

Anand Bhattacharya: List of Publications that used the DCA Oxide MBE system at CNM, Argonne

1. "Spin Seebeck devices using local on-chip heating", SM Wu, FY Fradin, J Hoffman, A Hoffmann, A Bhattacharya, *J. Appl. Phys.* **117**, 17C509 (2015).
2. "Paramagnetic Spin Seebeck Effect", SM Wu, JE Pearson, A Bhattacharya, *Phys. Rev. Lett.* **114**, 186602 (2015).
3. "Spectral Weight Redistribution in  $(\text{LaNiO}_3)_n/(\text{LaMnO}_3)_2$  superlattices from Optical Spectroscopy", P Di Pietro, J Hoffman, A Bhattacharya, S Lupi, A Perucchi, *Phys. Rev. Lett.* **114**, 156801 (2015).
4. "Unambiguous separation of the inverse spin Hall and anomalous Nernst Effects within a ferromagnetic metal using the spin Seebeck effect" SM Wu, J Hoffman, JE Pearson, A Bhattacharya, *Appl. Phys. Lett.* **105**, 092409 (2014) DOI: 10.1063/1.4895034.
5. "Polar cation ordering: A route to introducing > 10% bond strain into layered oxide films", Brittany B. Nelson-Cheeseman, Hua Zhou, Prasanna V. Balachandran, Gilberto Fabbris, Jason Hoffman, Daniel Haskel, James M. Rondinelli, Anand Bhattacharya, *Advanced Functional Materials* **24** (2104) DOI: 10.1002/adfm.201401077
6. "Inductive crystal field control in layered metal oxides with correlated electrons", P. V. Balachandran, A. Cammarata, B. B. Nelson-Cheeseman, A. Bhattacharya and J. M. Rondinelli, *APL Materials* **2**, 076110 (2014).
7. "Dynamic layer rearrangement during growth of layered oxide films by molecular beam epitaxy", June Hyuk Lee, Guangfu Luo, I-Cheng Tung, Seo Chang, Zhenlin Luo, Milind Malshe, Milind Gadre, Anand Bhattacharya, Serge Nakhmanson, Jeffrey Eastman, Hawoong Hong, Julius Jellinek, Dane Morgan, Dillon Fong, and John Freeland, *Nature Materials* (2014). DOI: 10.1038/nmat4039
8. "Correlating interfacial octahedral rotations with magnetism in  $(\text{LaMnO}_{3+\delta})_N/(\text{SrTiO}_3)_N$  superlattices." Zhai, Xiaofang, Long Cheng, Yang Liu, Christian M. Schlepütz, Shuai Dong, Hui Li, Xiaoqiang Zhang, Chu Shengqi, Zheng Lirong, Zhang Jing, Zhao Aidi, Hong Hawoong, Bhattacharya Anand, Eckstein James N., Zeng Changgan, *Nature Communications* **5**, 4283 (2014).
9. "Oxygen-Vacancy-Induced Polar Behavior in  $(\text{LaFeO}_3)_2/(\text{SrFeO}_3)$  Superlattices", Rohan Mishra, Young-Min Kim, Juan Salafranca, Seong Keun Kim, Seo Hyoung Chang, Anand Bhattacharya, Dillon D. Fong, Stephen J. Pennycook, Sokrates T. Pantelides, and Albina Y. Borisevich, *Nano Letters* **14**, 2694-2701 (2014).
10. "Magnetic Oxide Heterostructures", A. Bhattacharya and S.J. May, *Annual Review of Materials Research* **44**: 5.1 – 5.26 (2014).

