



Ministry of  
Education and Science  
Republic of Latvia

MINISTRY OF EDUCATION,  
SCIENCE AND SPORT  
OF THE REPUBLIC OF LITHUANIA

**NSTC** 國家科學及技術委員會  
National Science and Technology Council

## **Protocol of the 22<sup>nd</sup> Meeting of the Steering Committee of Mutual Funds for Scientific Cooperation among Latvia, Lithuania and Taiwan**

**Date & Time:** 22 September, 2023; 11.00 a.m. ~ 4.30 p.m.

**Venue:** College Hall, Ministry of Education, Science and Sport of the Republic of Lithuania, Vilnius

### Participants (delegations from):

- Ministry of Education and Science of the Republic of Latvia (MoES),
- Latvian Council of Science (LCS),
- Ministry of Education, Science and Sport of the Republic of Lithuania (MoESS),
- Research Council of Lithuania (RCL),
- National Science and Technology Council of the Republic of China (Taiwan) (NSTC),
- Taiwanese Representative Office in Lithuania.

### Steering Committee members:

Latvia: Ms. Lauma Sīka (MoES), Dr. Maija Bundule (LCS), Dr. Līva Griņeviča (LCS).

Lithuania: Dr. Laima Taparuskienė (MoESS), Prof. Limas Kupčinskas (RCL), Ms. Aušra Gribauskienė (MoESS), Ms. Kornelija Bacvinkienė (RCL), Ms. Vaida Peciūkonienė (MoESS).

Taiwan: Dr. Yi-Juang Chern (NSTC), Mr. Chih-Cheng Yeh (NSTC), Mr. Aaron Min-Chi Hu (NSTC).

### Other participants:

Mr. Tadas Juknevičius (MoESS), Mr. Eric Huang (Taiwanese Representative Office in Lithuania), Prof. Da-Chuan Cheng (Taiwanese Representative Office in Lithuania), Prof. Arūnas Ramanavičius (Vilnius University), Dr. Loreta Tamašauskaitė-Tamašiūnaitė (State Research Institute Center for Physical Sciences and Technology), Prof. Dr. Vytautas Bučinskas (Vilnius Gediminas Technical University), Mr. Andrew HC Lee (Representative of the Taipei Mission in the Republic of Latvia) (remotely).

1. The meeting began with welcome words from Dr. Laima Taparuskienė, Director of the Department of Higher Education, Science and Technology of the Ministry of Education, Science and Sport of the Republic of Lithuania (MoESS), and the introductions of the Latvian and Taiwanese delegations gave their opening remarks.
2. After the opening remarks made by chairpersons and a short presentation of the agenda and consensus on the working order and the progress of the meeting, presentations on the 3<sup>rd</sup> year research projects were made by Lithuanian Principal Investigators of the projects. Steering Committee (hereafter – Committee) members commented on the results of joint research projects and exchanged their opinions.
3. It was concluded that the following four (4) projects (2021-2023) were completed successfully:
  - 3.1. **“Flow-Through System Based Immunoanalytical Devices for the Diagnosis of Viral-Infections”**, Roman Viter (University of Latvia, Latvia), Chien-Fu Chen (Institute of Applied Mechanics, National Taiwan University, Taiwan), Arūnas Ramanavičius (Department of Physical Chemistry, Faculty of Chemistry and Geosciences, Vilnius University, Lithuania).

