**DR GAURAV MANIK**



**ACADEMIC QUALIFICATIONS**

1. **Ph.D in Chemical Engineering**, Indian Institute of Technology Bombay (IITB), India, 2004‑2010.
2. **M.Tech in Chemical Engineering**, Indian Institute of Technology Kanpur (IITK), India, 1998‑2000.
3. **B.Tech in Chemical Engineering**, Harcourt Butler Technological Institute (HBTI) Kanpur, India, 1993‑1997

**RESEARCH INTERESTS**

Process Modeling, Simulation and Control;

Environmental friendly and light weight polymer composites and coatings;

Molecular Modeling and Simulations;

**ACADEMIC TEACHING INTERESTS**

Process Dynamics and Control; Mass Transfer; Chemical Engineering Thermodynamics;

Polymer Properties and Characterization; Modeling and Simulations of Polymers;

Environmental Management and Auditing;

**PROFESSIONAL EXPERIENCES**

1. Visiting Assistant Professor, School of Environment Resource and Development (SERD), Asian Institute of Technology (AIT), Pathumthani, Thailand, January‑April 2016.
2. Assistant Professor, Department of Polymer and Process Engineering, Indian Institute of Technology Roorkee (IITR), January 2013 onwards till date.
3. Deputy General Manager, Classic-Stripes Private Limited, September 2012-December 2012.
4. Senior Manager -Corporate Research Materials Lab, 3M India Ltd., September 2012-December 2012.
5. Manager –New Product Development Group, 3M India Ltd., August 2008-September 2012.
6. Lecturer, Birla Institute of Technology and Science (BITS), Pilani, Sept-2003-Feb 2004.
7. Lecturer, Bundelkhand Institute of Technology and Science (BIET), Jhansi, India, June-2000‑Sept 2003.
8. Engineer T., Indo Gulf Fertilizers and Chemicals Ltd., Jagdishpur, India, July 1997-June 1998.

**ADMINISTRATIVE RESPONSIBILITIES SHARED**

1. Hostel Warden, Malviya Bhavan, Saharanpur Campus of IIT Roorkee, June, 2015 to Jan 2016.
2. Faculty-in-Charge: Games & Sports, Saharanpur Campus of IIT Roorkee, Oct, 2013 to Jan 2016.
3. Faculty-in-Charge: Training & Placement, Saharanpur Campus of IIT Roorkee, July, 2013 to Jan 2016.
4. Member, Institute Academic Program Committee (IAPC), Saharanpur Campus of IIT Roorkee, July, 2013 to Jan 2016.

**THESIS AND PROJECTS SUPERVISION**

**PhD**

PhD Thesis on “Optimization and Control of Multi-Effect Evaporators”, by Om Prakash Verma, at IIT Roorkee (**Status: Ongoing**)

PhD Thesis on “Development of Polyaniline and Carbon Nano-materials filled epoxy conductive adhesives”, by Vinay Khandelwal, at IIT Roorkee (**Status: Ongoing**)

**Masters (M.Tech)**

M.Tech Thesis Titled “Molecular dynamics simulations of PVA based anti-stain and easy-to-clean coatings”, submitted by **Sanjay Krishna**, at IIT Roorkee, June 2015.**(Status: AWARDED)**

M.Tech Thesis Titled “Molecular dynamics simulations of acrylate based pressure sensitive adhesives”, submitted by **Kapil Sharma**, at IIT Roorkee, June 2015. **(Status: AWARDED)**

M.Tech Thesis Titled “Molecular simulations of industrially relevant poly(vinyl acetate) coatings”, submitted by **Yash Singhvi**, at IIT Roorkee, June 2014. **(Status: AWARDED)**

M.Tech Thesis Titled “Strength analysis of 3D printed polymer materials”, submitted by **S. Gowri Shankar**, at IIT Roorkee, June 2014. **(Status: AWARDED)**

M.Tech Thesis Titled “Degradation of Polyvinyl alcohol-Titania based Nanocomposite”, submitted by **Varghese M. Issac**, Department of Polymer Science and Rubber Technology, at Cochin University of Science and Technology, Kochi, Kerela, India, April 2011. **(Status: AWARDED, co-supervision)**

M.Tech Thesis Titled “Rheological behavior of long-chain branched poly(ethylene terephthalate)” under the DAAD-IIT Master Sandwich Program, by **Rajas Shah**, at IIT Roorkee **(Status: ONGOING, co-supervision**).

