## Kaushik Das, Ph.D.

Department of Metallurgical and Materials Engineering

 phone: +919438169526

 kaushik@metal.iiests.ac.in

 <https://www.iiests.ac.in/IIEST/Faculty/metal-kaushik>

Indian Institute of Engineering Science and Technology Shibpur,

P.O. Botanic Gardens, Howrah 711103

West Bengal, India

|  |
| --- |
| EDUCATION |

**McGill University: PhD, Mechanical Engineering**

January 2008 - April 2012, Montreal, Canada

**Indian Institute of Science**: **Master of Engineering, Materials Engineering**

August 2005 – June 2007, Bangalore, India

**Bengal Engineering and Science University (presently IIEST, Shibpur): Bachelor of Engineering, Metallurgy**

August 2001 – July 2005, Shibpur, India

|  |
| --- |
| PROFESSIONAL EXPERIENCE |

**Assistant Professor (on lien)** (May 2019 – present): Indian Institute of Engineering Science and Technology Shibpur

Department of Metallurgical and Materials Engineering

**Assistant Professor** (March 2014 – May 2019)**:** Indian Institute of Technology Bhubaneswar

School of Minerals, Metals and Materials Engineering

**Process Development Engineer** (June 2012 - February 2014): MiQro Innovation Collaborative Centre, Bromont, Canada

**Graduate Research Assistant** ( January 2008 - April 2012): McGill University, Canada

Department of Mechanical Engineering

**Researcher** (August 2007 - December 2007): Tata Steel Limited, Jamshedpur, India

|  |
| --- |
| HONOURS AND AWARDS |

* **Nominated for the best poster award** at Materials Research Society Fall Symposium 2011
* Obtained **scholarship from Ministry of Human Resource Development, India** for graduate studies at Indian Institute of Science(August 2005 - June 2007)
* Ranked amongst the **top 2%**  of all the students who appeared for the Graduate Aptitude Test in Engineering (GATE-2005), in the stream of Metallurgical Engineering**,** with a percentile score of 97.94
* Ranked amongst the **top 3%** of all the students who appeared for the provincial engineering entrance examination (West Bengal Joint Entrance Examination, 2001)
* Obtained **National Scholarship Scheme Merit Certificate** from Education Department, Government of West Bengal, India in 1999 and in 2001.

|  |
| --- |
| JOURNAL PUBLICATIONS: 12 Citations: 94; h-index: 5 |

**1**. "A Mori-Tanaka Based Micromechanical Model for Predicting the Effective Electroelastic Properties of Orthotropic Piezoelectric Composites with Spherical Inclusions", N. Mishra and **K. Das**, Springer Nature Applied Sciences, volume 2, 1206, 2020.

**2.** “Nanomechanical Characterization of SU8/ZnO Nanocomposite Films for Applications in Energy-Harvesting Microsystems”, B. Krishna, A. Chaturvedi, N. Mishra, and **K. Das**, Journal of Micromechanics and Microengineering, volume 28(11), 115013, 2018.

**3.** "Evaluation of Effective Elastic, Piezoelectric, and Dielectric Properties of SU8/ZnO Nanocomposite for Vertically Integrated Nanogenerators Using Finite Element Method", N. Mishra, B. Krishna, R. Singh, and **K. Das**, Journal of Nanomaterials, volume 2017, 1924651, 2017.

**4.** "An Approach for Estimation of Cathode Voltage Drop in an Aluminum Reduction Cell with an Inclined Carbon Block and a Copper Insert", R. Singh, **K. Das**, A. K. Mishra, and N. Kalo, Transactions of the Indian Institute of Metals, volume 70(7), pp. 1795 - 1804, 2017.

**5.** "Production and characterization of a novel carbon nanotube/titanium nitride nanocomposite", C. Baddour, **K. Das**, S. Vengallatore, and J.-L. Meunier, Materials Research Express, volume 3(12), 125023, 2016.

**6.** “Estimating Damping in Microresonators by Measuring Thermomechanical Noise using Laser Doppler Vibrometry”, O. Kuter-Arnebeck, A. Labuda, S. Joshi, **K. Das**, and S.Vengallatore, Journal of Microelectromechanical Systems, volume 23(3), pp. 592 -599, 2014

**7.** “Design, implementation, and application of a microresonator platform for measuring energy dissipation by internal friction in nanowires”, **K. Das**, G. Sosale and S.Vengallatore, Nanotechnology, volume 23, 505703, 2012.

**8.** “Mechanical spectroscopy of nanocrystalline aluminum films: effects of frequency and grain size on internal friction”, G. Sosale, D. Alcemija, **K. Das** and S.Vengallatore, Nanotechnology, volume 23, 155701, 2012.

**9.** “Measuring the elastic properties of freestanding thick films using a nanoindenter-based bending test”, B. Ashrafi,**K. Das**, R. Le Faive, P. Hubert and S. Vengallatore, Experimental Mechanics, volume 52, pp. 371 - 378, 2012.

**10.** “Controlling damping and Q Factors of silicon microcantilevers by selective metallization”, G. Sosale, **K. Das**, L. Fréchette and S. Vengallatore, Journal of Micromechanics and Microengineering, volume 21, 105010, 2011.

