseases.

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### **223. H1R Antagonists for Brain Inflammation and Anxiety: Targeted Treatment for Autism Spectrum Disorders**

Autism Spectrum Disorders (ASD) includes a wide range of conditions from Autism and Asperger's to Disintegrative and Pervasive Development Disorder. The variety of these conditions afflict as many as 1 in every 80 children. In general, ASD is characterized by primary symptoms of impaired social interaction and communication, as well as stereotyped and repetitive behaviors or interests. These are typically accompanied by more secondary symptoms where children with ASD tend to experience a number of disabilities including paramount sensory issues and behavioral difficulties such as anxiety, depression, insomnia, and general emotional problems.

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### **224. Preparation and Evaluation of Ketoprofen Enteric Coated Mini Tablets for Prevention of Chronic Inflammatory Disease**

Ketoprofen is the propionic acid derivative used to treat chronic inflammatory disease like rheumatoid/Osteoarthritis. Here, the delivery of the drug based on the mini tablets approach, the few reasons for the mini

tablets to avoid the drug release related fluctuations in the body and greater surface area leads to improve the bioavailability when compared with the single tablet dosage form. The tablets were prepared with two different polymers POLYOX WSR and HPMC K4M used individually. The evaluation parameters include preformulation studies, like DSC, solubility and flow properties of powder and post compression evaluation parameters includes hardness, weight variation, content uniformity, Friability, in vitro dissolution, SEM and in vivo radio graphic studies were successfully performed.

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### **225. Development and Comparative Assessment of Hydrocolloid Based Against Wax Based Gastro Retentive Bilayered Floating Tablet Designs of Atorvastatin Calcium Using Qbd Approach**

Atorvastatin calcium is one of the most widely prescribed lipid lowering drug and due to its acidic degradation properties the bioavailability reported is only 12-14% when administered orally. The gastro retentive floating tablets of Atorvastatin calcium had shown enhanced bioavailability compared to conventional immediate release dosage forms. The study presented here was focused on comparing the physicochemical properties of two different bilayered controlled release gastro retentive buoyant formulation designs of Atorvastatin calcium tablets.

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### **226. Sitagliptin Inhibits the Lipopolysaccharide-Induced Inflammation**

The prevalence of diabetes mellitus (DM) continues to increase worldwide. Insufficient control of DM induces macro- or microvascular complications such as coronary heart disease, stroke, kidney disease, amputation, and retinopathy. Glycemic control is an important factor in the overall prognosis of DM patients. Dipeptidyl peptidase-4 (DPP-4) inactivates incretin hormones such as glucagon-like peptide-1 (GLP-1) that stimulate a decrease in blood glucose levels. GLP-1 is a gut hormone secreted from the intestinal L cells and plays a major role in glucose metabolism. DPP-4 inhibitors reduce blood glucose levels by inhibiting DPP-4, thereby preventing GLP-1 inactivation and maintaining the action of incretins. For older patients with DM, there are limited options for treatment of visual obscuration resulting from diabetic retinopathy.

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### **227. Induction of Glutathione, Ascorbate and Associated Enzymes by a Low Dose CdCl<sub>2</sub> Pre-treatment Alleviate Fusarium Induced Oxidative Stress in Wheat**

Induction of glutathione (GSH), ascorbate (ASC) as well as their associated enzymes have been investigated in co-stressed (50  $\mu$ M CdCl<sub>2</sub> pre-treatment followed by Fusarium infection) wheat seedlings. An enhanced GSH content, GSH/GSSG ratio and ASC content was observed in co-stressed tissues as compared to Fusarium infected tissues. Further, co-stressed tissues showed an increased activity of the antioxidant enzymes such as ascorbate peroxidase (APX) and glutathione reductase (GR) involved in glutathione-ascorbate cycle as well as glutathione peroxidase (GSHPx) and glutathione-S-transferase (GST) as glutathione associated enzymes when compared with Fusarium infected, Cd<sup>2+</sup> pre-treated and untreated control tissues.

