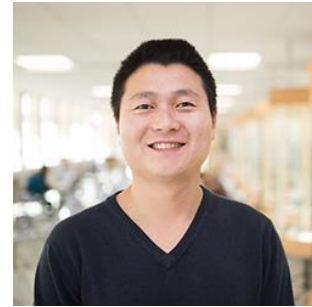


Dr. Dawei Wang

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PERSONAL PROFILE

- **Date of Birth:** 25/10/1984
- **Place of Birth:** Xintai, Shandong, China
- **E-mail/Tel:** dawei.wang@sheffield.ac.uk, +44 (0)7804 610 456

EMPLOYMENT

- 2014.9-present **Research Associate**
Department of Materials Science and Engineering, The University of Sheffield,
(UoS, Prof. Ian M. Reaney), Sheffield, UK
- 2016.4-2016.6 **Visiting Scholar**
Materials Research Institute, Pennsylvania State University,
(PSU, Prof. Susan Trolier-McKinstry), University Park, PA, USA
- 2012.7-2014.8 **Lecturer**
College of Mechanical and Electrical Engineering, North China University of Technology,
(NCUT), Beijing, China

EDUCATION

- 2010.9-2011.9 **Joint PhD Student**
 - Materials Research Institute, Pennsylvania State University,
(PSU, Prof. Shujun Zhang), University Park, State College, PA, USA
- 2007.9-2012.7 **Doctor of Engineering**
 - School of Material Science and Engineering, Beijing Institute of Technology,
(BIT, Prof. Maosheng Cao), Beijing, China
- 2003.9-2007.7 **Bachelor of Engineering**
 - School of Material Science and Engineering, Shandong Institute of Light Industry,
(SDILI), Jinan, China

AWARDS

- 2019-2020 Topic editor/Guest associate editor of *Frontiers in Materials* (IF = 2.689)
- 2019 Guest editor of *Journal of Advanced Dielectrics*
- 2016-2019 Outstanding reviewer of *American Ceramic Society Journals*, *Journal of Alloys and Compounds*, *Materials Research Bulletin*, *Ceramics International*
- 2016 Early career researcher travel awards of IEEE ISAF/ECAPD/PFM Conference,

21-25 August 2016, Darmstadt, Germany

- 2013 Outstanding poster in the 5th Inorganic Non-Metallic Materials Special Workshop on Advanced Functional Ceramic Materials, 1-3 August 2013, Xining, China
- 2012 Outstanding Graduate of Beijing, Outstanding Graduate of BIT, Excellent Doctoral Dissertation of BIT
- 2011 Outstanding Postgraduate Cadre of BIT, BBS Scholarship in BIT
- 2010 National Scholarship Fund, Excellent Postgraduate of BIT
- 2009 Outstanding Postgraduate Cadre of BIT, CASIC Scholarship in BIT, Outstanding Postgraduate Innovation Group of BIT
- 2009-2011 First-Class Doctoral Scholarship in BIT
- 2003-2007 Undergraduate Scholarship in SDILI, Outstanding Student of SDILI, Outstanding Student Cadre of SDILI

RESEARCH ACTIVITIES

My research activities are mainly involved with the synthesis and characterization of innovative energy storage/conversion/harvesting materials, and translation of new materials to prototype devices/components for communication/energy/electronic systems by multiple advanced technologies, including tape casting, hot pressing, screen printing and 3D printing. I propose to explore the relationships of composition-structure-property and develop high-performance materials and devices/components for sustainable, greener and integrated electronic systems as well as microwave dielectric resonators and antennas for 5G communications.

EXPERTISE SUMMARY

- Advanced device fabrication technologies: tape casting, screen printing, 3D printing, etc.;
- Multilayers for capacitors and LTCCs;
- Energy storage materials and capacitors;
- Energy harvesting materials and mechanical devices;
- Ferroelectric/piezoelectric ceramics for sensors and actuators;
- Microwave dielectric materials for resonators and antennas;
- Cold-sintering process;
- Hydrothermal and sol-gel processes.

RECENT PUBLICATIONS (SCI papers: 90+, Total Citations: 1900+, h-index: 28)

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, *Energy & Environmental Science*, 2019, 12: 582-588.

2. 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 BiFeO₃-BaTiO₃ based lead-free ceramics, *Journal of Materials Chemistry A*, 2019, 7: 21254-21263.
3. **D. Wang***, D. Zhou, K. Song, A. Feteira, C.A. Randall, I.M. Reaney,* Cold sintered COG multilayer ceramic capacitors, *Advanced Electronic Materials*, 2019, 5: 1900025.
4. **D. Wang***, Z. Fan, D. Zhou, A. Khesro, S. Murakami, A. Feteira, Q. Zhao, X. Tan, I.M. Reaney,* Bismuth ferrite-based lead free ceramics and multilayers with high recoverable energy density, *Journal of Materials Chemistry A*, 2018, 6: 4133-4144.
5. **D. Wang***, D. Zhou, S. Zhang, Y. Vardaxoglou, W.G. Whittow, D. Cadman, I.M. Reaney,* Cold-Sintered Temperature Stable Na_{0.5}Bi_{0.5}MoO₄-Li₂MoO₄ Microwave Composite Ceramics, *ACS Sustainable Chemistry & Engineering*, 2018, 6: 2438-2444.

