

## Biography

Dr. Chun Zhao received his BEng degree in Control and Instrumentation at Huazhong University of Science and Technology (top 10 university in China), MSc degree in Analog & Digital Integrated Circuit Design at Imperial College London, and PhD degree in micro-electro-mechanical systems (MEMS) at the University of Southampton. From April 2015 to March 2016, Dr. Zhao was a Research Scientist at Sharp Laboratories of Europe, working on MEMS ultrasonic transducers as well as thin-film transistor (TFT) circuits and sensors. Between April 2016 to August 2018, Dr. Zhao worked as a Research Associate in MEMS at the University of Cambridge, on highly sensitive and stable resonant MEMS accelerometers, as well as nonlinear dynamics and modal interactions within MEMS resonators for the next generation of micro-sensors. Between September 2018 to December 2021, Dr. Zhao was affiliated with the School of Physics at Huazhong University of Science and Technology, where his research is focused on high performance MEMS sensors, including but not limited to gravimeters, thermometers and magnetometers.

## Employment History

Feb. 2022 - present      Lecturer in Microengineering, University of York, UK  
Sep. 2018 - Dec. 2021    Associate Professor, Huazhong University of Science and Technology, China  
Apr. 2016 - Aug. 2018    Research Associate in MEMS, University of Cambridge, UK  
Apr. 2015 - Mar. 2016    Research Scientist, Sharp Laboratories of Europe, UK

## Education

Jul. 2011 - Mar. 2015    University of Southampton, UK (PhD)  
Oct. 2009 - Oct. 2010    Imperial College London, UK (MSc)  
Sep. 2005 - Jun. 2009    Huazhong University of Science and Technology, China (BEng)

## Research Interests

### (1) MEMS sensors and devices

**Sensors:** accelerometers, biosensors, gyroscopes, magnetometers, thermometers

**Resonators:** energy coupling, modal interactions, nonlinear dynamics, Q-factor and damping mechanisms

**Energy harvesters:** vibration energy harvesters

**Nano-scale devices:** micro-/nano-fabrication, nano materials, transition-metal dichalcogenides (TMDs)

### (2) Physical phenomenon to improve device performance

Duffing nonlinearity, mode-localisation (Anderson Localisation), optomechanics, parametric excitation/modulation, synchronisation

### (3) Electronics

Analog front-end, ASIC, digital control electronics, FPGA, frequency readout, lock-in amplifier, low-noise electronics, oscillator, phase-locked loop,  $\Sigma$ - $\Delta$  modulation

## More Information

**Homepage:** <https://czhao1987.github.io>

**Google Scholar:** <https://scholar.google.com/citations?user=foRPjLoAAAAJ&hl=en>