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### **228. Moderate Uranium Disturbs the Nutritional Status and Induces Oxidative Stress in *Pisum sativum* L.**

Environmental contamination by radionuclides particularly uranium is a serious problem at many contaminated sites worldwide. In our present report, we explored production of NO and H<sub>2</sub>O<sub>2</sub> in *Pisum sativum*, as well as micro/macro elements uptake after uranium addition. Hydroponically grown plants (in amended Hoagland medium) were treated with two different concentration of uranium ([U]=25 and 50 μM respectively) for 5 days. Plants showed a decrease in NO production in [U]=50 μM treatments in both root/ leaves by DAF-2DA staining in comparison to control. On the other hand, production of H<sub>2</sub>O<sub>2</sub> was enhanced in both root/leaves after treatment with [U]=50 μM in comparison to control by DCF-DA staining.

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### **229. Mounting Insights over Human Wellness by Utilizing Plant's Primed Defense against Precise/Mild Oxidative Stress**

In past decades, a considerable amount of research has been conducted to elucidate the impact of oxidative stress on plants imposed by different environmental factors. But most studies only focused on higher stress related aspects and attempts to predict the effect of precise/mild stress under future climate change remain untouched. Understanding precise/mild stress induced responses by characterizing physiological markers such as osmotic adjustment or antioxidant production will help us for development of innovative approach for crop improvement but the underlying mechanisms are still controversial. Furthermore, we propose how combining other research studies on such aspect could pave a pace to our understanding of this advantageous option for crop improvement which may be adopted by farmers. The purpose of this paper is to examine the potential effects of precise/mild stress to improve nutritional quality and stress tolerance of crop plants and consequently on health and well-being of neighbors such as human.

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### **230. Effect of Phosphorus, Sulphur and Biofertilizer on Growth, Yield and Nodulation in Mungbean on Loamy Sand Soils of Kutch**

A field experiment was conducted for four consecutive years from 2007-08 to 2010-11 at Centers of Excellence for Research on Organic Farming S. D. Agricultural University, Bhachau, Kutch, to study the effect of P, S and Rhizobium on yield, yield attributes and nodulation of Mungbean. The experiment consisting of three levels of phosphorus (0, 20, 40 kg ha<sup>-1</sup>), three levels of sulphur (0, 20, 40 kg ha<sup>-1</sup>) and two levels of Rhizobium (inoculated and uninoculated), total 18 treatment combinations with three replications were comprised in factorial randomized block design. Application of 40 kg P<sub>2</sub>O<sub>5</sub> ha<sup>-1</sup> and 40 kg S ha<sup>-1</sup> along with Rhizobium inoculation significantly increased the yields, yield attributes and nodulation of Mungbean as compared to control, but it remained at par with 20 kg P<sub>2</sub>O<sub>5</sub> ha<sup>-1</sup> and 20 kg S ha<sup>-1</sup>. Maximum gross realization, net realization along with highest BCR of 6.73:1 was obtained under the treatment of 40 kg P<sub>2</sub>O<sub>5</sub> ha<sup>-1</sup> and 40 kg S ha<sup>-1</sup> along with Rhizobium inoculation.

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### **231. Development and Prototype Experiment of Environmental Self-Propelled and Orderly Harvester for *Artemisia selengensis* Turcz**

*Artemisia selengensis* Turcz, which is native to Asia, is rich in a variety of essential mineral elements and vitamins and has high medicinal value. In addition, according to the literature, *selengensis* has antioxidants, helps decrease blood pressure, protect the liver, and is loved by many people. *Selengensis* prefers a sunny environment for growth, a wide temperature range, and no obvious dormant and rare diseases and insect pests; *selengensis* is a pollution-free green food, one of the main wild and special vegetables. *Selengensis* in recent years has become a nutrient-rich, fresh vegetable, planted in the wild as well as artificially grown; its cultivation area is thus increasing. Ba-gua continent, in Nanjing city, Jiangsu province, known as China's "first township" for *selengensis*, has a cultivation area of 40000 acres and its annual output is above 50 million kilograms, helping to develop the local economy. However, because of the complexity in *selengensis* harvesting, there are some shortcomings with the planting area such as difficult in laying, high cost, low efficiency, labor shortages, and low level of mechanization; these shortcomings hamper the sustainable development of the *selengensis* industry.