GRANTS

- 2019-2020, **PI**, UK EPSRC 2019 SYMETA Programme: Call for Proposals, “Low temperature sintering of microwave ceramics for SYMETA at Jiaotong University, China”, amount £ 5,000.
- 2015-2017, **PI**, National Natural Science Foundation of China (NSFC), Grant No.51402005, China, “Preparation and property control of high-performance lead-free piezoelectric ceramics based on polarization cooperation mechanism”, amount CNY 250,000.
- 2014-2015, **PI**, Beijing Excellent Talents Development Program, Grant No. 401053711406, China, “Composition design and property control of PHT based new piezoelectric system”, amount CNY 30,000.
- 2013-2014, **PI**, “Scientific Research Foundation for Young Teachers in NCUT, China”, amount CNY 20,000.
- 2016-2020, **Researcher**, UK Engineering and Physical Sciences Research Council (EPSRC), EP/N010493/1, “Synthesizing 3D metamaterials for RF, microwave and THz applications”, amount £ 4,012,827.
- 2014-2016, **Researcher**, UK Engineering and Physical Sciences Research Council (EPSRC), EP/L017563/1, “Sustainability and substitution of functional materials and devices”, amount £ 2,466,368.

PATENTS

1. Q. Zhao, G. He, J. Di, J. Yuan, **D. Wang**, L. Qi, a flexible transparent functional device and its preparation method, China Patent No. ZL201510411776.7
2. Z. Jiao, Y. Cui, F. Liu, **D. Wang**, M. Qu, a surface modification preparation method for sheet metal powders, China Patent No. ZL201410331454.7
3. S. Zhang, **D. Wang**, M. Zhang, S. Guo, T. R. Shrout, Pb(Hf,Ti)O₃ based high performance polycrystalline piezoelectric materials, US Patent No. 13/629,205
4. M. Cao, **D. Wang**, J. Yuan, Z. Wang, D. Zhang, Preparation method of the (K,Na)NbO₃ lead-free piezoelectric ceramics, China Patent No. 201010222971.2

5. M. Cao, **D. Wang**, J. Yuan, D. Zhang, ZnO hollow sphere synthesised by evaporation-oxidization method and the preparation technology, China Patent No. 200910180509.8

RECENT PRESENTATIONS

1. 2019 3rd International Conference on Advanced Materials & Process Engineering (AMPE-2019), 11-12 December 2019, Karachi, Pakistan; **D. Wang**, “Bismuth Ferrite-Based Lead-Free Ceramics and Multilayers with Large Strain and Energy Density”. ***Keynote speaker*** ***Session chair***
2. 2019 International Workshop on Advanced Dielectric and Ferroelectric Materials and Devices, 17-20 October 2019, Xi’an, China; **D. Wang**, “Bismuth Ferrite-Based Lead-Free Relaxor Ceramics and Multilayers with High Energy Density”. ***Invited talk***
3. 2019 Eleventh International Conference on High-Performance Ceramics CICC-11, 25-29 May 2019, Kunming, China; **D. Wang**, “Bismuth ferrite-based lead-free ceramics and multilayers with large strain and energy storage density”. ***Invited talk*** ***Symposium organizer***
4. 2019 Electronic Materials and Applications (EMA 2019), 23-25 January, 2019, Orlando, USA; **D. Wang**, “Bismuth ferrite-based lead-free relaxor ceramics and multilayers with large electromechanical strain and recoverable energy density”. ***Invited talk*** ***Session chair***
5. 2018 ISAF-FMA-AMF-AMEC-PFM Joint Conference (IFAAP), 27 May-June 1, 2018, Hiroshima, Japan; **D. Wang**, “Cold-sintered temperature stable $\text{Na}_{0.5}\text{Bi}_{0.5}\text{MoO}_4\text{-Li}_2\text{MoO}_4$ microwave composite ceramics”.
6. 2018 Sustainable Functional Materials conference (SFM2018), 22-23 May, 2018, Weston-super-Mare, UK; **D. Wang**, “Cold-sintered temperature stable $\text{Na}_{0.5}\text{Bi}_{0.5}\text{MoO}_4\text{-Li}_2\text{MoO}_4$ microwave composite ceramics”.
7. 2017 Joint IEEE International Symposium on Applications of Ferroelectrics, International Workshop on Acoustic Transduction Materials and Devices, and Piezoresponse Force Microscopy Workshop (IEEE ISAF-IWATMD-PFM), 7-11 May 2017, Atlanta, USA; **D. Wang**, et al., “Ceramic/polymer microwave composites via the cold sintering process”.
8. 2016 Joint IEEE International Symposium on the Applications of Ferroelectric/European Conference on Application of Polar Dielectrics/Conference Piezoresponse Force Microscopy & Nanoscale Phenomena in Polar Materials (IEEE ISAF/ECAPD/PFM), 21-25 August 2016, Darmstadt, Germany; **D. Wang**, et al., “Composition and temperature dependence of piezoelectricity in KNN-based lead-free ceramics”.
9. 2016 Conference on Sustainable Functional Materials (SFM), 5-6 April 2016, Scarborough, UK; **D. Wang**, et al., “Phase diagram and electrical properties of potassium-sodium niobate lead-free ceramics with morphotropic phase boundary compositions”.