M.Tech Thesis Titled “Study of elongational viscosity of polyacrylamide”, by **Sandeep Garepally**, in collaboration with TOTAL, Germany, at IIT Roorkee**(Status: ONGOING, co-supervision**)

M.Tech Thesis Titled “Development of functional bio-based polymers based on aromatic biomass” by Joginder Bansal, IIT Roorkee **(Status: ONGOING, co-supervision**)

M.Tech Thesis Titled “Development of Tamper Evident Packaging” by Anshuman Upadhyaya, at IIT Roorkee **(Status: ONGOING**)

**B.Tech Projects (Minor/Major/Others)**

* + - 1. Supervised**a Summer Undergraduate Research Assistantship (SURA) project** on “Synthesis of industrially important pressure sensitive adhesives (PSAs) using naturally sourced raw materials”, Undertaken by Vivek Pandey and Meeta Trivedi, May-July 2013: Funding Amount from SRIC-IIT Roorkee: Rs. 6,000
      2. Supervised**a Summer Undergraduate Research Assistantship (SURA) project** on “Modeling and simulation of properties of polyaniline and CNT based electrically conductive epoxy composites”, Undertaken by Pratik Sanjiv Kasbe (Enrolment: 13121015, IITR) and Nityanshu Kumar (Enrolment: 13121013), May-July, 2015, Funding Amount from SRIC-IIT Roorkee: Rs. 10,000.
      3. Supervised**a Summer Undergraduate Research Assistantship (SURA) project** on“Mechanical and viscoelastic properties of PP, Hollow Glass microspheres and Natural Fillers composites” by Nityanshu Kumar (Enrolment: 13121013), May-July, 2015, Funding Amount from SRIC-IIT Roorkee: Rs. 10,000.
      4. Supervised**major project on** “Designing a plant for production of 1,000 MT per year of Acetylsalicylic (Aspirin) acid” by Mudit Gurnani (11214014), Shashank Rawat (11214025), Sunit Arora (11214027) and Virat Tiwari (11214029), 4th year students of 5 year Integrated Dual Degree course “B.tech Process & MBA”, 2014-2015.
      5. Supervised **major project on** ““Design a plant for a capacity of 10,000 bpd to improve octane-barrel yield of Naphtha (feed) by using isomerization process with enhanced heat integration” by Mr. Siddharth Jindal,Mr. Prashant Gadpale, Mr. Tilak Agarwal and Mr. Dishant Sagar, 4th year students of 5 year Integrated Dual Degree course “B.tech Process & MBA”, 2013-2014.
      6. Supervised **major project on** on“Molecular simulations of self-cleaning coatings of hydrolyzed polyvinyl acetate (PVAc) in perfluorooctane (PFO)” by Ehtisham Shakeel and Devaspati Krishnatri, 4th year students of Polymer Science B.Tech Course, 2015-2016.
      7. Supervised **minor Lab based project** on “Molecular simulations & synthesis of perfluoro based anti-stain easy clean coatings" by Nityanshu Kumar, 2015-2016.
      8. Supervised **minor Lab based project** on “Mechanical and viscoelastic properties of Hybrid composite of PP, HGM and Natural Fillers”, by Shubham Mireja, 2015-2016.
      9. Supervised **minor Lab based project** on “Comparative study on properties of epoxy composite with and without HGM” by Punna Spandana, 2015-2016.
      10. Supervised **minor Lab based project** on “Molecular simulation of lignin based pressure sensitive adhesives” by Prateek Kasbe, 2015-2016.
      11. Supervised **minor project** on “Development of Polyaniline and CNT based Epoxy adhesives” by Prateek Kasbe, 2015-2016.
      12. Supervised **major project** by Abhinav, Monica Saini and Shubham Saurav, 4th year students of B.Tech 5year Process Engineering with MBA course, 2015-2016.
      13. Supervised **minor project** on “Molecular simulations of super-hydrophobic surfaces inspired by nature” by Himanshu Manchanda, Akshay Jassal and Devaspati Krishnatri, 3rd year students of 4year Polymer Science B.Tech Course, 2014-2015.
      14. Supervised **minor project** on “Synthesis of pressure sensitive adhesives from jackfruit sap”, by Ranu Amliyar and Boda Sampath Hela Sharon, 2014-2015.
      15. Supervised **minor project** on “Synthesis and molecular simulations of pressure sensitive adhesives from jackfruit sap”, by Ayush, 2014-2015.