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### **232. Plant Endosymbiotic Organellar Calcium Signaling under Biotic and Abiotic Stresses**

Mitochondria and chloroplasts in eukaryotic cells are endosymbiotic organelles derived from an  $\alpha$ -proteobacterium and a cyanobacterium, respectively. The former are responsible for oxidative respiration, while the latter are the sites of photosynthesis within photosynthetic eukaryotic cells. The catabolic and anabolic processes in these organelles are regulated in response to a fluctuating environment.  $Ca^{2+}$  plays important roles in signal transduction pathways mediating a wide variety of physiological responses in eukaryotic cells. An increase in cytosolic  $Ca^{2+}$  concentrations leads to the activation of  $Ca^{2+}$  sensor and/or  $Ca^{2+}$ -binding proteins, followed by modulation of the activity of metabolic enzymes and transcription patterns. Similar  $Ca^{2+}$  signaling is expected to occur not only in the cytosol but also in endosymbiotic organelles such as mitochondria and chloroplasts. Increasing evidence suggests that mitochondria and chloroplasts are associated with the intracellular  $Ca^{2+}$  signaling network in plant cells. Organellar  $Ca^{2+}$  signaling may play important roles in the regulation of cellular processes in response to biotic and abiotic (environmental) stresses. This paper summarizes current information on organellar  $Ca^{2+}$  signaling in plant cells.

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### **233. *Arabidopsis* Rapid Movement Response to Electrical Stimulation**

Plants respond to their environment in a multitude of ways. Gradual movements occur in response to light (phototropism), and more rapid movements occur in response to touch (thigmotropism). In this report, we describe a rapid movement response that occurs in plants without any physical contact with the seedlings that is based on electric charge. Three varieties of seeds were planted in the laboratory under sterile conditions. After 5-10 days the seedlings were tested for their response to electric field stimuli, and video responses were recorded.

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### **234. Heterosis and Inbreeding Depression in Tropical Sweet Sorghum (*Sorghum bicolor* (L.) Moench)**

An investigation carried out during two seasons viz., rainy 2009 and rainy 2010 to study heterosis and inbreeding depression of four crosses of sweet sorghum (*Sorghum bicolor* (L.) Moench) and their F<sub>2</sub> have revealed positive mid-parent and better parent heterosis for majority of the characters. Sugar yield was found to be most heterotic trait, as all the crosses depicted significant positive heterosis over their mid parent and better parent values in case of all the contributing characters indicating dominance gene action. Further high inbreeding depression for sugar yield reflected high heterosis during the two seasons for all the crosses suggesting the operation of non-additive gene action.

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### **235. Effects of Acute Consumption of *Garcinia kola* on Hepatic Enzymes in Apparently Well Nigerian Youths**

*Garcinia kola* belongs to the Family Clusiaceae guttiferae and contains a complex mixture of biflavonoids, prenylated benzophenones and xanthone<sup>1</sup>. Its seeds, popularly called 'Bitter Kola', form an integral part of the herbal preparations used in traditional African medicine. A lot of studies have been done in animals to look at the effects of *Garcinia kola* on their organs, very few have been done in human beings. This study was done to look at the effect of acute consumption of *Garcinia kola* on hepatic enzymes in apparently well Nigerian youths. The response of aspartate aminotransferase (AST), alanine aminotransferase (ALT), and alkaline phosphatase (ALP) following the consumption of about 100 mg/kg of body weight of *Garcinia kola* was measured in 28 apparently well University of Ilorin medical students. The rise in the level of AST, ALT and ALP was studied from the plasma of the subjects. The basal level of the enzymes pre-consumption of *Garcinia kola* serves as control for the ones collected after 2 hours of *Garcinia kola* consumption.

