

- F. Gao, D. Chen, H. L. Tuller, C. V. Thompson, and T. Palacios, On the Redox Origin of Surface Trapping in AlGaIn/GaN High Electron Mobility Transistors, *J. Appl. Physics.* 115, 124506-1 - 124506-8 (2014); <http://dx.doi.org/10.1063/1.4869738>
- J.L.M. Rupp, E. Fabbri, D. Marrocchelli, J.-W. Han, D. Chen, E. Traversa, H.L. Tuller, B. Yildiz, *Scalable Oxygen-ion Transport Kinetics in Metal-oxide Films: Impact of Thermally Induced Lattice Compaction in Acceptor Doped Ceria Films*, *Adv. Funct. Mater.*, **24** [11], 1562–1574, (2014) 10.1002/adfm.201302117
- J. Swallow, W. Woodford, Y. Chen, Q. Lu, J.J. Kim, D. Chen, Y.M. Chiang, W.C. Carter, B. Yildiz, H. Tuller, and K. J. Van Vliet, *Chemomechanics of Ionically Conductive Ceramics for Electrical Energy Conversion and Storage*, *J. Electroceram.*, **32**, 3-27 (2014) Special Issue on Electrochemomechanics, 2014. (Article selected for cover). DOI 10.1007/s10832-013-9872-2
- J.J. Kim, S.R. Bishop, N. J. Thompson, D. Chen, and H. L. Tuller, *Investigation of Nonstoichiometry in Oxide Thin Films by Simultaneous In Situ Optical Absorption and Chemical Capacitance Measurements: Pr Doped Ceria - Case Study*, *Chem. Mat.*, **26** [3], 1374-1379 (2014). 10.1021/cm403066p.
- S. R. Bishop, D. Marrocchelli, C. Chatzichristodoulou, M. Mogensen, N. H. Perry, H. L. Tuller, and E. D. Wachsman, *Chemical Expansion: Implications for Electrochemical Energy Storage and Conversion Devices*, *Annual Review of Materials Research*, **44**, 205-239 (2014). Invited review; doi:10.1146/annurev-matsci-070813-113329.
- D. Chen, A. Groß, D. C. Bono, R. Moos, and H. L. Tuller., *Electrical Conductivity Relaxation Measurements: Application of Low Thermal Mass Heater Stick*, *Solid State Ionics*, **262**, 914-917 (2014). DOI: 10.1016/j.ssi.2014.01.023
- M. N. Luckyanova, D. Chen, W. Ma, H. L. Tuller, G. Chen, B. Yildiz, *Thermal Conductivity Control by Oxygen Defect Concentration Modification in Reducible Oxides: The case of Pr_{0.1}Ce_{0.9}O_{2-δ} Thin Films*

, Appl. Phys. Lett.,

104

, 061911-1 - 061911-4 (2014). doi.org/10.1063/1.4865768

- S.-H. Choi, J.-S. Park, R. Demadrille, H. L. Tuller and I.-D. Kim, *Low Voltage Operating Field Effect Transistors with Composite In*

²
O

³
-ZnO-ZnGa

²
O

⁴
Nanofiber Network as Active Channel Layer

, ACS Nano.

8

(3), 2318–232 2014,

DOI:

10.1021/nn405769j.

- Y. Zhang, J. J. Kim, D. Chen, H. L. Tuller, G. C. Rutledge, *Electrospun Polyaniline Fibers as Highly Sensitive Room Temperature Chemiresistive Sensors for Ammonia and Nitrogen Dioxide Gases*

Mater.,

, Adv. Funct.

24 (25)

4005-4014 (2014). DOI: 10.1002/adfm.201400185.

- S. R. Bishop, D. Chen, J. Sheth, S. Mixture, B. Sheldon, J. J. Kim, and H. L. Tuller, *Impact of size scale on electro-chemo-mechanical coupling properties in MIECs: Bulk and thin film (Pr,Ce)O*

²⁻⁸
, ECS Transactions,

61

(1) 31-36 (2014) doi.org/10.1149/06101.0031ecst (Ionic and Mixed Conducting Ceramics 9; M.B. Mogensen, editor.)