**DETAILS OF EDUCATIONAL PROGRAMS CONDUCTED**

**Courses Conducted (Short Term/Continuing Education/Specialist Courses/Conferences/Workshops)**

1. **Convenor** of **AICTE sponsored QIP Workshop** on “**Molecular Simulation Techniques**”, 21st February, 2015, at Department of Polymer and Process Engineering, IIT Roorkee
2. **Member- Organizing Committee**, **Workshop on Advances in Packaging Technology**, 6-7th October 2015, at Department of Paper Technology, IIT Roorkee
3. **Member- Organizing Committee**, **International Conference on Emerging Materials and Applications (ICEMA)**, 5-6th April 2014, at Department of Paper Technology, IIT Roorkee.
4. **Member- Organizing Committee**, **Workshop on “Clean Technologies for Process Industries”**, 27-28thMarch 2014, at Department of Paper Technology, IIT Roorkee

**PATENTS/PATENT APPLICATIONS**

1. **Gaurav Manik**, Aniket H., Jitendra S. Rathore, Suresh Iyer, “Linerless Sheeting Article”, Application Number PCT/IN2013/000534, Filed Sept 2013.
2. **Gaurav Manik**, Gajendra Rao, Vivek Krishnan, “A security label construction with special switching features”, US 12/872637, Filed August 2010, Published March 2012.
3. **Gaurav Manik**, Ruchi Pandey, Rachita P, G. Satyanarayan, “Coating compositions and multi-layered films for easy-to-clean surfaces”, Local filing No. 5316/CHE/2012, Filed Dec 2012, PCT International Application No. PCT/US2013/073897, Filed on Dec 9, 2013
4. **Gaurav Manik**, Purushotham Adoni, Sujatha Narayan and Dhritisundar B., “A special backlit graphic film for 2 wheelers”, Application Number 2421/CHE/2009, Filed Oct 2009, Published Nov 2010.

**PUBLICATIONS AS BOOK CHAPTERS**

1. Om Prakash Verma, Toufiq. H. Mohammed, Shubham Mangal and **Gaurav Manik**, **“**Mathematical Modeling of Multistage Evaporator System (MSE) in Kraft Recovery Process”, in *Springer’s book onAdvances in Intelligent Systems and Computing,* Edited by.  Pant, M., Deep, K., Bansal, J.C., Nagar, A., Das, K.N.  Proceedings of the Fifth International conference on Soft Computing and Problem Solving (SoCProS-2015), Publication in Feb, 2016 Available Online at <http://www.springer.com/in/book/9789811004476>
2. **Gaurav Manik**, “Protecting Ideas-Intellectual Property Rights”, in the book titled “*Entrepreneurship: Learning and Implementation”*, Published by the Centre for Education Growth and Research (CAGR), April 2015, pp. 402-418.
3. Om Prakash Verma, Sonu Verma and **Gaurav Manik**, “Analysis of Hybrid Temperature Control for Non-linear Continuous Stirred Tank Reactor, in *Springer’s book on Advances in Intelligent Systems and Computing*, Proceedings of the Fourth International Conference on Soft Computing and Problem Solving, K. N Das, 336, DOI 10.1007/978-81-322-2220-0\_9, *Springer*, Published Feb 2015, Available Online at http://www.springer.com/gb/book/9788132222194