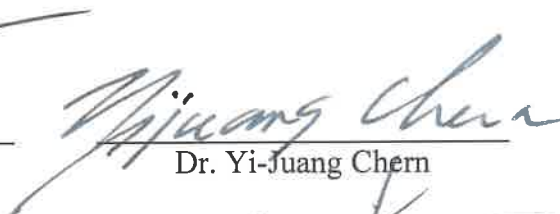
- 3.2. **“Innovative Catalysis for Sustainable Energy (ICatSE)”**, Gaļina Dobeļe (Latvian State Institute of Wood Chemistry, Latvia), Yu-Chuan Lin (Department of Chemical Engineering, National Cheng Kung University, Taiwan), Eugenijus Norkus (State research institute Center for Physical Sciences and Technology Department of Catalysis, Lithuania).
  - 3.3. **“Environmentally Friendly Synthesis of Metal-Organic Frameworks for Enzyme Encapsulation and Energy Harvesting”**, Andris Šutka (Riga Technical University, Latvia), Fa-Kuen Shieh (Department of Chemistry, National Central University, Taiwan), Martynas Kinka (Vilnius University, Lithuania).
  - 3.4. **“Development of Microrobot Based on Visual Recognition and Machine Learning for Manipulation of Individual Living Cells”**, Modris Greitāns (Institute of Electronics and Computer Science, Latvia), Po-Ting Lin (Department of Mechanical Engineering, National Taiwan University of Science and Technology, Taiwan), Vytautas Bučinskas (Vilnius Gediminas Technical University, Lithuania).
4. Taking into account the reports on the ongoing projects the Committee decided to continue financing of the following eight (8) projects (four (4) projects of the second year (2022-2024) \*\* of implementation and four (4) projects of the first year (2023-2025)\* of implementation) from January 1, 2024 to December 30, 2024:
    - 4.1. **\*\*Coherent Optical Control of Atomic Systems** (Dr. Mārcis Auziņš, University of Latvia, Associate Prof. Wen Te-Liao, National Central University, Prof., Dr. Gediminas Juzeliūnas, Vilnius University)
    - 4.2. **\*\*Molecular Electronics in Functionalized Purines: Fundamental Study and Applications (MEPS)** (Dr. Māris Turks, Riga Technical University, Prof. Huan-Tsung Chang, National Taiwan University, Prof., Dr. Saulius Juršėnas, Vilnius University)
    - 4.3. **\*\*Synthesis and Study of Deep-Blue TTF Fluorescent Emitters to Exceed Theoretical OLED External Quantum Efficiency Reaching 15%** (Dr. Pavel Arsenyan, Latvian Institute of Organic Synthesis, Prof. Tien-Lung Chiu, Yuan Ze University, Dr. Audrius Bučinskas, Kaunas University of Technology)
    - 4.4. **\*\*Factors and Actors Contributing to the Willingness to Defend One’s Own Country: the Case of Latvia, Lithuania and Taiwan** (Assoc. Prof., Dr. Māris Andžāns, Rīga Stradiņš University, Dr. Nick Lin, Academia Sinica, Prof., Dr. Ainē Ramonaitė, Vilnius University)
    - 4.5. **\* Dynamic Managerial Capabilities and Organizational Resilience in Family Firms: A Comparative Study of Taiwan, Latvia and Lithuania** (Assoc. Prof. Ilona Baumanė-Vītoliņa, University of Latvia, Faculty of Business, Management and Economics; Prof. Shyh-Jer Chen, Institute of Human Resource Management, National Sun Yat-Sen University; Prof. Asta Pundzienė was replaced by Prof Monika Petraite, Kaunas University of Technology, School of Economics and Business)
    - 4.6. **\* Development of A3B5-Bi Nanostructure Based Double-Wavelength Microlaser Technology for NIR Sensing Applications** (Prof. Janis Spigulis, University of Latvia, Institute of Atomic Physics and Spectroscopy; Prof. Yi-Jen Chiu, Department of Photonics, National Sun Yat-Sen University; Dr. Renata Butkutė, State research institute Center for Physical Sciences and Technology)
    - 4.7. **\* Role of Ryanodine Receptors in Neuroendocrine Tumour Development: Implications in Electrophysiological and Molecular Tumorigenesis Mechanisms** (Dr. Vita Rovīte, Latvian Biomedical Research and Study centre (BMC) Department of Neurology; Prof. Sheng-Nan Wu, Graduate Institute of Physiology, National Cheng Kung University; Prof. Arimantas Tamasauskas, Neuroscience Institute, Lithuanian University of Health Sciences (LUHS))
    - 4.8. **\* Exploring Early Events in the Cold Denatured Apoptotic Bid Protein Using Sensitivity-Enhanced EPR and NMR** (Prof. Kristaps Jaudzems, Latvian Institute of Organic Synthesis; Prof. Yun-Wei Chiang, Department of Chemistry, National Tsing Hua University; Assoc.Prof. Vidmantas Kalendra, Vilnius University)
  5. After a short presentation on the applications submitted from three countries for Joint Research Projects for 2024-2026, the three Parties exchanged information on the evaluation procedures and criteria that were applied to evaluate the quality of the projects on national level. The Parties agreed that the eligibility of 24 projects is assessed considering the national rules and conditions.