11. "Charge transfer and interfacial magnetism in  $(\text{LaNiO}_3)_n/(\text{LaMnO}_3)_2$  superlattices", Hoffman, J., Tung, I. C., Nelson-Cheeseman, B., Liu, M., Freeland, J., & Bhattacharya, A. *Phys. Rev B* **88**, 144411 (2013).
12. "Non-volatile ferroelastic switching of the Verwey transition and resistivity of epitaxial  $\text{Fe}_3\text{O}_4/\text{PMN-PT}$  (011)", Ming Liu, J. Hoffman, J. Wang, J. Zhang, B. Nelson-Cheeseman, A. Bhattacharya, *Scientific Reports* **3**, Article No. 1876 (2013) doi:10.1038/srep01876 .
13. "Interface Magnetism in a  $\text{SrMnO}_3/\text{LaMnO}_3$  superlattice", S. Smadici, B. B. Nelson-Cheeseman, A. Bhattacharya, P. A. Abbamonte, *Phy. Rev. B* **86**, 174427 (2012).
14. 'Manganites Multilayers' (Chapter 9), Anand Bhattacharya, Shuai Dong, and Rong Yu, in "Multifunctional Oxide heterostructures", Eds. E. Y. Tsybmal, E. A. Dagotto, C.-B. Eom and R. Ramesh, Oxford University Press (2012).
15. "Structurally induced magnetization in a  $\text{La}_{2/3}\text{Sr}_{4/3}\text{MnO}_4$  superlattice", Amish B. Shah, Brittany B. Nelson-Cheeseman, Ganesh Subramanian, Anand Bhattacharya, and John C. H. Spence, *Phys. Status Solidi A*, 1–6 (2012) / DOI 10.1002/pssa.201127728 .
16. "Delta Doping of Ferromagnetism in Antiferromagnetic Manganite Superlattices", T.S. Santos, B.J. Kirby, S. Kumar, S.J. May, J.A. Borchers, B.B. Maranville, J. Zarestky, S. G. E. te Velthuis, J. van den Brink, and A. Bhattacharya, *Phys. Rev. Lett.* **107**, 167202 (2011).
17. "Ultrathin  $\text{BaTiO}_3$  templates for multiferroic nanostructures", X.M. Chen, S. Yang, J.H. Kim, H.D. Kim, J.S. Kim, G. Rojas, R. Skomski, H.D. Lu, A. Bhattacharya, T. Santos, N. Guisinger, M. Bode, A. Gruverman, A. Enders, *New Journal of Physics* **13**, 083037 (2011).
18. "Control of octahedral rotations in  $\text{LaNiO}_3/\text{SrMnO}_3$  superlattices", S. J. May, C. R. Smith, J. -W. Kim, E. Karapetrova, A. Bhattacharya, P. J. Ryan, *Phys. Rev. B* **83**, 153411 (2011).
19. "Combining Scanning Transmission Electron Microscopy and Electron Diffraction to Understand the Atomic Structures of Oxide Superlattices", Shah, A., Nelson-Cheeseman, B., Bhattacharya, A., Zuo, J. M., & Spence, J. *Microscopy and Microanalysis*, **17**(S2), 1078-1079 (2011).
20. "Cation-ordering Effects in the Single layered Manganite  $\text{La}_{2/3}\text{Sr}_{4/3}\text{MnO}_4$ ", B. B. Nelson-Cheeseman, A. B. Shah, T. S. Santos, S. D. Bader., J.-M. Zuo and A. Bhattacharya, *Appl. Phys. Lett.* **98**, 072505 (2011).
21. "Practical Spatial Resolution of Electron Energy Loss Spectroscopy in Aberration Corrected Scanning Transmission Electron Microscopy", A.B. Shah, Q.M. Ramasse, J.G. Wen, A. Bhattacharya and J.M. Zuo, *Micron* **42**, 539 (2011).
22. "Presence and spatial distribution of interfacial electronic states in  $\text{LaMnO}_3$ - $\text{SrMnO}_3$  superlattices", A. B. Shah, Q. M. Ramasse, S. J. May, J. Kavich, J. G. Wen, X. Zhai, J. N. Eckstein, J. Freeland, A. Bhattacharya and J. M. Zuo, *Phys. Rev. B* **82**, 115112 (2010).

- 23.** "Quantifying octahedral rotations in strained perovskite oxide films", S. J. May, J.-W. Kim, J. M. Rondinelli, E. Karapetrova, N. A. Spaldin, A. Bhattacharya and P.J. Ryan, *Phys. Rev. B* **82**, 014110 (2010).
- 24.** "Probing Interfacial Electronic Structures in Atomic Layer LaMnO<sub>3</sub> and SrTiO<sub>3</sub> Superlattices", Amish B. Shah, Quentin M. Ramasse, Xiaofang Zhai, Jian Guo Wen, Steve J. May, Ivan Petrov, Anand Bhattacharya, Peter Abbamonte, James N. Eckstein, Jian-Min Zuo, *Advanced Materials* **22**, 1156 (2010).
- 25.** "The Atomic Structure of Oxide Superlattices Revealed by Fine Electron Probes." Shah, A., Q. M. Ramasse, S. May, T. Santos, J. G. Wen, X. Zhai, J. Eckstein, A. Bhattacharya, and J. M. Zuo. *Microscopy and Microanalysis* 15, no. S2 (2009): 110-111.
- 26.** "Nanometer-Scale Striped Surface Terminations on Fractured SrTiO<sub>3</sub> Surfaces", Nathan P. Guisinger, Tiffany S. Santos, Jeffrey R. Guest, Te-Yu Chien, Anand Bhattacharya, John W. Freeland and Matthias Bode, *ACS Nano* **3**, 4132 (2009).
- 27.** "Enhanced ordering temperatures in antiferromagnetic manganite superlattices", S. J. May, P. J. Ryan, J. L. Robertson, J.-W. Kim, T. S. Santos, S. G. E. te Velthuis, E. Karapetrova, J. L. Zarestky, J. N. Eckstein, S. D. Bader, and A. Bhattacharya, *Nature Materials* **8**, 892 (2009).
- 28.** "Tuning between the metallic antiferromagnetic and ferromagnetic phases of La<sub>1-x</sub>Sr<sub>x</sub>MnO<sub>3</sub> near x=0.5 by digital synthesis", T. S. Santos, S. J. May, J. L. Robertson and A. Bhattacharya, *Phys. Rev. B* **80**, 155114 (2009).
- 29.** "Onset of metallic behavior in strained (LaNiO<sub>3</sub>)<sub>n</sub>/(SrMnO<sub>3</sub>)<sub>2</sub> superlattices", S. J. May, T. S. Santos and A. Bhattacharya, *Phys. Rev. B* **79**, 115127 (2009).
- 30.** "Substrate orientation dependence of ferromagnetism in (Ga,Mn)As", M. J. Wilson, G. Xiang, B. L. Sheu, P. Schiffer, N. Samarth, S. J. May, and A. Bhattacharya *Applied Physics Letters* **93**, 262502 (2008).