**PUBLICATIONS IN PEER REVIEWED JOURNALS**

1. Om Prakash Verma, Toufiq. H. Mohammed, Shubham Mangal and **Gaurav Manik**, **“**Mathematical Modeling of Multistage Evaporator System (MSE) in Kraft Recovery Process”, in Proceedings of the Fifth International conference on Soft Computing and Problem Solving (SoCProS-2015) (held at Saharanpur Campus of IIT Roorkee, Dec-18-20, 2015), Editors. M. Pant et al., 437, *Springer*, DOI 10.1007/978-981-10-0451-3\_87, pp 1011-1042, March 2015.
2. Om Prakash Verma, Sonu Kumar and **Gaurav Manik**, “Analysis of Hybrid Temperature Control for Non-linear Continuous Stirred Tank Reactor”, *Advances in Intelligent Systems and Computing*, in Proceedings of the Fourth International Conference on Soft Computing and Problem Solving, Editors: K. N Das, Springer, Vol. 336, DOI 10.1007/978-81-322-2220-0\_9, 2015.
3. Nityanshu Kumar and **Gaurav Manik,** “Molecular dynamics simulations of polyvinyl acetate-perfluorooctane based anti‑stain coatings”**, Communicated to Polymer,** Jan 2015
4. Om Prakash Verma and **Gaurav Manik,** “Comparative analysis of boiler drum level control using advanced classical approaches”, *International Journal of Engineering Science and Innovative Technology* (IISN No. 2319-5967), Vol. 2, Issue 5, pp. 1125-136, Sept 2013.
5. **Gaurav Manik** and Byravan Arun, “Glass Bubbles in Engineering Polymers: Impact Analysis on Thermal and Mechanical properties”, *Modern Plastics and Polymers*, Vol 2, pp 88-90, Feb 2012.
6. **Gaurav Manik** and Byravan Arun, “Glass Bubbles in Engineering Polymers: High powered impact on performance”, *Modern Plastics and Polymers*, Vol 6, no 10, pp 68-70, 2011.
7. **Gaurav** Manik and Byravan Arun, “Fluropolymer based polymer processing additives: Exploring compatibility with engineering polymers”, *Modern Plastics and Polymers,* Vol 7, No 2, pp 80-84, July 2011.
8. Om Prakash Verma, Surya Kant and **Gaurav Manik**, “Solution of nonlinear multi-objective model of backward feed multiple effect evaporator system using evolutionary approach”, (**Communicated** to International Journal of System Assurance Engineering and Management, Springer (Scopus Journal).
9. Om Prakash Verma, Toufiq. H. Mohammed, Shubham Mangal and **Gaurav Manik**, “Modeling and simulation of heptads' effect evaporator system in Kraft recovery process”, (**Communicated** to Journal of Engineering and Research (SCI Journal)).

**PUBLICATIONS IN CONFERENCE PROCEEDINGS/PAPER PRESENTATIONS**

1. Vivek Pandey, Meeta Trivedi and **Gaurav Manik**, Molecular simulation of “Green” pressure sensitive adhesives, Proceedings of *International Conference on Emerging Materials and Applications*, IIT Roorkee Saharanpur Campus, page 32, April 5-6, 2014.
2. Yash Singhvi, I.V. N. Tejasvini and **Gaurav Manik**, “Molecular simulations of anti-stain polymeric coatings”, *SETCOR International Conference on Smart Materials and Surfaces* (SMS-14), SETCOR, Bangkok, Thailand, 26-28th August 2014.
3. Vivek Pandey, Meeta Trivedi, **Gaurav Manik**, “Synthesis of industrially important pressure sensitive adhesives (PSAs) using naturally sourced raw materials”, presented/published in *Proceedings of CHEMCON-13, 66th Annual Session of Institute of Chemical Engineers*, at UICT, Mumbai, 27th December 2013.
4. YashSinghvi and **Gaurav Manik**, “Molecular simulations of industrially relevant polyvinyl acetate based coatings”, at Asian Polymer Association (APA)-2014, International Conference on Polymers: Vision and Innovations, February 20th, 2014.
5. Om Prakash Verma, Toufiq. H. Mohammed, Shubham Mangal and**Gaurav Manik**, **“**Mathematical Modeling of Multistage Evaporator System (MSE) in Kraft Recovery Process”, in *Springer’s book on Advances in Intelligent Systems and Computing,* Edited by.  Pant, M., Deep, K., Bansal, J.C., Nagar, A., Das, K.N.  Proceedings of the Fifth International conference on Soft Computing and Problem Solving (SoCProS-2015, To be published in Feb, 2016,Available online at <http://www.springer.com/in/book/9789811004476>
6. **Gaurav Manik**, Upendra Natarajan and Hemant Nanavati, “Coarse-grained Molecular Dynamics Simulation of PET/PBT”, presented/ published in *Proceedings* at *2nd International Congress on Computational Mechanics and Simulation (ICCMS-06)* jointly organized by Indian Institute of Technology Guwahati and Indian Association for Computational Mechanics (IndACM) at IIT Guwahati, India during 8-10, December 2006.
7. **Gaurav Manik**, Upendra Natarajan and Hemant Nanavati, “Conformational Analysis of Polybutylene Terepthalate and Polybutlene Isopthalate Chains in Melt and Isolated Conditions”, presented/Published in *Proceedings* at *58th Annual Session of Indian Institute of Chemical Engineers (CHEMCON-2005),* December, 2005, at Indian Institute of Technology Delhi (IITD), Delhi.
8. **Gaurav Manik**, Upendra Natarajan and Hemant Nanavati, “Coarse-grained Molecular Dynamics Simulation of Performance Polyesters and Poly isopthalates”, presented/ published in *Proceedings* at *58th Annual Session of Indian Institute of Chemical Engineers (CHEMCON-2005),* December, 2005, at Indian Institute of Technology Delhi (IITD), Delhi.
9. **Gaurav Manik**, Upendra Natarajan and Hemant Nanavati, “Coarse-grained Molecular Dynamics Simulation of Polycarbonate Systems”, presented/Published in *Proceedings* at *International Conference on Polymers for Advanced Technologies, MACRO-2004*, Thiruvanthapuram, 2004.
10. **Gaurav Manik,** Upendra Natarajan and Hemant Nanavati, “Coarse-grained Molecular Dynamics Simulations and Analysis of Poly (L-lactic acid) (PLLA) Melt”, at the International Conference - *American Physical Society (APS) Annual Meeting, USA* (2008). Abstract selected and published; did not participate.
11. **Gaurav Manik**, Upendra Natarajan and Hemant Nanavati, “Coarse-grained Molecular Dynamics Simulation of Polycarbonate Systems”, presented/Published in *Proceedings* at *58th Annual Session of Indian Institute of Chemical Engineers, CHEMCON-2004*, Delhi, Dec-27-30, 2004.
12. **Gaurav Manik**, B. Mitra and GoutamDeo, “Chemical Characterization of Supported Rhenium Oxide Catalyst Using LPG Oxidation Reaction”, presented/Published in *Proceedings* in National Conference on Catalysis held at Indian Institute of Chemical Technology (IICT), Hyderabad, January, 2000
13. **Gaurav Manik** and Goutam Deo, “Chemical Characterization of Supported Rhenium Oxide Catalysts”, presented/Published in *Proceedings* at *56th Annual Session of Indian Institute of Chemical Engineers (CHEMCON-2003),* 19-22nd December, 2003, at Bhubaneshwar.

