

## SCIENTIFIC GUARANTEES

Assoc. Prof. Dr. Ing. Tomáš Navrátil

J. Heyrovsky Institute of Physical Chemistry of the Czech Academy  
of Sciences, Prague



Assoc. Prof. RNDr. Miroslav Fojta, CSc.

Institute of Biophysics of the Czech Academy of Sciences, Brno

## ORGANIZING GUARANTEE

Lenka Srsenová - BEST servis

E-mail: info@bestservis.eu



## CONFERENCE SPONSORS



# 52<sup>nd</sup> Heyrovsky Discussion



## Electrochemistry of Organic Compounds and Biopolymers

On the occasion of the 60<sup>th</sup> anniversary of awarding  
Professor Heyrovsky by Nobel Prize for the invention of  
polarography  
and dedicated to the Memory of Professor Emil Paleček



Chateau Liblice, Czech Republic

June 16<sup>th</sup>-20<sup>th</sup>, 2019

**SUNDAY, JUNE 16<sup>TH</sup>**

- 15<sup>00</sup> **Bus Departure from J. Heyrovský Institute**
- 16<sup>00</sup> **REGISTRATION AND ACCOMMODATION OF THE PARTICIPANTS**
- 17<sup>55</sup> **WELCOME DRINK**
- 18<sup>00</sup> **DINNER (GET-TOGETHER PARTY)**

**MONDAY, JUNE 17<sup>TH</sup>**

- 8<sup>00</sup> **BREAKFAST**
- 8<sup>45</sup> **OPENING SESSION**  
*M. Fojta, T. Navrátil, M. Hof*

**9.00 – 10.25 BLOCK 1 – Chairperson T. Navrátil**

- 9<sup>00</sup>- 9<sup>15</sup> **Prof. Jaroslav Heyrovský and Prof. Emil Paleček**  
*J. Jindra*
- 9<sup>15</sup>- 9<sup>45</sup> **Praise of Mercury**  
*J. Janata*
- 9<sup>45</sup>- 10<sup>05</sup> **Electrochemical Melting of DNA: Optimization and Application**  
*E. Madrigal and R. M. West*
- 10<sup>05</sup>-10<sup>25</sup> **Oxidation of Purine Nucleobases Can Occur Through Radical Polymerization Sensitive to their Arrangement on the Electrode**  
*J. Špaček and M. Fojta*
- 10<sup>25</sup> -10<sup>45</sup> **COFFEE BREAK**

**10.45 – 12.05 BLOCK 2 – Chairperson J. Špaček**

- 10<sup>45</sup>-11<sup>05</sup> **Protein-Protein Interactions at Charged Interfaces. Label-Free Chronopotentiometric Sensing**  
*V. Ostatná*
- 11<sup>05</sup>-11<sup>25</sup> **Electrochemical Detection of Tetraplex DNA Based on Cyclic Naphthalene Diimide Carrying Ferrocene Unit**  
*S. Takenaka, S. Sato, and S. Kaneyoshi*
- 11<sup>25</sup>-11<sup>45</sup> **Electrochemical Study of Sudan I as a Marker Substrate for the Monitoring of Cytochrome P450-Catalyzed Hydroxylation**  
*M. Fojta, A. Ondráčková, and K. Schwarzová-Pecková*

- 11<sup>45</sup>-12<sup>05</sup> **Probing dTn Blocs in Telomeric DNA Repeats and Quadruplex-Duplex Transitions using Electroactive OsO<sub>4</sub>, 2,2'-Bipyridine Complex**  
*J. Peter, K. Cahová, H. Pivoňková, L. Havran, and M. Fojta*