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### **236. A Network-Based Analysis of Proteins Involved In Hypoxia Stress and Identification of Leader Proteins**

Hypoxia arises in many pathophysiological conditions like hypertension, cancers, pre-natal birth and environmental conditions like high altitude, deep sea diving etc. The multivariate nature of this stress makes to it difficult to predict accurately susceptibility and adaptability to hypoxia. A large amount of expression data under hypoxic stress is generated and available in the public domain. However, there have been no systematic efforts to identify the key proteins and their molecular connectivity. In the present study, the proteins whose expressions are regulated under hypoxic-stress were identified and an interaction network was built.

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### **237. Purification and Characterization of Heparin Binding Proteins from Seminal Plasma of Cross- bred Cattle Bulls by Affinity Chromatography, SDS-PAGE and Mass Spectrometry**

Heparin binding proteins (HBP) play a crucial role in the fertility of bovine semen. In this study HBPs purified from cross-bred cattle bull seminal plasma (SP) by sepharose-affinity chromatography were characterized by SDS-PAGE, and mass- spectrometry. Affinity chromatographic analysis indicated two peaks of unbound (non-

HBP) and bound proteins (HBP). On average, seminal plasma of cross-bred bulls contained  $39.36 \pm 4.41\%$  HBP with a peak area of  $2.74 \pm 0.82$  cm<sup>2</sup>. Sixteen bands with molecular weights ranging from 14 kDa to 150 kDa could be separated by SDS-PAGE from seminal plasma of 11 bulls. SDS-PAGE analysis of the eluted HBP peaks identified 14 bands, with molecular weights ranging from 14 kDa to 150 kDa. However, variation in number of bands, separated in SP and SP-HBP was observed among the bulls.

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### **238. Characterization of Protein Complexes and Their Implication in Biological Processes**

In the post human genome era the focus has shifted to the field of proteomics. One focus of proteomic is the identification of proteinprotein interaction networks. In the past decade this approach has been applied to identify interactomes of many small organisms as well as humans. The mapping of these networks has proven useful and extending this approach to identify the human interactome will be pivotal to our understanding of proteins functions and their cellular and molecular role in diseases. Ultimately this understanding can be translated into effective drug discovery and disease therapy. However, the large number of proteins and their variants and the difficulty in manipulating these proteins poses a serious obstacle that needs to be over passed. In this article we will discuss the current state of the human interactome and the techniques used for mapping protein interaction networks and the possible ways to advance the mapping of the human interactome.

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### **239. Xylan Degrading Enzymes from Fungal Sources**

Fungi have the ability to degrade xylan as the major component of plant cell wall hemicellulose. Fungi have evolved batteries of xylanolytic enzymes that concertedly act to depolymerise xylan backbones decorated with variable carbohydrate branches. As an alternative to acid extraction in industrial processes the combination of endo-1,4- $\beta$ -xylanase and  $\beta$ -xylosidase can reduce xylan to xylose. However, unlike chemical extraction procedures enzyme systems can selectively hydrolyse  $\alpha$ -L-arabinofuranosyl, 4-O-methyl- $\alpha$ -D-glucuronopyranosyl, acetyl and phenolic branches, and therefore have the potential to deconstruct hemicellulose whilst retaining desirable structural integrity and functionality. The sources, structures and catalytic activities of fungal xylanolytic enzymes are reviewed and discussed in the context of their biotechnological potential.