**THEME PAPERS/INVITED TALKS/SESSIONS CHAIRED**

1. **Chaired 2 technical sessions** in the International Conference on Soft Computing for Problem Solving (SoCProS-2015), held at IIT Roorkee Saharanpur Campus, December 18-20, 2015.
2. **Delivered Invited Talk in** *Second Symposium on Advances in Sustainable Polymers (ASP)* in Department of Chemical Engineering, IIT Guwahati, January 21-22, 2015.
3. **Delivered a Keynote Lecture in**Induction Program on “Corporate Challenges and Responsibilities in Global Scenario”, during the special session on Corporate Interface, was also honored as Guest of Honor, at IMS Ghaziabad, July 16, 2015.
4. **Theme Paper/Invited Talk in** *First Symposium on Advances in Sustainable Polymers (ASP). Lectures delivered on “Mesoscale simulations of sustainable polymers”, “Sustainable polymers in Coatings and Adhesives Industry”,* Department of Chemical Engineering, IIT Guwahati, January 6-11, 2014.
5. **Invited Talk on** *Corporate Challenges on New Product Development and Environmental Sustainability”*at theICSSR sponsored National Seminar on “Industrial Development in India :Relevance to Global Scenario & Challenges” *at* Sriram College of Management, Muzaffarnagar, March 22, 2014
6. **Invited Talk** on ‘*Importance of IP Protection & Management’* and ‘Product Life Cycle Management’ at Chemical Engineering Department, Nirma University, Ahmedabad, INDIA, March 21-22, 2013
7. **Invited Talk** on ‘*Inspiring and Managing Innovation for the next generation*’ at Symbiosis Institute of Business Management, Bangalore, INDIA, May 2011.
8. **Invited Talk** on ‘*Molecular modelling and Simulation of Polymers’* at IIT Kanpur (2007) and JNCASR, Bangalore, INDIA, January 2006.
9. **Delivered Invited Talk** on “*Technology Management at 3M*” at NIIST-CSIR Lab, Tiruvanthapuram, INDIA (July 2012).
10. **Delivered Invited Talk** on “*New Product Development Cycle*” and “*IP Generation and Protection*” at VIT, Vellore, INDIA, August, 2012.