**11.** “Interaction stresses in carbon nanotube–polymer nanocomposites”, M. Rahmat, **K. Das**, and P. Hubert, ACS Applied Materials & Interfaces, volume 3 (9), pp. 3425 - 3431, 2011.

**12.** “Nano- and micro-indentation studies on lithium borate - barium bismuth niobate glasses”, **K. Das**, C. Karthik, K.B.R. Varma, and U. Ramamurty, Journal of Non-crystalline Solids, volume 354 , pp. 3793 - 3798, 2008.

|  |
| --- |
| CONFERENCE PROCEEDINGS: 4 |

**1.** “Finite Element Modelling of Pb-free Piezoelectric Micro/Nanocomposites to Predict Effective Elastic, Dielectric and Piezoelectric Properties”, N. Mishra, C. Shah, and **K. Das**, International Conference of Processing and Characterization of Materials, Materials Science Forum, vol. 978, pp. 337–343, 2020.

**2**. "Predicting Elastic Properties of Unidirectional SU8/ZnO Nanocomposites using COMSOL Multiphysics", N. Mishra, and **K. Das**, COMSOL Conference, Bangalore, 2016.

**3.** “Patterning nanomaterials on fragile micromachined structures using electron beam lithography”, **K. Das**, P. Hubert, and S. Vengallatore, Materials Research Society Symposium Proceedings, volume 1299, 2010.

**4.** “Synthesis and characterization of nanocomposite thin films for MEMS applications”, **K. Das**, C. Park, R. Le Faive, P. Hubert, and S. Vengallatore, Materials Research Society Symposium Proceedings, volume 1222, 2009.

|  |
| --- |
| CONFERENCE PRESENTATIONS: 13 |

**1.** 1st Indian Materials Conclave and 30th Annual General Meeting of Materials Research Society of India, 2019, Bangalore, India [Poster]

**2.** 56th National Metallurgists' Day (NMD) and the 72nd Annual Technical Meeting (ATM) 2018, Kolkata, India [Oral]

**3.** 1st International Conference on Processing & Characterization of Materials, 2018, Rourkela, India [Poster]

**4.** 56th National Metallurgists' Day (NMD) and the 72nd Annual Technical Meeting (ATM) 2018, Kolkata, India [Oral]

**5.** 7th National Conference on Processing & Characterization of Materials, 2017, Rourkela, India [Poster]

**6.** 55th National Metallurgists' Day (NMD) and the 71st Annual Technical Meeting (ATM) 2017, Goa, India [Poster]

**7.** 54th National Metallurgists' Day (NMD) and the 70th Annual Technical Meeting (ATM) 2016, Kanpur, India [Oral]

**8.** COMSOL Conference 2016, Bangalore, India [Poster]

**9.** 5th National Conference on Processing & Characterization of Materials, 2015, Rourkela, India [Poster]

**10.** NanoQuebec 2012 Conference, 2012, Montreal, Canada [Poster]

**11.** Materials Research Society Fall Symposium 2011, Boston, USA [Poster]

**12.** Materials Research Society Fall Symposium 2010, Boston, USA [Oral]

**13.** Materials Research Society Fall Symposium 2009, Boston, USA [Poster]

|  |
| --- |
| INVITED LECTURES/PRESENTATIONS: 2 |

**1.** "Prediction of Effective Electroelastic Modulus of SU8/ZnO Nanocomposite by Finite Element Method", 54th National Metallurgists’ Day (NMD) celebration and the 70th Annual Technical Meeting (ATM), IIT Kanpur, India, November 11 – 14, 2016

**2.** "Damping Measurements in Metallic Coatings using a Micro-cantilever Platform", One day workshop on Coating Technologies, CSIR-IMMT, Bhubaneswar, India, 2014

|  |
| --- |
| ACADEMIC ACTIVITIES |

• Reviewer of projects submitted to Department of Science and Technology - Science and Engineering Research Board

• Reviewer of Journal of Non-Crystalline Solids, Elsevier.

• Reviewer of International Conference of MEMS and Sensors, 2014.

• Reviewer of Journal of Metallurgy, Hindawi.

• Guest editor of special issue "Materials for Nuclear and Fossil Energy Applications" in Advances in Materials Science and Engineering, Hindawi.

• Technical reviewer of joint Indo-Canada project submitted under Global Innovation and Technological Alliance (GITA)

|  |
| --- |
| EXTERNAL LINKS |

* Google Scholar citations: <http://scholar.google.ca/citations?user=-2XD054AAAAJ&hl=en>
* LinkedIn: <http://ca.linkedin.com/pub/kaushik-das/30/a21/234>

|  |
| --- |
| OTHER ACTIVITIES |

* Member of Materials Research Society (2009 - present)
* Member of the Minerals, Metals and Materials Society (2012 -present)
* Member of the Indian Institute of Metals (2016 - present)
* Student member of Indian Institute of Metals (2003 - 2007)
* Organized a workshop on application of COMSOL to model microelectromechanical systems (January 2014)