GAJANAN PRABHAKAR CHAUDHARI
Associate Professor, Department of Metallurgical and Materials Engineering, IIT Roorkee

Research Interests: Fine-grained materials using solidification and deformation processing, Aqueous corrosion

EDUCATION

- Ph.D. (Metallurgical and Materials Engineering), *The University of Alabama*, Tuscaloosa, May 2005.
- M. Tech. (Process Metallurgy), *I.I.T. Bombay*, India, 1994.
- Bachelor of Engineering (Metallurgical Engineering), *V.N.I.T. Nagpur*, India, 1991.

AWARDS & ACHIEVEMENTS

1. "Outstanding Teacher Award" for UG teaching, Indian Institute of Technology, Roorkee, 2018.
2. 2nd prize for poster at Structural Integrity Conference & Expo (SICE), Hyderabad, 2018.
3. Selected member of "Alpha Epsilon Lambda", National Graduate & Professional Student Honor Society (USA), for high academic accomplishments and leadership (2004).
4. "Late Dr. M.S. Jakkiwar Memorial Award" for holding first rank in 2nd year of B.E. (Metallurgical Eng.) program at VRCE Nagpur, India (1990)
5. Recipient of Merit Scholarship Awards for holding top ranks twice during the Bachelors degree program in Metallurgical Engineering (1989, 1990)

EXPERIENCE

Period	Designation	Place/Institute/Industry	Courses taught
10/2012 – till date	Associate Professor	IIT Roorkee	UG courses: Corrosion science and technology (Environ. degradation of materials), Materials Science, Mechanical behaviour of materials, PG courses: Electron Microscopy, Corrosion protection methods, Corrosion testing, Characterization of materials **# of Masters students guided: ~ 29** **# of PhDs guided: 10; +3 (ongoing)**
07/2006-10/2012	Assistant Professor	IIT Roorkee	
12/1995-07/2006	Lecturer in Metallurgy	Government Engineering College, Aurangabad	UG level: Physical Metallurgy PG level: Principles of Metal Casting, Welding Engineering
07/94-11/94	Engineer	Foseco India Limited, Nagpur	Conducted trials of FOSECO products at various foundries & steel plants
08/91-07/92	Management Trainee-Technical	Bhilai Steel Plant (SAIL), Bhilai	Manned the operations of blast furnace number 7, in one shift

PROFESSIONAL MEMBERSHIPS

1. The Minerals, Metals, & Materials Society (TMS), 2002-Present
2. Indian Institute of Metals (IIM) – Life Member
3. NACE International, 2017-present

SPONSORED RESEARCH PROJECTS (total amount > Rs. 2 crores)

As PI (4)

1. Bulk ultrafine grained steels using multi-axial forging, Sponsor: IIT Roorkee, 1 lakh (completed, 2007-09)
2. Ultrasonic processing of magnesium alloy melts, Sponsor: DST, 23.5 lakhs (Completed 2009-2012)
3. Ultra refined plain carbon dual phase steels developed using innovative Thermomechanical processing technique, DST-BMWF Joint Research Project, DST-BMWF Austria, 18.0 lakhs (incl. €) (Completed 2011-13).
4. Environment assisted cracking of naval grade aluminium alloys, NRB, DRDO, sanctioned in May 2018, 33.50 lakhs (three years).

As Co-PI (4)

5. Development of thermo-mechanically processed erosion resistant stainless steel for use in hydropower plants, DST, 2011-2014.
6. Development of hybrid processed aluminium alloy matrix composites, CSIR, 15 lakhs, 2013-16.
7. Deformation processing of zirconium alloys, BRNS, 52 lakhs, 2011-14.
8. A feasibility study to process steel foam, NRB, 25 lakhs, 2014-16.