- J. Engel, S. R. Bishop, H. L. Tuller, L. Vayssieres, *In-Situ Characterization of Anatase TiO₂ Q-dots*, Adv. Funct. Mater., **24**, 4952-4958 (2014). DOI: 10.1002/adfm.201400203.

- J. Engel, H. L. Tuller, *The Electrical Conductivity of Thin Film Donor Doped Hematite: From Insulator to Semiconductor by Defect Modulation*, Phys. Chem. Chem. Phys.,

16

, 11374-11380 (2014) DOI: 10.1039/c4cp01144a.

- S.-J. Choi, F. Fuchs, R. Demadrille, B. Grévin, B.-H. Jang, S.-J. Lee, J.-H. Lee, H.L.

Tuller, I.-D. Kim, *Fast Responding Exhaled-Breath Sensors Using WO₃ Hemitubes Functionalized by Graphene Based Electronic Sensitizers for Diagnosis of Diseases*, ACS Appl. Mater. Interfaces,

6
(12) 9061-9070 (2014).

DOI:
10.1021/am501394r.

- V. Renugopalakrishnan, B. Barbiellini, C. King, M. Molinari, K. Mochalov, A. Sukhanova, Igor Nabiev, P. Fojan,

H. L. Tuller, M. Chin, P. Somasundaran, E. Padrós, S. Ramakrishna,
[Engineering a Robust Photovoltaic Device with Quantum Dots and Bacteriorhodopsin](#)

J. Phys. Chem. C,
118
[30], 16710-16717 (2014).

DOI:
10.1021/jp502885s

- P. Knauth, J. Engel, S. R. Bishop, H. L. Tuller, *Study of Compaction and Sintering of Nanosized Oxide Powders by In Situ Electrical Measurements and Dilatometry: Nano CeO*

²
– *Case Study*
, J. Electroceram., 2014. Accepted for publication.

- N. Perry, S.R. Bishop, H.L. Tuller, *Tailoring Chemical Expansion by Controlling Charge Localization: In Situ X-ray Diffraction and Dilatometric Study of (La,Sr)(Ga,Ni)O*

^{3-δ}
Perovskite,
Journal of Materials Chemistry A, 2014. Accepted for publication.

- D. Chen, H. L. Tuller, *Voltage Controlled Nonstoichiometry in Oxide Thin Films: Pr_{0.1}Ce_{0.9}O*

^{2-δ}
Case Study,
Adv. Funct. Mater., 2014. Accepted for publication.

- D. Chen, Y. Cao, D. Weng, H. L. Tuller, *Defect and Transport Model of Ceria-zirconia Solid Solutions: Ce_{0.8}Zr_{0.2}O_{2-δ} - an Electrical Conductivity Study*,
Chem. Mater.,

26
(17), 5143–5150 (
2014); **DOI:**
10.1021/cm502565b

- N. H. Perry, D. Pergolesi, S. R. Bishop, and H. L. Tuller, *Defect Chemistry and Surface Oxygen Exchange Kinetics of La-Doped Sr(Ti,Fe)O*

^{3-a}
in Oxygen-Rich Atmospheres,
Solid State Ionics

,
2014.

Available online 1 October 2014

;
<http://dx.doi.org/10.1016/j.ssi.2014.09.013>

- U. Bauer, L. Yao, A. J. Tan, P. Agrawal, S. Emori, H. Tuller, S. van Dijken, and G. Beach, *Magneto-ionic Control of Interfacial Magnetism*, Nature Materials, 2014. Accepted for publication.

- D. Chen, S. R. Bishop, and H. L. Tuller, *Nonstoichiometry in Oxide Films Operating Under Anodic Conditions: A Chemical Capacitance Study of the Praseodymium-Cerium Oxide System*, Chem. Mat., 2014. Accepted for publication.

- W. Ma, J. J. Kim, N. Tsvetkov, Y. Kuru, Z. Cai; Y. Chen, H. L. Tuller; B. Yildiz, *Vertically Aligned Nanocomposite La*

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²
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⁴
Cathodes – Electronic Structure, Surface Chemistry and Oxygen Reduction Kinetics

,
J Mat. Chem. A

, 2014. Accepted for publication.