**CONFERENCES/WORKSHOPS/SEMINARS PARTICIPATION**

* + - 1. A two-day international conferenceon**“**International Forum on Sustainable Future in Asia: Converting Aspirations to Actions”, co-hosted by Asian Institute of Technology, National Institute for Environmental Studies (NIES) Japan, Integrated Research System for Sustainability Science (IRSSS) of the University of Tokyo Japan, and Alliance for Global Sustainability Asia, held at AIT Conference Center, Asian Institute of Technology, Pathumthani, Bangkok, Thailand, January 27‑28, 2016.
      2. Forum on“International perspectives on mobile health”, organized by the Yunus Center of Asian Institute of Technology, at AIT, Thailand, April 4th, 2016.
      3. Complex Fluids Symposium, Organized by National Chemicals Laboratory (NCL) Pune, held at NCL-Pune, Pune, Feb 21-22, 2008.
      4. 2ndInternational Congress on Computational Mechanics and Simulation (ICCMS-06) jointly organized by Indian Institute of Technology Guwahati and Indian Association for Computational Mechanics (IndACM), held at IIT Guwahati, India, December8-10, 2006.
      5. COSMOL Users Conference by Innovative Software Solutions Pvt. Ltd., held at Leela Palace, Bangalore, Nov 17, 2006.
      6. Prabhat Advanced Computer Workshop on Linux Fundamentals and Parallel Programming Fundamentals, at KRESIT, IIT Bombay, August 19-20, 2006.
      7. Winter School on “Computational Approaches to Materials Science-2006 (CAMS-2006)” held at Jawaharlal Nehru Centre for Advanced Scientific Research, January 17-21, 2006.
      8. Biotechnology Symposium, organized by Bioschool Association and Research Scholar’s Forum, at IIT Bombay, December 3-4, 2005.
      9. National Symposium by Chemical Engineering Association (CHEA) of IIT Bombay on “Role of Chemical Engineering in Nanotechnology”, held at IIT Bombay, March 19, 2005.
      10. National Workshop on Advanced Methods for Materials Characterization (NWMC) organized by Materials Research Society of India (MRSI) Mumbai Chapter, held at Bhabha Atomic Research Centre, October 11-15, 2004.
      11. National Symposium on Nanotechnology, organized by Research Scholar’s Forum, held at Industrial Research and Consultancy Centre, IITBombay, October 2-3, 2004.
      12. International Conference on Polymers for Advanced Technologies (MACRO-2004), organized by Society for Polymer Science, held at Thiruvanthapuram, December 2004.

**COURSE SYLLABUS(S)PREPARED(UG/PG)**

Prepared the following syllabus for academic curriculum and schemes of the department-

1. Syllabus of “**Process Instrumentation and Control**”, Subject Code: PE-353, Class: IIIrdYear Process Engineering & MBA.
2. Syllabus of “**Modeling and Simulation of Polymers**”, Subject Code: PEN-302, Program of Polymer Science & Engineering.
3. Syllabus of “**Polymer Processing**”, Subject Code: PE-305, Class: IIIrd Year Polymer Science & Engineering.
4. Syllabus of “**Numerical Methods**”, Subject Code: PEN-414, Class: IVth Year Polymer Science.
5. Syllabus of “**Adhesives and Sealants**”, Subject Code: PEN-426, Class: IVth Year Polymer Science.
6. Syllabus of “**Process Systems Analysis and Control**”, Subject Code: PEN-304, Class: IIIrd Year Polymer Science & Engineering.
7. Syllabus of “**Polymer Testing and Characterization**”, Subject Code: PEN-206, Class: IIIrd Year Polymer Science & Engineering.
8. Syllabus of “**Polymer Rheology**”, Subject Code: PEN-208, Class: IIIrd Year Polymer Science & Engineering.
9. Syllabus of “**Properties of Polymers**”, Subject Code: PEN-202, Program of Polymer Science & Engineering.
10. Syllabus of “**Process Equipment Design**”, Subject Code: PEN-, Program of Polymer Science & Engineering.

