



European Materials Research Society



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SYMPOSIUM R

**Solid state ionics:
advanced functional materials for solid state devices**

Symposium Organizers :

Albert TARACON, IREC, Barcelona, Spain

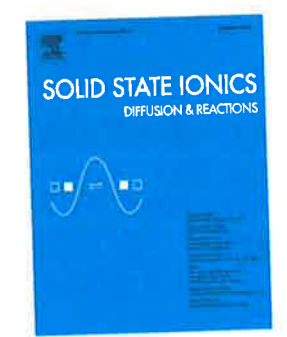
David S. MEBANE, West Virginia University, USA

Mónica BURRIEL, LMGP, CNRS, Grenoble-INP, France

Regina DITTMANN, Forschungszentrum Juelich, Germany

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SURFACE
UHV•PLD•Laser technology - always one step ahead



Interface & Surface Phenomena (II) : Felix Gunkel and Retraut Merkle

- 08:30 INV Chemo-mechanical couplings in constrained dense and porous mixed conductors and at interfaces R 9.1
William C. Chueh
Department of Materials Science & Engineering, Stanford University
- 09:00 The Role of Humidity for Tracer and Electrochemical Oxygen Exchange Kinetics on Mixed Conducting Electrodes R 9.2
Markus Kubicek, Edvinas Navickas, Andreas Nennig, Stefanie Taibl, Herbert Hutter, Jürgen Fleig
Institute of Chemical Technologies and Analytics, TU Wien, Getreidemarkt 9, Vienna, A-1060, Austria
- 09:15 Influence of steam and CO₂ on oxygen transport kinetics and surface chemistry of LSCF R 9.3
Vincent Thoréton(a), Mathew Niania(b), John Druce(a), Tatsumi Ishihara(a), John Kilner(a,b)
(a) WPI-International Institute for Carbon-Neutral Energy Research (I2CNER), Fukuoka, Japan. (b) Department of Materials, Imperial College London, London, UK.
- 09:30 Teaching an old dog new tricks: Hysteretic behavior of the polarization resistance of Pt(O₂)/YSZ model electrodes R 9.4
Alexander Hutterer, Jürgen Fleig, Alexander K. Opitz
TU Wien, Institute of Chemical Technologies and Analytics, Getreidemarkt 9/164-EC, 1060 Vienna, Austria, TU Wien, Institute of Chemical Technologies and Analytics, Getreidemarkt 9/164-EC, 1060 Vienna, Austria, TU Wien, Institute of Chemical Technologies and Analytics, Getreidemarkt 9/164-EC, 1060 Vienna, Austria
- 09:45 Effect of the cathode surface termination on the oxygen reduction reaction rate R 9.5
E. A. Kotomin, Yu. A. Mastrikov, R. Merkle, M. M. Kuklja, J. Maier
Max Planck Institute for Solid State Research, Stuttgart, Germany, Institute for Solid State Physics, University of Latvia, Riga, Mater Sci and Eng Dept, University of Maryland, USA
- 10:00 Coffee Break
- Interface & Surface Phenomena (III) : Markus Kubicek and Mónica Burriel
- 10:20 INV Misfit dislocations in complex oxide epitaxial thin films R 10.1
José Santiso^{1,*}, Núria Bagués^{1,2}, Bryan D. Esser³, Robert E.A. Williams³, Dave W. McComb³, Zorica Konstantinovic⁴, Lluís Balcells², and Felip Sandiumenge²
¹ Catalan Institute of Nanoscience and Nanotechnology (ICN2), CSIC and BIST Campus UAB, Bellaterra, 08193 Barcelona, Catalonia, Spain. ² Institut de Ciència de Materials de Barcelona, ICMAB-CSIC Campus de la UAB, 08193 Bellaterra, Catalonia, Spain. ³ Center for Electron Microscopy and Analysis The Ohio State University, Columbus, USA. ⁴ Center for Solid State Physics and New Materials, Institute of Physics Belgrade, University of Belgrade, Pregrevica 118, 11080 Belgrade, Serbia.
- 10:50 Tailoring mixed-ionic electronic conductivity in PCO/STO heterostructures R 10.2
George F. Harrington(a,b,c,e), Nicola H. Perry(c,e,f), Kazunari Sasaki(a,b), Bilge Yildiz(c,b), and Harry L. Tuller(c,b,e)
(a) Center for Co-Evolutional Social Systems, Kyushu University, 744 Motooka, Nishi-ku, Fukuoka 819-0395, Japan (b) Next-Generation Fuel Cell Research Centre, Kyushu University, 744 Motooka, Nishi-ku Fukuoka 819-0395, Japan (c) Department of Materials Science and Engineering, Massachusetts Institute of Technology, 77 Massachusetts Ave., Cambridge MA 02139, U.S.A. (d) Department of Nuclear Science and Engineering, Massachusetts Institute of Technology, 77 Massachusetts Ave., Cambridge MA 02139, U.S.A. (e) WPI-International Institute for Carbon-Neutral Energy Research, Kyushu University, 744 Motooka, Nishi-ku Fukuoka 819-0395, Japan (f) Department of Materials Science and Engineering, University of Illinois at Urbana-Champaign, 1304 W. Green St., Urbana, IL 61801, U.S.A.
- 11:05 Dynamics of Defect Redistribution at SrTiO₃-based Heterointerfaces: Simulations based on Space-Charge Theory R 10.3
A. F. Zurhelle[1,3], R. Waser[1,2,3], S. Menzel[2,3], F. Gunkel[1,3]
¹ Institute of Electronic Materials (IWE 2), RWTH Aachen University, 52074 Aachen, Germany ² Peter Grünberg Institute 7, Forschungszentrum Jülich GmbH, 52425 Jülich, Germany ³ JARA ? Fundamentals of Future Information Technology