

17TH INTERNATIONAL MEETING “FUNDAMENTAL AND APPLIED PROBLEMS OF SOLID STATE IONICS”

The 17th International Meeting “Fundamental and Applied Problems of Solid State Ionics”, hereinafter referred to as FPSSI-2024, was held from 16 to 23 June, 2024 in Chernogolovka (Moscow region, Russia).

The FPSSI-2024 meeting was dedicated to the memory of Professor Evgeny Alexandrovich Ukshe and that year marked the 30th anniversary since the beginning of the event. E. A. Ukshe was the initiator of the organization of a series of regional seminars “Solid State Ionics” in the 1980s, which is currently continuing in the format of international conferences. The meeting brings together scientists in the fields of electrochemistry, crystal chemistry, physics and solid state chemistry and promotes the expansion of scientific research and contacts in many related fields, including in the field of applied electrochemistry.

The work of the FPSSI-2024 meeting was organized in four scientific areas:

Section 1. Ion conductors: synthesis, structure, properties and transport mechanisms;

Section 2. Electrode processes and electrocatalysis at phase boundaries;

Section 3. Experimental and theoretical methods for studying processes in solid-state ion and mixed conductors;

Section 4. Practical use of solid-state electrochemical devices: fuel cells, batteries, supercapacitors, sensors, electrochemical energy storage, etc.

More than 150 researchers, university teachers, undergraduates and postgraduates, engineers, technologists, representatives of industry and business took part in the work of the FPSSI-2024 meeting, including seven foreign participants from five countries. The meeting was held in face-to-face and virtual formats. About 110 people participated in the conference in person. 84 reports were heard, including 28 invited papers (three from foreign participants) and 56 oral presentations.

The 6th School for Young Scientists “Hydrogen and Electrochemical Power Engineering” was held as part of the FPSSI-2024 meeting. Six lectures were given by leading scientists and practitioners. Round tables were organized such as “Green energy, renewable energy, storage” in Chernogolovka with the participation of representatives of the Ministry of Industry and Trade of Russia, industry and business, and an offsite meeting of the international round table “Hydrogen Transport”

in Moscow, organized by the Ministry of Energy of the Russian Federation, the Department of Transport of Moscow, the Department of Industrial Policy of the Eurasian Economic Commission (moderator: General Director of the AFK Sistema Hydrogen Energy Center Yu. A. Dobrovolsky).

The participants of FPSSI-2024 represented scientific and educational organizations from 21 cities of Russia such as Apatity, Voronezh, Gatchina, Dubna, Yekaterinburg, Kazan, Kirov, Krasnodar, Makhachkala, Moscow, Novosibirsk, Novocherkassk, Rostov-on-Don, Samara, St. Petersburg, Sterlitamak, Syktyvkar, Tomsk, Ufa, Chelyabinsk, Chernogolovka.

The international status of FPSSI-2024 was confirmed by the work of the international organizing committee, research materials presented at the meeting, prepared by foreign scientists and teams or in cooperation with Russian scientists from ten countries: Belarus, Germany, Israel, Kazakhstan, China, Russia, Slovenia, the USA, France, South Africa.

The materials of the reports presented at the meeting were published in the form of a collection of extended abstracts in the RSCI <https://www.elibrary.ru/item.asp?id=69208560>.

During the work of FPSSI-2024, a competition of works by young scientists (oral and poster presentations) was held. Ten reports were selected by an authoritative commission to participate in the final session. According to the results of the session, K. O. Paperzh (Southern Federal University, Rostov-on-Don) took the first place, G. S. Degtyarenko (Lomonosov Moscow State University, Moscow, FRC of Problems of Chemical Physics and Medical Chemistry of the Russian Academy of Sciences, Chernogolovka) took the second place, and A. A. Koshkina took the third place (Institute of Solid State Chemistry, Ural Branch of the Russian Academy of Sciences, Yekaterinburg). A special prize was awarded to S. V. Pavlov (Joint Institute for High Temperatures of the Russian Academy of Sciences, Moscow). The prizes are provided by the AFK Sistema Hydrogen Energy Center, Moscow and the SmartStat company, Chernogolovka.

Based on the materials of the reports, the participants of the FPSSI-2024 meeting prepared 12 articles for the special issue of the Russian Journal of Electrochemistry.

The Organizing Committee of FPSSI-2024 expresses its gratitude for the organization and management to the FRC PCF and MC, RAS, and the AFK Sistema Hydrogen Energy Center, for the information support to the Forum-SM scientific and consulting center, and for the financial support to the AFK Sistema Hydrogen Energy Center, the SmartStat Russian scientific and production company, Chernogolovka; Prometheus-RD LLC small innovative enterprise,

Rostov-on-Don. The Organizing Committee expresses special gratitude to all participants of the conference and the authors of articles in the special issue of the Russian Journal of Electrochemistry.

On behalf of the Organizing Committee of FPSSI-2024

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