6. According to the score table with unification into maximum of 15, considering the better scored projects as well as the balance of research fields, the Committee reached the consensus that the following four new projects were approved for implementation in 2023:
- 6.1. **Microplastics and related persistent organic pollutants in post-glacial Arctic ecosystems and adjacent areas** (Dr. Inta Dimante-Deimantoviča, Latvian Institute of Aquatic Ecology; Prof. Ta-Kang Liu, Institute of Ocean Technology and Marine Affairs, National Cheng Kung University; Dr. Dzmitry Lukashanets, Marine Research Institute, Klaipėda University)
  - 6.2. **Synthesis and characterization of new organic emitters exhibiting long-lived emission for brain imaging (SYNERGISM)** (Prof. Edgars Sūna, Latvian Institute of Organic Synthesis; Prof. Shi-Wei Chu, Graduate Institute of Physics, National Taiwan University; Dr. Rasa Keruckienė, Kaunas University of Technology)
  - 6.3. **Structure determination of transthyretin amyloid fibrils** (Dr. Alons Lends, Latvian Institute of Organic Synthesis, Riga; Dr. Tsy-Yan Yu, Institute of Atomic and Molecular Sciences, Academia Sinica; Dr. Vytautas Smirnovas, Vilnius University)
  - 6.4. **Patterns of Penetration to Democratic Systems from Authoritarian Regimes: comparative analysis of local representation in Lithuania, Latvia, and Taiwan** (Prof. Ina Druviete, Political Science Department, University of Latvia; Assist. Prof. Yun-Chu Tsai, Department of Political Science, Soochow University; Assoc. Prof. Jurga Bučaitė-Vilkė, Vytautas Magnus University)
7. The Call results will be announced on the **30<sup>th</sup> October 2024**. 2023 ?
8. During the briefing session, Mr. Tadas Juknevičius gave a presentation on Lithuanian higher education and research system. Ms. Lauma Sika presented an overview of Latvia's performance in the EU Framework program Horizon Europe. The third presentation entitled *NSTC's outlook on international collaboration in the fields of science, technology, and innovation* was presented by Mr. Chih-Cheng Yeh.
9. The Call for Proposals in 2024 shall be launched on **the 15<sup>th</sup> of February 2024**. The deadline for project proposal submission in **2024 will be April 30<sup>th</sup>**.
10. The Parties agreed to exchange information on the results of project eligibility check until the **17<sup>th</sup> of May 2024**.
11. The scientific evaluation results shall be exchanged by **20<sup>th</sup> of September 2024**.
12. The next meeting place is foreseen in Taipei, to be held in **October 2024**.


Signatures of the Steering Committee Members:

  
Dr. Laima Taparauskienė

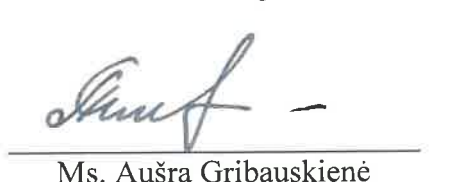
  
Ms. Lauma Sika

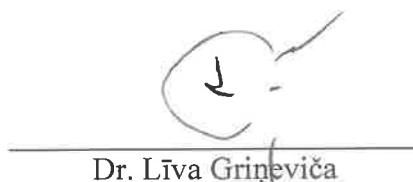
  
Dr. Yi-Juang Chern

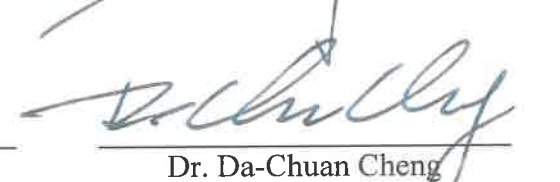
  
Prof. Limas Kupčinskas

  
Dr. Maija Bundule

  
Mr. Chih-Cheng Yeh

  
Ms. Aušra Gribauskiene

  
Dr. Līva Griņeviča

  
Dr. Da-Chuan Cheng