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TUESDAY 23<sup>rd</sup> AUGUST

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16:00 *Registration, Welcome Address*

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WEDNESDAY 24<sup>th</sup> AUGUST

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08:45 *Opening Remarks*

**Complex System Theory: Information Processing, and Nonlinear Dynamics**

09:00	<i>Guido Bugmann</i> Fraction of excitatory inputs required by a visual neuron to fire	1
09:30	<i>Hiroyuki Oya, John F. Brugge, Richard A. Reale, Hiroto Kawasaki, Igor O. Volkov, Matthew A. Howard III, Paul W. F. Poon</i> Functional connections in the human temporal cortex revealed by Granger analysis of near-field auditory evoked potentials	2
10:00	<i>Andreas V. M. Herz</i> Biophysics, information processing, and biological function of a small sensory system	3
10:30	– <i>Coffee Break</i> –	
11:00	<i>Michael Stiber</i> Bifurcations of neural transient responses	4
11:30	<i>Heiner Markert, Andreas Knoblauch, Günther Palm</i> Modelling of syntactical processing in the cortex	5
12:00	– <i>Lunch</i> –	

**Memory, Learning, Self-Organization, and Robotics**

13:30	<i>Roman Borisyuk</i> Modelling of persistent neural activity and memory	6
14:00	<i>Barry J. Richmond</i> Two types of memory in the monkey temporal lobe	7
14:30	<i>Maxim Bazhenov</i> Odor coding and neural plasticity in the locust olfactory system	8
15:00	<b>Poster Session, Coffee</b>	
16:30	<i>Tatyana S. Turova, Alessandro E. P. Villa</i> Phase diagram for unsupervised learning in random neural networks	9
17:00	<i>Eduard Kuriščák, Petr Marsalek</i> Network of neurons with nonlinear currents for the comparison of effects of static and adaptive synapses	10
17:30	<i>Bernd Porr, Florentin Wörgötter</i> Fast non-hebbian learning in the limbic system simulated in a robot food-retrieval task	11

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THURSDAY 25<sup>th</sup> AUGUST

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**Oscillations, Resonance, and Synchronization**

09:00	<i>Andreas Gabriel, Alexander Gail, Reinhard Eckhorn</i> Traveling gamma-waves: Stimulus-dependent signal coupling in monkey primary visual cortex	<b>12</b>
09:30	<i>Olivier Foucart, Ginette Horcholle-Bossavit, Brigitte Quenet</i> Oscillation <i>and</i> coding in a formal neural network considered as a guide for plausible simulations of the insect olfactory system	<b>13</b>
10:00	<i>Eugene M. Izhikevich</i> Polychronization: Computation with spikes	<b>14</b>
10:30	– <i>Coffee Break</i> –	
11:00	<i>Svetlana Postnova, Hans A. Braun, Karlheinz Voigt</i> Transitions from tonic firing to bursting in model neurons with synaptic input and bi-directional coupling	<b>15</b>
11:30	<i>Takashi Tateno, Hugh P. C. Robinson</i> Spike-time response curves in interneurons of rat somatosensory cortex	<b>16</b>
12:00	– <i>Lunch</i> –	

**Feature Extraction and Decision Making**

15:30	<i>Mike W. Oram, Dengke Xiao, Nick E. Barraclough, David I. Perrett</i> Neural coding and the anticipation of complex visual stimuli	<b>17</b>
16:00	<i>Pablo Balenzuela, Abel Lopera, Javier M. Buldú, Jordi Garcia-Ojalvo</i> Neural mechanism for binaural pitch perception	<b>18</b>
16:30	<i>M. Coath, S. L. Denham</i> The ‘ <i>why</i> ’ question of auditory peripheral processing	<b>19</b>
17:30	– <i>Coffee Break</i> –	
17:30	<i>Pierre Bayerl, Heiko Neumann</i> Feature-based attention increases the selectivity of population responses in a model of the primate visual cortex	<b>20</b>
18:00	<i>Benoit Gaillard, Jianfeng Feng, Hilary Buxton</i> Neuronal model of decision making	<b>21</b>
18:30- 21:00	<b>Poster Session, Wine</b>	