**PROFESSIONAL RECOGNITION/AWARD/PRIZE/CERTIFICATE/FELLOWSHIPS RECEIVED**

|  |  |  |  |
| --- | --- | --- | --- |
| **S.No** | **Name of the Award** | **Awarding Agency** | **Year** |
| **1.** | APAC Tech Forum Excellence Award | 3M India  (subsidiary of global 3M, a US based multinational) | 2011 |
| **2.** | First prize (Team) in Product Design Contest during Annual Technical Events | 3M India  (subsidiary of global 3M, a US based multinational) | May-2010. |
| **3.** | Second prize (Team) in Product Design and Product Demo Contest during Annual Technical Events | 3M India  (subsidiary of global 3M, a US based multinational) | August-2011. |
| **4.** | Guest of Honor | Institute of Management Studies, Ghaziabad | 2014 |
| **5.** | In panel of *National Advisory Committee* of UGC funded National Conference on "Green Chemistry " | P.G. Department of Chemistry, Govt P.G.College, Dausa (Raj), INDIA | 18-19 DEC 2014. |
| **6.** | VICAL Award (3rd prize) for Best Paper Presentation during CHEMCON-04 | The Indian Institute of Chemical Engineers (IIChe) IIT Guwahati | Dec-2005. |
| **7.** | First Prize in CHEMCON-04, AND | *57th Annual Session of Indian Institute of Chemical Engineers*, at Grand Hyatt, Mumbai, | Dec-2004. |
| **8.** | First Prize in in CHEMCON-05, | *58th Annual Session of Indian Institute of Chemical Engineers*, at Indian Institute of Technology Delhi (IITD), Delhi | Dec-2005 |
| **9.** | Awarded Teaching Assistantship Scholarships during M.Tech. | MHRD | July 1998-  April 2000 |
| **10.** | Merit Scholarships during B.Tech. | *HBTI Kanpur* | 1995-1996 |
| **11.** | Awarded the B. Tech degree in Chemical Engineering with Honors (Distinction) | *HBTI Kanpur* | 1997 |

**DETAILS OF TECHNICAL REPORTS PREPARED AND SUBMITTED**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **S.No** | **Details** | **Authored By** | **Submitted to** | **Year of Submission/Publication** |
| **1.** | Annual Report on Faculty Initiation Grant (FIG) project titled “Molecular Simulation and Development of Oleophobic-Sacrificial Coatings” | Dr.**Gaurav Manik** | IIT ROORKEE | June, 2015 |
| **2.** | A Summer Undergraduate Research Assistantship (SURA) report on “Synthesis of industrially important pressure sensitive adhesives (PSAs) using naturally sourced raw materials” | Vivek Pandey, Meeta Trivedi and **Gaurav Manik** | IIT ROORKEE | June, 2013 |

**DETAILS OF SPONSORED, CONSULTANCY RESEARCH PROJECTS (Completed/In Progress/Submitted)**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **S.No** | **Project Title (Sponsored Projects)** | **Sponsoring Agency** | **Status** | **Duration** | **Funding Amount**  **(in INR)** |
| **1.** | “Molecular Simulation and Development of Oleophobic-Sacrificial Coatings” | **IIT Roorkee** | **Ongoing** | 3 Years (June 2013-May 2016) | **10 Lakhs** |
| **2.** | “Development of sealants for self-repairing and puncture resistant tires with enhanced time performance and cost effectiveness” | **Industry:**DENIAR Trading India LLP, Mumbai | Project **Proposal accepted** by Industry; Under MoU signing stage | 3 years from date of MoU signing | **29.46 Lakhs** |
| **3.** | Development of Polyaniline Coated Glass Flakes/Glass Fiber and Hollow Glass Microspheres and MWCNT Based Conductive Epoxy Composite | **Science and Engineering Research Board (SERB), New Delhi** | **Submitted** | 3 years | **28.51 Lakhs** |
| **4** | Development of Bio-based resins and composites from Non-edible Plant oil: A greener material for automotive and coating application | **Science and Engineering Research Board (SERB) (DST), India under National Post-Doctoral Fellowship Scheme** | **Approved for execution under my mentorship** | 2 years | **19.20 Lakhs** |
| **4.** | “Self-Cleaning Sacrificial Coatings for Outdoor Applications” | **3M USA** | **Completed** | 2 years | **22.5 Lakhs**  **(33,000USD)** |
| **5.** | “Development of a product & technology platform for issues of cleaning extremely hard-to-clean greasy surfaces through use of multilayer film or coating construction” | **3M USA** | **Completed** | 2 years | **5.5 Lakhs**  **(7500USD)** |