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# Autologous platelet-rich plasma (PRP) infusions and biomarkers of ovarian and endometrial rejuvenation and aging mitigation

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The purpose of two separate clinical trials was to study and evaluate the beneficial effects of infusions of autologous platelet-rich plasma on fertility, the aging process, and general and reproductive health using blood and hormone biomarkers in peri-menopausal and menopausal women seeking fertility. Data generated as a result of the trial will be used to support additional organ-specific and disease-specific PRP-based treatments, particularly in brain and musculoskeletal tissue and stem cell rejuvenation treatments in women, as part of an ongoing research collaborative with researchers at UC-Berkeley. The most prominent data as generated from nearly 100 women participating in the 2017 trials will be presented.

### Speaker Biography

Aaron Tray wick serves as the Managing Director of the Inovium Ovarian Rejuvenation Trial, working with a team of professional researchers, clinicians and organizers around the world to explore new, safe and affordable innovations in the fertility sciences and patient access to lifesaving treatments in terminal conditions and health span. He is a Community Organizer, Public Policy Professional and Human Rights Advocate who has worked in the public health, healthcare technology and healthcare access communities for the past five years. He has served in various public policy leadership and service capacities in positions ranging from local and state government to members of the United States Congress

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## Advances and challenges in functionalised surface modification of liposomes for cytoplasmic drug delivery

### Zimei Wu

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hemotherapy continues to play an important role in cancer treatment, but still faces major challenges, mainly poor tumour-selectivity and drug resistance. 'Targeted drug delivery' with liposomes has attracted great attention due to their potential for improving chemotherapeutic index and 15 liposomal products are already approved for clinical use. Surface modification of liposomes with poly(ethylene glycol) (PEG) is still the gold standard. However, growing evidence shows that although the side effects in patients have been minimized by the use of PEGylated liposomes, the improvement in efficacy is usually marginal. This could partially be attributed to the poor cellular uptake and slow intracellular drug release as a result of PEGylation, known as PEG dilemma. This talk will outline the recent advances and principles for 'tumourtargeted cytoplasmic drug delivery' using new liposomes modified with various functionalized polymers in alternative to PEG. The strategy of tumour microenvironment-sensitive PEG-

detachment will also be discussed. A greater understanding of these mechanisms will help to design more efficient drug delivery systems to address the challenges encountered in the current liposomal chemotherapy

### **Speaker Biography**

Zimei Wu is an Associate Professor (British) at School of Pharamcy, University of Auckland, New Zeland. She holds a PhD from University of Otago and a Masters degree from China Pharamceutical University. In 2009, Dr Wu was appointed as a lecturer at Auckland School of Pharmacy, where she established research platform on 'tumour targeted delivery'. Her research on 'liposomes' has attracted wide collaborations natioanlly and internationally, and was a recipient of NZ-China Scientist Exchange Award from the Royal Society of NZ. She also researches transdermal delivery with successful stories featured on NZTV3 (2015).

Zimei has over 90 peer-reviewed articles and book/chapters that have been cited over 1000 times (h-index 20). She serves as an editorial board member of Journal of Liposome Research, and Pharmaceutical Development and Technology, and a referee for more than 20 pharmaceutical journals. Zimei is the immidieate Past President of NZ Local Chapter of Controlled Release Society

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