A NanoBioLab Symposium 2021 Webinar

Prof. Joachim Maier, Max Planck Institute for Solid State Research

NANOIONICS AND ENERGY RESEARCH



Tuesday, March 23, 2021
4:00 - 5:00 pm SGT
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ABSTRACT
Solid State Ionics provides the basis for a deeper understanding of electrochemical energy storage and applications such as batteries and fuel cells[1]. This is due to the fundamental role of ionic and electronic point defects as relevant charge carriers and reactive centers. It is shown how and by which adjusting screws their contributions can be tuned. Of special relevance is the situation at interfaces ("nano-ionics"). Here redistribution phenomena occur that are paramount for the understanding of transport, transfer and storage. The significance of these considerations exceeds the realm of electrochemical applications[2,3]. Their relevance for fields such as heterogeneous catalysis, solid state reactions, semi- and superconductor science has been explored in recent works[4]. As an example of current interest, "photo-perovskites" are addressed[5].

References
1 J. Maier, Angew. Chem. Int. Ed. 52 (2013) 4998
2 J. Maier, Nat. Mat. 4 (2005) 805
3 C.-C. Chen, L. Fu, and J. Maier, Nature 536 (2016) 159
4 F. Baiutti et. al, Nat. Commun. 6 (2015) 8586(1-8)
5 G. Y. Kim, A. Senocrate, T. Y. Yang, G. Gregori, M. Grätzel, and J. Maier, Nat. Mat. 17 (2018) 445

ABOUT THE SPEAKER
Prof. Joachim Maier is Director of the Max Planck Institute for Solid Sate Chemistry, Stuttgart. Born on May 5, 1955 in Neunkirchen (Saar), he studied Chemistry and received a Ph.D. in Physical Chemistry at the Universität des Saarlandes (1982). He completed his Habilitation in Physical Chemistry at the Universität Tübingen (1988). He was a scientist at the Max Planck Institute for Solid State Research (1982-1988), the Max Planck Institute for Metals Research (1988-1991), and was a Visiting Professor at MIT and an external faculty member (1989-1994). Since 1991, Prof. Maier has been the Director of the Max Planck Institute for Solid State Research. He is also Honorary Professor at the Universität Stuttgart (since 1992), Visiting Professor at the Technische Universität Graz (1999), Editor-in-Chief of Solid State Ionics, and President of the International Society for Solid State Ionics (2013-2015). He is a Fellow of Leopoldina – German National Academy of Sciences, Academy of Science and Literature, German Academy of Science and Engineering, Academia Europaea, Royal Society of Chemistry, IUPAC, and The Electrochemical Society. Prof. Maier is also honorary member of the National Institute of Chemistry, Ljubljana. He has been recognized with the Carl Duisberg Prize GDCh), Hackerman Award (Electrochemical Society), Ross Coffin Purdy Award and Edward C. Henry Award (American Ceramic Society), Herbert Johnson Lecturer (Cornell University), Wilhelm Jost Lecturer (Academy of Sciences Göttingen), Richard Willstätter Lecture (GDCh), Seidman Memorial Lecture (Technion), Professorship of the Institute of Chemistry (CAS), Eduard Martin Prize (Universität des Saarlandes), Lecturers` Fellowship (Verband der Chemischen Industrie), and PhD-Fellowship (Verband der Chemischen Industrie). Prof. Maier has published more than 900 publications in refereed journals, with 70,000 citations (h index = 122, Google Scholar), and is a "Highly Cited Researcher" (Thomson Reuters). He has 27 patents, 11 books or conference proceedings, and has presented more than 500 invited talks, many of them plenary or opening lectures. He has also organized 20 international conferences.

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