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Assistant Professor of Mechanical Engineering
Department of Physics & Astronomy
University of Nebraska at Kearney
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EDUCATION

Old Dominion University, Norfolk, Virginia, USA

- **Ph.D. in Mechanical and Aerospace Engineering** (August 2015)
 - Dissertation Title: Nano Scale characterization of metals, semiconductors, polymers, biological cells & tissues using Atomic Force Microscopy (AFM)

University of Ulsan, Ulsan, South Korea

- **M.S. in Automotive and Mechanical Engineering** (December 2009)
 - Thesis Title: Effect of pre-mixture condition on HCCI engine and Environmental factor analysis by using primary reference fuel

Chittagong University of Engineering and Technology, Chittagong, Bangladesh

- **B.S. in Mechanical Engineering** (August 2004)
 - Thesis Title: Design of Engine Block the help of Pro-E

EMPLOYMENT HISTORY

- **University of Nebraska-Kearney, Kearney, NE, USA**
 - Assistant Professor (August, 2016 – Present)
- **State University of New York (SUNY), Farmingdale, NY, USA**
 - Assistant Professor (May 2015 – August, 2016)
- **American Nanofluidics, Altamonte Springs Florida, USA**
 - Research Scientist (January 2014 – April 2015)
- **Automotive Parts Innovative Center, Ulsan, South Korea**
 - Engineering Intern (June 2009 - August 2009)
- **Powermann BD Ltd, Dhaka, Bangladesh**
 - Executive Engineer (October 2004 - December 2007)
- **Chittagong Dry Dock Ltd, Chittagong, Bangladesh**
 - Engineering Intern (September 2002 – November 2002)

TEACHING EXPERIENCE

Assistant Professor (May 2015 – August, 2016)

State University of New York (SUNY), Farmingdale, NY, USA

- Combustion Engine Theory, Automotive Electrical Principles, Automotive Computer Applications, Engineering Measurements, Computer Aided Engineering CAE, FEM

Teaching Interest

- Heat Transfer, Fluid Mechanics, Thermodynamics, Strength of Materials, Solid Mechanics, Numerical Methods, Internal Combustion Engine, and Emission

Research Interest

- Microfluidics, Nano Biophysics, Nano scale biomechanics, Nanotechnology, Nano scale heat transfer, Micro & Nanofabrication, CFD & Nano scale materials characterization

PUBLICATIONS [JOURNALS & CONFERENCES]

- **Diganta Dutta**, Anthony Asmar, M. Stacey “Effects of nanosecond pulse electric fields on cellular elasticity” MICRON , Volume 72, May 2015, Pages 15–20
- C. Hughes, **Diganta Dutta**, Yashar Bahirzadeh, Kareem A. Ahmed, Shizhi Qian "A Multi-Phase Based Fluid-Structure-Microfluidic interaction sensor for Aerodynamic Shear Stress " American Physical Society Division of Fluid Dynamics Volume 59, Number 20, 2015
- **Diganta Dutta**, Xavier-Lewis Palmer, M. Stacey, S. Qian “Nanosecond Pulsed Electric Field Induced Changes in Cell Surface Charge Density.” Submitted to Bioelectrochemistry, August, 2015
- M. Stacey , **Diganta Dutta**, W. Cao, A. Asmara, H. Elsayed-Alid, R. Kelly Jr.e, A. Beskok “Atomic Force Microscopy Characterization of Collagen ‘Nanostraws’ in Human Costal Cartilage.” MICRON, Volume 44, January 2013, Page 483–487
- C. Hughes, **Diganta Dutta**, Yashar Bahirzadeh, Kareem A. Ahmed, Shizhi Qian “Measuring Shear Stress with a Microfluidic Sensor to improve Aerodynamic Efficiency” 53rd American Institute of Aeronautics and Astronautics, Aerospace Sciences Meeting, Kissimmee, FL, 5-9 January, 2015.
- **Diganta Dutta**, S. Qian “Surface potential and charge measurements of different materials using in different ionic concentration using ion sensing metal-oxide-electrolyte capacitor.” Will submit to Journal of Energy Storage
- **Diganta Dutta**, M. Stacey, S. Qian “Pulsed and non-pulsed Cancer cells energy mapping.” Will submit to Biophysical Journal
- **Diganta Dutta**, J. Grubbs, Atomic Force Microscopy, An International Scientific Workshop, July 23- 27th, 2012, Norfolk, VA
- Stacey MW, Grubb J, Asmar A, Pryor J, Elsayed-Ali H, Cao W, **Diganta Dutta**, Beskok A, Darby DA, Fecteau A, Werner A, Kelly RE Jr. “Decorin Expression, Straw-like Structure, and Differentiation of Human Costal Cartilage.” Connective Tissue Research, 2012. Vol 53(5), Page 415-421
- Ock Taeck Lim, Dae Ho Kim, **Diganta Dutta**, G.Tsogtjargal, “VVT effect using WAVE on the impact of SI engine performance simulation.” Korean Society of Automotive Engineering, 2008. Vol. 11, Page 3032-3037
- **Diganta Dutta**, Ock Taeck Lim, “Effect of pre-mixture condition on HCCI engine and Environmental factor analysis by using primary reference fuel.” Korean Society of Automotive Engineering annual conference, November 24-26, 2009