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### **240. Naturally Decaying Agricultural Residues: Enriched Resources for Mining Novel Lignocellulolytic Enzymes**

Agricultural residues are the principal substrates for saprophytes and hence, their rotting residues would certainly be enriched with lignocellulolytic microorganisms. In the search for novel lignocellulolytic enzymes of potential application in bioethanol production, environments such as compost, soil, rumen, manure, and gut have often been targeted. Therefore, in addition to those commonly investigated environments, the naturally enriched but poorly investigated naturally decaying agricultural residues are explored as potential sources of novel lignocellulolytic enzymes for bioethanol production. A brief overview of the metagenomics approaches recently used for the detection of novel lignocellulolytic genes is also given.

Enriched but unearthed environments such as naturally rotting agricultural residues need to be considered as important resources for mining novel industrial enzymes

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#### **241. The Greenway as a Project for Happiness: Perspectives from Local Residents in China**

Greenway development is a relatively new phenomenon in developing countries, such as China. This study attempts to explore how the greenway as public welfare in China contributes to resident's perception of leisure benefits and subjective wellbeing. Based on the investigation with 707 greenway use.

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#### **242. Nightlife Tourism: A Blessing or a Curse for Host Communities? "A Case Study on Gemmayzeh, Lebanon"**

Gemmayzeh is located in Beirut Central District, known to be one of the most famous night attractions in the Lebanese capital. It is also a special attraction for domestic visitors and tourists. However, despite its competitive nightlife advantages in the Lebanese tourism industry, its local residents are not convinced with the way tourism is being developed in this area. The lack of cooperation among the different potential tourism stakeholders and the absence of effective regulations and policies have affected the traditions and heritage of the local residents especially that this specific region is one of the oldest in Beirut with many historical and cultural buildings.

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#### **243. An Impact of Social Media and Online Travel Information Search in Vietnam**

Social media is increasingly prevalent among and beneficial for travelers. A large percentage of travelers use search engines when it comes to making travel-related decisions. In addition, social media websites which appear on the search results are becoming preferable information sources to travelers. In Vietnam, numerous customers (83%) use search engines before making ground travel purchase decisions and over one fifth of the population, which is equivalent to 19.6 million, is currently Facebook users. Therefore, the goal of this research is to investigate the role of social media presented by a search engine within Vietnam trip planning context. The research employs a set of selected searching keywords together with ten Vietnam urban destination names in order to unveil the information searching for travel planning. The findings show to some extent that social media websites can help display searching results, and how certain types of social media websites are distributed across the result pages in online tourism domains. Implications for online marketers targeting Vietnamese audience are also mentioned.

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#### **244. Middle Eastern Political Instability and Jordan's Tourism**

Although Jordan's tourism revenue contributes to the GDP, it fluctuates as political instability events hit the region. Therefore, this study examined nine major political impacts that took place during the period from 1990-2014 to address their impacts on tourism. The study utilized the annual number of tourists (international and

Arab) and the annual percentage tourism's share to GDP to statistically examine the relationship between the occurrence of these events and the number of tourists as well as tourism's GDP share. The hypotheses of the study were tested using a 2-years moving average, Pearson's correlation coefficient and Student's t-test. The results show that the number of international tourists and the percentage of GDP decreased during an event, while the number of Arab tourists increased pointing to resilience. The effect of political instability on tourism activities is temporary and confound to less than a year after an event.

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#### **245. The Importance of Restaurant Physical Environment For Turkish Customers**

The influence of restaurant physical environments on customer behavior has long been studied by scientists in various countries (such as Weaterterp-Platenga). Also, Kucukergin and Dedeoglu were tested effect of the physical environment factor on price perception and then the effect of the price perception on repurchase intention in the area of the fast food restaurants. However, as a restaurant's physical environment is the first element to be perceived upon entering a restaurant, it forms a key factor for customers. Second, customers want to dine out at a restaurant not only for nutritional needs, but also to form a memorable experience, to be together with others and get away from problems and the routine of life. For these reasons, restaurant physical environments need to provide customers with attractive elements.