12<sup>05</sup> -14<sup>00</sup> **LUNCH**

**14.00 – 15.40 BLOCK 3 – Chairperson M. Fojta**

- 14<sup>00</sup>-14<sup>30</sup> **DNA Hybridization and Interaction with Small Molecules Studied by H/D Isotope Effects in Voltammetry and EQCM**  
*G.-U. Flechsig and S. Galagedera*
- 14<sup>30</sup>-14<sup>50</sup> **A Tale of Two Hemes – Redox Driven Ligand Exchange in Diheme Thiosulfate Dehydrogenase (TsdA) Enzymes**  
*J. Butt, L. Jenner, J. Bradley, M. Cheesman, J. Kurth, and Ch. Dahl*
- 14<sup>50</sup>-15<sup>10</sup> **Effect of Nanostructured Carbon-Based Materials on Electrochemical Oxidation of Both free and Protein-Bound Tryptophan and Tyrosine**  
*S. Hasoň, V. Ostatná, and M. Fojta*
- 15<sup>10</sup>-15<sup>30</sup> **Silver Amalgam Particles: From Voltammetry to Plasmonics**  
*P. Havranová, M. Horák, L. Kejík, F. Ligmaje, P. Šebest, and A. Daňhel*
- 15<sup>30</sup>-15<sup>40</sup> **Detection of 6-Diazo-5-oxo-L-norleucine by Screen Printed Carbon Electrode Covered by Amalgam Particles**  
*P. Šebest, M. Zelinka, and A. Daňhel*
- 15<sup>40</sup> -16<sup>00</sup> **COFFEE BREAK**

**16.00 – 18.00 BLOCK 4 – Chairperson P. Tomčík**

- 16<sup>00</sup>-16<sup>20</sup> **Electrochemical Evaluation of Bioactive Electron Donors and Electrophilic Molecules: General Concept**  
*J. Vacek*
- 16<sup>20</sup>-16<sup>40</sup> **Synthetic TATA Box Recognition by Amino Acids Recognizing the Natural TATA box**  
*K. Bartold, A. Pietrzyk-Le, W. Lisowski, K. Golebiewska, A. Siklitskaya, P.I Borowicz, S. Shao, F. D'Souza, and W. Kutner*
- 16<sup>40</sup>-17<sup>00</sup> **The Role of Constant Current Potentiometric Stripping Analysis in Studies of Toxic Metal Ions Transport**  
*I. Šestáková and T.Navrátil*



17<sup>00</sup>-17<sup>20</sup> **Comparison of Copper Complexes Mimicking Tyrosinase Activity**

*T. Mikysek, M. Sýs, and M. Novák*

17<sup>20</sup>-17<sup>40</sup> **Nanomaterials Based Electrochemical Nucleic Acid Biosensors**

*A. Erdem Gursan*

18<sup>00</sup> **DINNER**

20<sup>00</sup> **CONCERT (CHATEAU LIBLICE)**

## **TUESDAY, JUNE 18<sup>TH</sup>**

**9.00 – 10.30 BLOCK 5 – Chairperson J. Vacek**

9<sup>00</sup>- 9<sup>30</sup> **Voltammetric Gas Sensors**

*S. B. Hočevár, V. Jovanovski, and P. Jovanovič*

9<sup>30</sup>- 9<sup>50</sup> **Effect of Surface Modification with Titanium Carbosilicide on the Electrochemical Characteristics of Lithium and Transition Metals Polyanionic Compounds**

*A. V. Ivanishchev, I. A. Ivanishcheva, and A. Dixit*

9<sup>50</sup>- 10<sup>10</sup> **PEO-PVDF Based Polymer Electrolytes for Uniform Lithium Metal Deposition**

*E. Ushakova, D. Itkis, V. Sergeev, E. Karpushkin, M. Avdeev, and L. Jashina*

10<sup>10</sup>-10<sup>30</sup> **Pyrene Derivatives for Organic Field-Effect Transistors**

*L. Koláčná, P. Polák, J. Klíma, T. Tobrman, and J. Ludvík*

10.30 – 10.50 **COFFEE BREAK**

**10.50 – 12.10 BLOCK 6 – Chairperson G. Ziyatdinova**

10<sup>50</sup>-11<sup>10</sup> **Preparation of Patterned Copper Foam Electrodes Employing Masks Manufactured by 3D printing**

