PLENARY LECTURES:

David Križaj: POLYMODAL SENSORY INTEGRATION IN THE VISUAL SYSTEM

In many, perhaps most, vertebrate species, vision represents a dominant sensory modality that is essential for orientation and communication with the outside world. An animal’s ability to perceive the external world is conditioned by its capacity to extract and encode specific features of the visual image. Thus, the output of the vertebrate retina is not a simple representation of the 2D visual map generated by photon absorptions in the photoreceptor layer but rather is transmitted as an abstract representation that emphasizes species-specific behavioral needs.

The lecture will lead us through the complex path of the visual stimuli on its way from a simple electromagnetic signal to formation of a visual representation. The recently discovered retinal mechanosensitive ion channels will be used as an example through which molecular physiology could unify Greek phenomenology, modern neuroscience and medicine.

Liliana Albertazzi: MORPHOLOGY IN NATURE, ART, AND COGNITION

Morphology is the study of outward appearances like shape, structure, and patterns of visual objects, which are of a huge visual complexity and overall spread in nature. Shape morphology played a relevant role in some important episodes in the interaction between science and art. The study of morphology involves a series of different disciplinary fields like the geometry of nature, the organic stereometry, the categorization of natural shapes and their patterns, and the aesthetics of nature. The results of an experiment on the relation between the two dimensions of shape and colour of the same modality (vision) will be presented as well as the analysis of the correlations between patterns of nature and specific hues. The experiment lead to the interesting results concerning the relationship between texture and colour as well as concerns the relationship between dimensionality and colour.

FULL SCHEDULE

Monday, 8 October (Large lecture hall, Jožef Stefan Institute)

<table>
<thead>
<tr>
<th>Time</th>
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| 12:00  | Workshop
        | **Zvezdan Pirtošek:** Functional anatomy of visual structures in brain
        | *Open for general audience (in Slovenian, free)* |
| 14:00  | Conference opening
        | **Urban Kordeš** |
|        | Plenary lectures
<pre><code>    | *Chair: Urban Kordeš* |
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<table>
<thead>
<tr>
<th>Time</th>
<th>Speaker(s)</th>
<th>Topic</th>
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<tbody>
<tr>
<td>14:05-15:30</td>
<td>David Križaj; Liliana Albertazzi</td>
<td>POLYMODAL SENSORY INTEGRATION IN THE VISUAL SYSTEM; MORPHOLOGY IN NATURE, ART AND COGNITION</td>
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<td>16:00-18:00</td>
<td>Zvezdan Pirtošek; Marko Hawlina; Igor Ravnik; Borut Škodlar</td>
<td>EVOLUTION OF THE HUMAN VISUAL BRAIN; CORRELATION BETWEEN MACULAR MORPHOLOGY AND SENSITIVITY IN PATIENTS WITH REINITIS PIGMENTOSA AND HYPERAUTOFLUORESCENT RING; WHEN IT COMES FROM THE POSTERIOR BRAIN IN CHILDREN: EPILEPSY, MIGAINE OR OTHER BUSINESS RELATED TO PERCEPTION, NOT NECESSARILY VISUAL; VISUAL HALLUCINATIONS-A PHENOMENOLOGICAL PERSPECTIVE</td>
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<td><strong>1. session</strong> Chair: Urban Kordeš</td>
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<td>9:00-11:00</td>
<td>Tanja Levstek; Tina Bregant; Simon Brezovar; Jure Bon</td>
<td>EYE MOVEMENT CORRELATES FOR COMPLEX SUBTRACTION IN HEALTHY ADOLESCENTS; ALPHA ACTIVITY IN YOUNG ADULTS AFTER PERINATAL MILD-MODERATE HYPOXIA; COGNITIVE AND ELECTROPHYSIOLOGICAL ASPECTS OF VISUAL ATTENTION DURING A HIGH-ALTITUDE EXPEDITION; CONTRALATERAL DELAY ACTIVITY IN VISUAL WORKING MEMORY RESEARCH</td>
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<td>11:30-13:30</td>
<td>Mitja Peruš; Marijan Palmović; Marko Tkalčič; Matjaž Gams</td>
<td>QUANTUM–NEURAL BACKGROUND OF CONSCIOUS VISUAL PERCEPTION; SUPPRESSION OF μ-RHYTHM AS A TRACE OF MIRROR NEURON SYSTEM; AUTOMATIC DETECTION OF EMOTIONS; THE VISUAL TURNING TEST</td>
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<tr>
<td>16:00-18:00</td>
<td>Olga Markič; Maja Smrdu; Liliana Albertazzi</td>
<td>VISION: RETHINKING PHILOSOPHICAL ASSUMPTION; VISUAL HALLUCINATIONS-IMPORTANCE OF EXPERIENCE AND (EMOTIONAL) INTERPRETATION; GENERALIZED SYNESTHESIA; VISUAL THINKING?</td>
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<td>18:05 – 18:10</td>
<td>Conference closing</td>
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<td><strong>2. session</strong> Chair: Maja Smrdu</td>
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<td><strong>3. session</strong> Chair: Olga Markič</td>
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<td><strong>4. session</strong> Chair: Zvezdan Pirtošek</td>
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*Tuesday, 9 October (Large lecture hall, Jožef Stefan Institute)*