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FRIDAY 26<sup>th</sup> AUGUST

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**Cellular Processes and Neural-Glial Interactions**

09:00	<i>Peter Århem, G. Klement, J. Nilsson, C. Blomberg</i> Channel density regulation of neuronal firing patterns: Modelling cortical neurons	<b>22</b>
09:30	<i>Mathieu Coppey, Jean-Pierre Rospars</i> Modelling of G protein cascade in olfactory receptor neurons	<b>23</b>
10:00	<i>Olga V. Sosnovtseva</i> Studying cell dynamics: Interference microscopy vs. double-wavelet analysis	<b>24</b>
10:30	– <i>Coffee Break</i> –	
11:00	<i>Angelo Di Garbo, Michele Barbi, Santi Chillemi, Susanna Alloisio, Mario Nobile</i> Calcium signalling in astrocytes and modulation of neural activity	<b>25</b>
11:30	<i>Dmitry Postnov, Ludmila Ryazanova</i> Functional approach to modeling of neural-glial interactions	<b>26</b>

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SATURDAY 27<sup>th</sup> AUGUST

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**Fluctuations, Noise, Chaos, and Information Extraction**

09:00	<i>Rob C. Peters, Franklin Bretschneider, Lonneke B. M. Eeuwes</i>	<b>27</b>
	The source of frequency noise in ampullary electroreceptor afferents	
09:30	<i>Shinsuke Koyama, Shigeru Shinomoto</i>	<b>28</b>
	Inference of intrinsic spiking irregularity based on the Kullback-Leibler information	
10:00	<i>Lubomir Kostal, Petr Lánský</i>	<b>29</b>
	Classification of stationary neuronal activity according to its information rate	
10:30	– <i>Coffee Break</i> –	
11:00	<i>Thomas Wennekers, Nihat Ay, Peter Andras</i>	<b>30</b>
	Stochastic interaction in neural systems	
11:30	<i>Hans Liljenström</i>	<b>31</b>
	Efficiency in Olfactory information processing	
12:00	– <i>Lunch</i> –	

**Spatio-Temporal Patterns and Neuromodulation**

13:30	<i>Lutz Schimansky-Geier, T. Veretschaguina, I. M. Sokolov</i>	<b>32</b>
	Waiting-time densities of resonate and fire neurons	
14:00	<i>Emilio Salinas</i>	<b>33</b>
	Correlations between neurons and their relation to network function: insights from a simple measure of coding efficiency	
14:30	<i>Javier Iglesias, Alessandro E. P. Villa</i>	<b>34</b>
	Effect of stimulus-driven pruning on the detection of spatio-temporal pattern of activity in large neural networks	
15:00	<b>Poster Session, Coffee</b>	
16:30	<i>Jan Benda, André Longtin, Len Maler</i>	<b>35</b>
	Two coding strategies for communication signals in a population rate code	
17:00	<i>Peter A. Tass, Utako B. Barnikol, Christian Hauptmann, Oleksandr Popovych, Milan Majtanik, Jürgen Voges, Volker Sturm, Hans-Joachim Freund</i>	<b>36</b>
	Adaptive neuromodulation: a novel approach to electrical brain stimulation	

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SUNDAY 28<sup>th</sup> AUGUST

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10:00- 12:00	<i>Discussion and Concluding Remarks</i>
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POSTERS

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Sequence learning as basis for invariant recognition of object views
- Basim Al-Shaikhli, Thomas Wachtler, Reinhard Eckhorn* 46  
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- Horst Schneider, Svetlana Postnova, Karlheinz Voigt, Hans A. Braun* **56**  
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- Walter G. Sannita* **57**  
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- Martin Tobias Huber, Hans Albert Braun* **58**  
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- Yaroslav A. Bedrov, Olga E. Dick, Friedemann Awiszus* **59**  
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- Yaroslav A. Bedrov, Olga E. Dick, Sergei P. Romanov* **60**  
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**Fluctuations, Noise, Chaos, and Information Extraction**

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- Jigneshkumar Patel, Ramesh Goyal, Laxman Patel* **72**  
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