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#### **246. Developing Service Delivery Processes through Fuzzy AHP Framework**

Service management is a very important element within an effective service industry. One of the most important components of service management is to maintain the quality of service delivery processes in the workplace. Service delivery processes are a function of many attributes that affect the service quality and these attributes affect the service delivery process simultaneously. For this reason, measuring the service quality of the service delivery process needs a holistic approach. In this study, service attributes are studied through the fuzzy analytic hierarchy process (FAHP) approach that allows both multi-criteria and simultaneous evaluation.

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#### **247. A Comprehensive Updates on Zika Virus**

During 1947 in Uganda the devastated Zika virus (ZIKV) originated. This virus transmitted by mosquitos. In further decades, it has its widespread impression on the various parts of the sub- Sahara Africa and south East Asia. In yap Island first major human outbreak was reported during 2007, Micronesia reported 99 cases on her account during this period. Aedes mosquitoes acting as a vector for Zika –Flavivirus, which bits during dawn and late afternoon. Zika infections cause mild illness and moderate fever. In South America, the first reported locally transmitted infections comes from Brazil in May 2015, It was assumed that like widespread occurs during Soccer world cup held in Brazil during 2014. In May and July month of 2015, Brazil reported a maximum number of patients suffering from Zika infections and its associated diseases such as Guillain-Barré Syndrome (GBS) and Microcephaly.

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#### **248. Chikungunya and Dengue Risk Assessment in Greece**

Globalization of trade and travel has facilitated the spread of nonnative species across the earth. A proportion of these species become established and cause serious environmental, economic and human health impacts. These species are referred to as invasive, and several invasive mosquito species (IMS) were inadvertently introduced in Europe, where they found favorable environmental conditions enhanced by the climate change. The predicted increases in temperature (1.4 to 5.8°C by 2100) and rainfall are likely to extend the distribution of mosquitoes and associated pathogens, in addition to shortening the development time of mosquito larvae and the extrinsic incubation period of pathogens. Warmer and wetter weather is likely to result in longer seasonal activity of mosquitoes, while sea level rise will produce new wetland habitats suitable as breeding sites by gradually inundating coastal regions.

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#### **249. Study on Larvicidal Effects of Essential Oils of Three Iranian Native Plants against Larvae *Anopheles stephensi* (Liston)**

By considering the fact that using chemical larvicidal material in order to control the immature flies' population has destructive consequences on the environment and the process of using these material makes some anopheles' species resistant to these pesticides so the researches are in the direction of extracting larvicidals from the nature specially plants. Because of this fact, a wide range of researches have been carried out concerning the effects of larvicidals on anopheles' larvae. In recent years various studies on the poisonous effects of Iranian EOs including Alliaceae, Apiaceae, Asteraceae, Cupressaceae, Graminaceae, Lamiaceae, Lauraceae, Myrtaceae, Pedaliaceae, Rutaceae, Scrophulariaceae, Verbenaceae, Zingiberaceae against various types of insects have been reported.

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#### **250. Laboratory Evaluation of Two Meliaceae Species as Larvicides Against *Culex quinquefasciatus* Say (Diptera: Culicidae)**

Arthropods are dangerous vectors of deadly pathogens and parasites, which may spread as epidemics or pandemics in the increasing world population of humans and animals [1,2]. In particular, mosquitoes (Diptera: Culicidae) present an immense threat to millions of people worldwide, since they act as vectors for devastating pathogens and parasites, including malaria, filariasis, yellow fever, dengue, chikungunya and Zika virus disease [3,4]. *Culex* mosquito is probably the most abundant house mosquito in towns and cities of the tropical countries. *Culex* mosquitoes develop in standing water such as polluted ponds, marshes, tanks, street gutters, tin cans, barrels, ornamental ponds, puddles, creeks, ditches, etc [5]. The Southern house mosquito, *Culex quinquefasciatus* acts as an important "urban bridge vector" which bridges different reservoir/ amplifier hosts to humans because of its encounter with different vertebrates.

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