

2<sup>nd</sup> Experts Annual Meeting on

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## Immunoneuropsychanalysis – a comprehensive integrative approach

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Recent scientific evidence provides sound proofs regarding the interconnectedness of the immune, endocrine and nervous system which ultimately has an impact on the psychological state of the subject. Up until now, this has involved psycho neuroimmunology and its top-down approach, i.e. how the psyche can affect the bodily, e.g. psychotherapy, post-traumatic stress disorder, etc. The emerging importances of the microbiota-gut-brain axis through clarification of the underlying mechanisms require a new approach. Trillions of bacteria that outnumber the human cells and their metabolites together with the intestines which represent a barrier, loaded with immune cells as well as containing the enteric nervous system, a major neurotransmitter pool, play a prominent (neuro) biological role. The biochemistry of neurotransmitters, e.g. serotonin synthesis and the kynurenic pathway, is a clear example of how this bottom-up approach offers therapeutic options. The goal is re-establishing a favorable milieu in order to end the ongoing neuroinflammation, a characteristic of depression and other neural dysfunction. The discovery of glymphatic system, as well as the impact microglial cells have on modulating neuroinflammation in accord with the peripheral immunological state and depending on their subtype polarization, demonstrate the shield of blood-brain barrier doesn't appear impenetrable anymore. Neuropsychanalysis went with its neuroscientific review and validation of traditional psychoanalysis and immune neuropsychanalysis is a novel proposed integrative approach that should go even further and incorporate the entire human physical and mental for theoretical or practical purposes. Finally, a bidirectional comprehension is the goal.

### Biography

Karlo Toljan is a final year medical student at University of Zagreb School of Medicine. He is a leading member of the Student Society for Neuroscience as well as a student assistant at various departments at his medical school (Internal Medicine, Pathophysiology, Physiology and Immunology). In addition he's been an editor at student academic journal Gyrus since 2014. Recently, his areas of interest include psychobiotics, psychoanalysis and integrative approach in medicine. He considers himself a neuro-enthusiast and attends as much symposia and conferences with neuro-topics as possible. He's active on Twitter, LinkedIn and ResearchGate where you may also find his publications.

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