*E. Vaněčková, T. Sebechlebská, V. Shestivska, and V. Kolivoška*

11<sup>10</sup>-11<sup>30</sup> **Cyclovoltammetric Characterization of Polylactic Acid/Carbon Black Composite Filaments for the Construction of 3D Printed Electrodes**

*T. Sebechlebská, E. Vaněčková, V. Shestivska, and V. Kolivoška*

11<sup>30</sup>-11<sup>50</sup> **Voltammetric Determination of Anthraquinone-2-Sulphonate**

*Š. Skalová, J. Fischer, J. Barek, V. Vyskočil, T. Navrátil, and J. Krejčí*

11<sup>50</sup>-12<sup>10</sup> **Get to know METROHM**

*P. Barath*

12<sup>10</sup> – 13<sup>00</sup> **LUNCH**

13<sup>00</sup> – 18<sup>00</sup> **EXCURSION**

18<sup>30</sup> **DINNER**

20<sup>00</sup> **OPEN AIR BEER & SAUSAGE PARTY**

## **WEDNESDAY, JUNE 19<sup>TH</sup>**

8<sup>00</sup> **BREAKFAST**

**9.00 – 10.30 BLOCK 7 – Chairperson K. Schwarzová-Pecková**

9<sup>00</sup>- 9<sup>30</sup> **Electrodes with Immobilized Free Radicals for the Voltammetric Evaluation of Antioxidant Activity**

*G. K. Ziyatdinova, Y. Zelenova, and H. Budnikov*

9<sup>30</sup>- 9<sup>50</sup> **Polarized Liquid – Liquid Interface Meets Forensic Challenges**

*L. Poltorak, K. Rudnicki, N. van der Meijden, I. Eggink, S. Oonk, M. Hoitink, S. Skrzypek, E. J. R. Sudhölter, and M. de Puit*

9<sup>50</sup>- 10<sup>10</sup> **Mechanism of Emulsion Formation in an Organic Solvent in the Presence of Hydrated Ions**

*V. Mareček, Z. Samec, and K. Holub*

10<sup>10</sup>-10<sup>30</sup> **Estimating Reaction Rates Based on the Measurement of Flicker Noise**

*G. Mészáros*

10<sup>30</sup> -10<sup>50</sup> **COFFEE BREAK**

**10.50 – 12.10 BLOCK 8 – Chairperson J. Butt**

10<sup>50</sup>-11<sup>10</sup> **Effect of Multiple Anchor Connectivity on the Single Molecule Conductance of Oligophenylene Molecular Wires**

*M. Hromádová, V. Kolivoška, J. Šebera, T. Sebechlebská, J. Gasiór, Š. Nováková Lachmanová, G. Mészáros, M. Lindner, M. Mayor, and M. Valášek*



11<sup>10</sup>-11<sup>30</sup> **Spectroelectrochemical Studies of Perfluoroalkylated Derivatives of PAHs**

*P. Machata, A. Popov, T. T. Clikeman, E. V. Bukovsky, S. H. Strauss and O. Boltalina*

11<sup>30</sup>-11<sup>50</sup> **UV-Vis Spectroelectrochemical Investigation of Hydroxy Compounds Complexation with Copper**

*R. Sokolová, M. Obluková, V. Majarová, V. Křen, and J. Vacek*

11<sup>50</sup>-12<sup>10</sup> **Electrochemistry and Singlet Fission: Investigation of Fluorinated Derivatives of 1,3-diphenylisobenzofuran**

*J. Ludvík and L. Šimková*

12<sup>10</sup>-14<sup>00</sup> **LUNCH**

**14.00 – 15.50 BLOCK 9 – Chairperson G.-U. Flechsig**

14<sup>00</sup>-14<sup>30</sup> **Mechanistic, Kinetic and Analytical Studies on the Oxidation and Reduction of Omeprazole at Boron Doped Diamond Electrode**

