

# Ge Wang

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## Education

- 2012-2017 **PhD in Ceramics**  
School of Materials, University of Manchester, UK.
- 2011-2012 **MSc in Advanced engineering materials**  
School of Materials, University of Manchester, UK.
- 2007-2011 **BSc in Materials Chemistry**  
School of Materials Science and Engineering, Shandong University, China.

## Employment

- 2017-Now **Postdoctoral research associate**  
Department of Materials Science and Engineering, University of Sheffield, UK
- 2016-2017 **Ceramic Engineer**  
Ionix Advanced Technologies, Huddersfield, UK

## Research Summary

- High energy density dielectric ceramics;
- Lead-free ferroelectric and piezoelectric ceramics;
- Ionic conductor;
- Advanced layer fabrication technologies: tape casting, screen printing, dip coating, etc.;
- Devices fabrication: Multilayer ceramic capacitors (MLCCs), multilayer actuators (MAs), Solid oxide fuel cell (SOFCs), battery, glass materials, etc.
- Advanced structural characterization for functional ceramics: High-resolution powder x-ray diffraction, *in-situ* temperature/poling high-energy x-ray diffraction, high-energy x-ray scattering, x-ray computed tomography, etc.

## Recent Publications

1. **G. Wang**, J. Li, X. Zhang, Z. Fan, F. Yang, A. Feteira, D. Zhou, D. C. Sinclair, T. Ma, X. Tan, D. Wang, I. M. Reaney, Ultrahigh energy storage density lead-free multilayers by controlled electrical homogeneity”, *J. Energy Environ. Sci.*, 2019, **12**, 582-588.
2. **G. Wang**, Z. Lu, J. Li, H. Ji, H. Yang, L. Li, S. Sun, A. Feteira, H. Yang, R. Zuo, D. Wang, I. M. Reaney, Lead-free (Ba,Sr)TiO<sub>3</sub>-BiFeO<sub>3</sub> based multilayer ceramic capacitors with high energy density, *J. Eur. Ceram. Soc.*, 2020, **40**, 1779-1783.
3. Z. Sun, Z. Wang, Y. Tian, **G. Wang**, W. Wang, M. Yang, X. Wang, F. Zhang, Y. Pu, *Adv. Electron. Mater.*, 2020, **6**, 1900698.
4. **G. Wang**, Z. Lu, Z. Zhang, A. Feteira, C. C. Tang, D. A. Hall, Electric field-induced irreversible relaxor to ferroelectric phase transformations in Na<sub>0.5</sub>Bi<sub>0.5</sub>TiO<sub>3</sub>-NaNbO<sub>3</sub> ceramics, *J. Am. Ceram. Soc.*, 2020, **102**, 7746-7754.

5. **G. Wang**, Z. Fan, S. Murakami, Z. Lu, D. A. Hall, D. C. Sinclair, A. Feteira, X. Tan, J. L. Jones, A. K. Kleppe, D. Wang, I. M. Reaney, Origin of the large electrostrain in BiFeO<sub>3</sub>-BaTiO<sub>3</sub> based lead-free ceramics, *J. Mater. Chem. A*, 2019, **7**, 21254-21263.
6. D. Wang, **G. Wang**, S. Murakami, Z. Fan, A. Feteira, D. Zhou, S. Sun, Q. Zhao, I. M. Reaney, BiFeO<sub>3</sub>-BaTiO<sub>3</sub>: A new generation of lead-free electroceramics, *J. Adv Dielectr.*, 2018, **8**, 1830004.
7. **G. Wang**, Y. Li, C. A. Murray, C. C. Tang, D. A. Hall, Thermally-induced phase transformations in Na<sub>0.5</sub>Bi<sub>0.5</sub>TiO<sub>3</sub>-KNbO<sub>3</sub> ceramics, *J. Am. Ceram. Soc.*, 2016, 100(7), 3293-3304.
8. **G. Wang**, D. A. Hall, Y. Li, C. A. Murray, C. C. Tang, Structural characterization of the electric field-induced ferroelectric phase in Na<sub>0.5</sub>Bi<sub>0.5</sub>TiO<sub>3</sub>-KNbO<sub>3</sub> ceramics, *J. Eur. Ceram. Soc.*, 2016, 36(16), 4015-4021.
9. **G. Wang**, D. A. Hall, T. P. Comyn, L. Daniel, A. K. Kleppe, Structure and ferroelectric behaviour of Na<sub>0.5</sub>Bi<sub>0.5</sub>TiO<sub>3</sub>-KNbO<sub>3</sub> ceramics, *Adv. Appl Ceram.*, 2016, 115(2), 89-95.

## Attend Conference

- Invited talk, “Bismuth ferrite based high energy density ceramic capacitors” CIMTEC 2020, Montecatini Terme, Italy.
- Oral presentation, “Ultrahigh energy storage density MLCCs by controlled electrical homogeneity” 1-DRAC 2019 meeting, London, UK.
- Oral presentation, “Electric field-induced structural transformation in Na<sub>0.5</sub>Bi<sub>0.5</sub>TiO<sub>3</sub>-based ceramics” ISAF 2018 conference, Hiroshima, Japan.
- Oral presentation, “Bismuth ferrite based high energy density ceramics” 1-DRAC 2018 meeting, Manchester, UK.
- Oral presentation, “BF-BT-based high energy density ceramics” SFM 2018 conference, Weston-super-mare, UK.
- Oral and poster presentation, “Phase switching behaviour in Na<sub>0.5</sub>Bi<sub>0.5</sub>TiO<sub>3</sub>-based ceramics” ISAF 2016 conference, Darmstadt, Germany.
- Oral presentation, “Phase switching behaviour in Na<sub>0.5</sub>Bi<sub>0.5</sub>TiO<sub>3</sub>-based ceramics” Piezo 2015 conference, Maribor, Slovenia.
- Oral presentation, “Phase switching behaviour in Na<sub>0.5</sub>Bi<sub>0.5</sub>TiO<sub>3</sub>-based ceramics” UK Ferroelectric 2015 conference, London, UK.

## Award and honors

- The Deal-Recognition award, University of Sheffield, 2019.
- 2<sup>nd</sup> prize poster competition, University of Manchester, 2013.