

The rapid rise of battery innovation for clean energy transition

Webinar, 15th April 2021

Program

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| 09:40-10:00 (CET) | <i>Setting up WebEx connections</i> |
| 10:00-10:10 | <i>Welcome and introduction</i> – Prof. Albert Tarancón (ICREA Professor and IREC Group Leader) |
| 10:10-10:30 | <i>Presentation of European Patent Office activities</i> – Dr. Zafirios Georgiou (EPO director) |
| 10:30-11:10 | <i>Presentation of the study “Innovation in batteries and electricity storage – a global analysis based on patent data”</i> – Dr. Giuliano Gregori (EPO patent examiner) |
| 11:10-12:00 | <i>Q&A round table</i> . Confirmed speakers: Dr. A. Aguadero (Imperial College), Dr. G. Gregori (EPO), Prof. A. Tarancón (IREC), Dr. P. Vereecken (IMEC), Dr. C. Villevieille (CNRS) |

About the speakers:



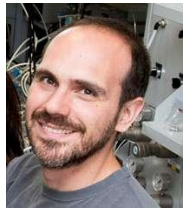
Dr. Zafiris Georgiu is director at the European Patent Office. After his basic studies, he worked as researcher at the Von Karman Institute and at Daimler Benz before commencing as patent examiner at the European Patent Office in medical technology where he also gained experience in oppositions. In 2005, he was nominated director in industrial chemistry (Chemical Engineering). In the last years he has been entrusted with several expert's tasks in the industrial sector Healthcare, Biotechnology and Chemistry (HBC) like classification management, recruitment, communication, management tools and user engagement coordinator. He has represented the EPO at Industry fairs, has organised several industry visits around the world and has organised and moderated several panel discussions inviting key stakeholders external to the EPO; he has specific affinity to patenting strategies. Based on his long experience as management coach, he has been selected as managerial mentor (EPO project LEAD).



Dr. Giuliano Gregori holds a degree in Materials Engineering (University of Trieste, 1998) and a Ph.D. in Materials Science (University of Bayreuth, 2003). After his PhD, he joined the group of Prof. Clarke at the University of California at Santa Barbara as a post-doctoral researcher and in 2006 the Department of Physical Chemistry of Solids lead by Prof. Maier at the Max Planck Institute for Solid State Research, Stuttgart. During his research activity, he co-authored more than 80 articles in peer-reviewed journals mostly on the charge carrier chemistry of materials relevant for fuel cells, batteries as well as perovskite-based photovoltaics and oxide-superconductivity. He received the Italian National Habilitation as Associate Professor in Materials Science and Engineering in 2012. In 2016, he joined the European Patent Office (EPO) in the Directorate Electrochemistry as a patent examiner. Within the EPO, he has been involved in a number of seminars and presentations and he co-authored the study "Innovation in batteries and electricity storage" lead by the Chief Economist Unit of the EPO and carried out in collaboration with the International Energy Agency, which was released in September 2020.



Dr. Ainara Aguadero is reader in Energy Materials at the Department of Materials, Imperial College London. She holds a PhD in Materials Chemistry from Universidad Autonoma de Madrid (2006) and has been a Juan de la Cierva fellow (2009-2012) and a Marie Curie Fellow (2013-2015). In 2015, she was appointed at Imperial College London, where she has built up her own research group of 10+ people. She works on solid state electrochemical devices and has particular interest in understanding and optimising electronic and ionic paths to improve performance and control degradation. In the field of batteries, in the last years she has focused on the development of solid electrolytes for Na and Li metal batteries and the design of stable interfaces for high power applications at both solid state and liquid systems. She has published over 70 research papers in this field and holds 1 patent on their applications. She successfully obtained research funding via fellowships and awards totalling over £3M, in addition to her contributions to a number of national and international projects.



Prof. Albert Tarancon holds M.Sc. and PhD in Physics from the University of Barcelona (2001, 2007) and M. Eng. in Materials Science from the Polytechnic University of Catalonia (2007). He worked as research associate at the IMB-CSIC (ES) and as visiting researcher at the University of Oslo (NO), Imperial College London (UK) and Caltech (USA). In 2010, Albert gained a Ramon y Cajal Fellowship and joined the Catalonia Institute for Energy Research (IREC) as the Head of the Nanoionics and Fuel Cells Group.

Currently, he is ICREA Professor at IREC and leads a group of 25+ people devoted to nanomaterials for alternative energy technologies and their applicability in powering portable devices and hydrogen/synthetic fuels production. He has been PI of 10 EU projects, including one ERC-CoG and three coordinated H2020, attracting a total amount of 20+ M€. He is currently editor of J. Phys. Energy (IoP) and J. Eur. Ceram. Soc. (Elsevier)



Prof. Dr. Philippe Vereecken is Principal Scientist at IMEC and part-time professor at the University of Leuven (KU-Leuven). Dr. Vereecken received a PhD in Physical Chemistry at Ghent University (Belgium) in 1998. He then spent 3 years as a postdoctoral associate in the department of Materials Science and Engineering at The Johns Hopkins University in Baltimore, MD and worked as a Research Staff Member at IBM T.J. Watson

Research Center in Yorktown Heights, NY. As program leader at IMEC, he is responsible for the technical content of the solid-state battery program at IMEC. The team is best known for their achievements in the field of 3D thin-film micro-batteries. Additionally, the team is active in the development of novel solid-state nanocomposite electrolytes and thin-film coatings for next generation Li-ion batteries. Dr. Vereecken has authored and co-authored over 150 scientific publications and is inventor and co-inventor of more than 40 patent families. Dr. Vereecken has been involved as coordinator, principal investigator and promoter of more than 10 public funded projects over the last 10 years.



Prof. Claire Villevieille is CNRS research director at LEMPI (Grenoble, France). After completing her PhD at the University of Montpellier (2009) she joined the Paul Scherrer Institute in Switzerland, where she was appointed as the leader of the Battery Materials group in 2014. Her research is especially dedicated to study the reaction mechanisms of the battery systems such as Li-ion, Na-ion, Li-S and recently all-solid-state batteries by means of various operando techniques. Her primary interests include solid state synthesis, electrochemical properties, and bulk-surface relationship of the various

electrode materials. She has published more than 95 papers in the field of batteries and participated in more than 10 funded research projects in the battery field.