

## KARAN SHARMA

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### EDUCATION:

- **University of Pennsylvania**, School of Engineering & Applied Science, Philadelphia, PA  
*Master of Science in Engineering, Mechanical Engineering and Applied Mechanics*, May 2014. GPA: 3.83/4.00  
**Coursework:** Numerical methods and modeling, Project Management, Optimization, Transport Process, Energy Engineering, Thermodynamics, Finite Element Analysis, Mechatronics, Design for Manufacturability
- **Manipal University**, Manipal, India  
*Bachelor of Engineering, Mechanical Engineering*, May 2010. CGPA: 8.67/10

### WORK EXPERIENCE:

- **University of Pennsylvania**, *Research Assistant, School of Arts & Science*, Philadelphia, USA, AY 2013-2014,
  - **Industry: Research and Academia**
  - Southern Ocean deep water formation slowdown over the 21st century and relationship with freshwater fluxes and carbon uptake using FERRET and MATLAB
- **ABB Sp. z o.o.**, *Intern, Corporate Research Center*, Krakow, Poland, June 2013-August 2013
  - **Industry: Energy & automation**
  - Simulating Microencapsulated phase change material slurry using *FLUENT, MATLAB and C*
- **University of Pennsylvania**, *Intern, School of Arts & Science*, Philadelphia, USA, May 2013-June 2013
  - **Industry: Research and Academia**
  - Estimating future global carbon uptake by world ocean and southern sea using *MATLAB*
- **Larsen & Toubro Ltd.**, *Executive SCM(Projects)*, Faridabad, India, August 2010-August 2012
  - **Industry: Energy & Utilities**
  - Negotiated, procured and expedited various items required for the erection of a supercritical boiler
- **Jai Bharat Maruthi (JBM)**, *Intern, Research & Development*, Faridabad, Haryana, India, June 2008-July 2008
  - **Industry: Manufacturing**
  - Designed CNG tank for Maruti Suzuki India Ltd using *AutoCAD*.

### RESEARCH & PROJECTS:

- **Electro-chemical flow Capacitors**, University of Pennsylvania, October 2012 – May 2013
  - Predicting time for electrolyte cluster formation via Diffusion Limited Aggregation
  - Predicting time for electrolyte cluster formation under the influence of magnetic field
- **Design of self-sensing actuator capable of adjusting pad of tilting pad bearing**, Manipal University, January 2010-May 2010
  - Monitored change in the performance of various typed of bearings due to change in fluid film thickness
  - Designed a bearing with piezoelectric pad capable of generating charge when subjected to variation in stress
- **SAE Baja Rochester 2010 Competition**, Manipal University, August 2009-May 2010
  - Designed suspension of the vehicle capable of enduring various loads encountered during the race
  - Obtained sponsorships and managed a budget of USD 25,000 (INR 1.2 million)
- **SAE Baja Wisconsin 2009 Competition**, Manipal University, August 2008-May 2009
  - Designed and manufactured a roll cage
  - Obtained sponsorships and managed a budget of USD 17,000 (INR 0.8 million)

### SKILLS & CERTIFICATIONS:

- **Computer:** ANSYS, AutoCAD, COMSOL, MATLAB, FLUENT, PRO-E, Solid Works, SAP (Production server), Project Management tool (PMT), MS Word, MS PowerPoint, MS Excel, C++, C, Linux, Ferret, Lotus Notes, LINDO
- **Certifications:** German Level 1; ANSYS; Power Plant Familiarization (NTPC Ltd.)

### LEADERSHIP ROLES

- **Director**, 17th Wharton India Economic Forum 2013, Infrastructure Panel
- **Team Captain**, Team Manipal Racing'10, August 2009 – May 2010
- **Roll Cage head and Management Captain**, Team Manipal Racing, August 2008 – May 2009

### EXTRA CURRICULAR ACTIVITIES:

- **Sports-** Member of school & company cricket team, school soccer, volleyball and athletics team
- **Social:** Member of Disha, a social wing of Red-X, Manipal University, August 2006 – May 2010
- **Automobile-** Member of SAE India Club, August 2006 – May 2010