Industrial consulting projects: 5 (Total outlay ~ 30 lakhs)

ACADEMIC PROJECTS

1. Revived ***aqueous corrosion laboratory*** that was defunct
2. Development of learning modules on "***Thermodynamics and Kinetics of Corrosion***", funded by QIP Centre IIT Roorkee (2009-10).
3. Prepared laboratory manual for "***Environmental Degradation of Materials***" course, with support from AICTE (2015-16)
4. Prepared educational charts (five) for "***Environmental Degradation of Materials***" course, with support from AICTE (2015-16).
5. Co-developed a course on "***Materials Science***" under National Mission Project on Education through ICT- Developing suitable pedagogical methods for various classes, intellectual calibers and research in e-learning. (2013-2015).
6. Revived a 25-year old "**slow strain rate test" apparatus**. (present cost of such new equipment is over Rs. 1.2 crore) for stress corrosion testing and corrosion fatigue testing by: overhauling and servicing the load frame, putting together all the accessories, developing necessary software and a low-cost computer interface hardware (using Arduino freeware and high precision ADC) for real time data acquisition and plotting (cost ~ Rs.1500/-, lab staff help).

PUBLICATIONS

Journals : 50

h-index 15 (Scopus); Total citations 532; i10-index 22

Conference Proceedings/presentations: 40

BOOKS EDITED (three)

1. Advances in Materials and Processing: Challenges and Opportunities, Editors: S.R. Meka and G.P. Chaudhari, Material Today Proceedings, Elsevier, 2018.
2. Proceedings of International Conference on "Advances in Materials and Processing-Challenges and Opportunities (*AMPCO 2012*) Eds. B.S.S. Daniel, G.P. Chaudhari, Trans Tech Publications Inc. Switzerland, 2012.
3. Nanomaterials and Devices: Processing and Applications, Eds: S.Ray, S.K.Nath, A. Kumar, R.C. Agarwala, V. Agarwala, G.P. Chaudhari, B.S.S. Daniel, Trans Tech Publications Inc. Switzerland, 2009.

Responsibilities handled

International Level

Reviewer for the Journals - Materials Science and Engineering A, Metallurgical and Materials Transactions A, Ultrasonics Sonochemistry, Materials Letters, Tribology International, Wear, Journal of Alloys and Compounds, Journal of Materials Engineering and Performance, Materials and Design, Transactions of IIM, Current Science etc

National Level

1. ***Convener, GATE Academic Standing Committee 2016-17***
2. ***Vice-Chairman (IITR), GATE 2015***
3. *Member of sectional committee of BIS (Bureau of Indian Standards) 2012 – onwards*

Institute Level

4. *Member, Advisory Committee, Institute Instrumentation Centre*
5. *Member, SRIC Committee*
6. *Member, Advisory Committee, Continuing Education Centre (until 15/3/2017)*
7. *In charge, TEM laboratory, Institute Instrumentation Centre*
8. *Joint faculty in Centre of Nanotechnology*

Department Level

9. *Chairman, DAPC (2012-2014)*

10. *In charge, Thermomechanical Simulation Lab - FIST project (2008-2016)*
11. *In charge, Corrosion laboratory*
12. *In charge, Testing and consultancy*
13. *Addl In charge, TEM Laboratory*
14. *In the past, was In charge of*
    a. *Materials Testing lab*
    b. *SEM lab*
    c. *Materials Processing Lab*
    d. *Building*

ORGANIZATION OF COURSES/ CONFERENCES/ SEMINARS

1. Co-Convener, Gleeble Users Workshop & Conference, IIT Roorkee, Oct. 12-13, 2018.
2. Co-Organizing Secretary, International Conference AMPCO 2012.
3. **Hands-on training program for Mechanical Engineering faculty members on thermo mechanical simulator**, Sponsor: TEQIP, 17/7/2018 to 20/7/2018.
4. Organized "**Hands-on Training cum Workshop on Electron Microscopy"** sponsored by TEQIP, Oct 19-23, 2015.
5. Twice organized AICTE sponsored one-week short-term course on "**Advanced Techniques in Microstructural Characterization**", Dec 26-30, 2011 and 29/5/17 to 2/6/2017.
6. Organized an AICTE sponsored one-week short-term course on "**Advances in Corrosion Testing and Protection**", Feb 18- 22, 2013.
7. Organising Secretary, DST sponsored 2-day National Seminar on "**Applications of Thermomechanical Simulator in Advanced Materials Research**", Feb 04-05, 2011.
8. Treasurer, International conference NADPA-2008.