*Z. Chomisteková-Lukáčová, E. Culková, R. Bellová, D. Melicherčíková, J. Durdiak, and P. Tomčík*

14<sup>30</sup>-14<sup>50</sup> **Morphological and Biosensing Properties of Porous Boron Doped Diamond Based Electrodes**

*S. Baluchová, S. Sedláková, A. Taylor, L. Klimša, J. Kopeček, V. Mortet, and K. Schwarzová-Pecková*

14<sup>50</sup>-15<sup>10</sup> **Electrochemical Characterization of Porous Boron-Doped Diamond Deposited on SiO<sub>2</sub> Nanofibres and Carbon Nanotubes Templates**

*O. Hák, V. Mortet, S. Sedláková, A. Taylor, and A. Zukal*

15<sup>10</sup>-15<sup>30</sup> **Morphological, Spectral, and Electrochemical Characterization of Boron-Doped Diamond Electrodes, and their Application in the Sensing of Neurotransmitter Dopamine**

*M. Brycht, S. Baluchová, K. Schwarzová-Pecková, A. Taylor, S. Sedláková, L. Klimša, J. Kopeček, and V. Mortet*

15<sup>30</sup>-15<sup>50</sup> **Electrochemistry of Steroids at Carbon-Based Electrodes**

*K. Schwarzová-Pecková, L. Benešová, K. Jelšíková, M. Zelenský, A. Zárybnická, P. Yershova, and J. Klouda*

15<sup>50</sup> -16<sup>10</sup> **COFFEE BREAK**

**16.10 – 18.00 BLOCK 10 – Chairperson S. Hočevar**

16<sup>10</sup>-16<sup>30</sup> **Voltammetric Behavior of Anti-inflammatory Drugs from Oximicam Class**

*R. Šelešovská, F. Hlobeňová, M. Mandincová, J. Skopalová, L. Janíková, and J. Chýlková*

16<sup>30</sup>-16<sup>50</sup> **Voltammetric Approach for a Sensitive Determination of Plant Growth Stimulator 1-Naphthaleneacetic Acid Employing Boron-Doped Diamond as a Sensor**

*L. Janíková, J. Chýlková, M. Sedlák, J. Váňa, L. Dušek, J. Bartáček, and R. Šelešovská*

16<sup>50</sup>-17<sup>10</sup> **Low-Cost Pencil Graphite-Based Electrochemical Detector for HPLC: Application for Antipsychotic Drugs Detection**

*D. Riman, J. Rozsypal, M. I. Prodromidis, D. Jirovsky, J. Skopalová, and J. Hrbáč*

17<sup>10</sup>-17<sup>30</sup> **Electrochemical Investigation of Substituent Effect on Oxidation Potentials of Novel Antimycobacterial Agents**

*J. Gajdár, K. Tsami, T. Goněc, J. Jampílek, M. Brázdová, Z. Bábková, M. Fojta, J. Barek, and J. Fischer*

17<sup>30</sup>-17<sup>50</sup> **Amperometric Techniques as Suitable Tools for Determination of Tumor Markers – Vanillylmandelic, Homovanillic, and 5-hydroxyindole-3-acetic Acids**

*A. Němečková-Makrlíková, V. Hrdlička, J. Barek, V. Vyskočil, A. Kromka, and T. Navrátil*

17<sup>30</sup>-18<sup>00</sup> **CLOSING CEREMONY**

18<sup>00</sup> **FAREWELL PARTY**

**THURSDAY, JUNE 20<sup>TH</sup>**

8<sup>00</sup> **BREAKFAST**

ca 10<sup>00</sup> **Bus Departure to Prague (after Breakfast)**

**Invited Lectures 25 Min. + Discussion 5 Min.**

**Lectures 15 Min. + Discussion 5 Min.**