Animangsu Ghatak

a)	Designation	: Professor
b)	Address	: Department of Chemical Engineering, IIT Kanpur
c)	Gender	: M
d)	Category	: Gen
e)	Date of Birth	: 7th January, 1971
f)	Educational Qualifications	: B. Tech., IIT Kharagpur, 1994 M. Tech., IIT Kanpur, 1998 PhD, Lehigh University, PA, 2003 Post Doctoral Research at Cambridge University, UK & Harvard University, USA, 2003-2004
g)	Areas of Specialization	: Mechanics of soft materials Adhesion, friction and fracture at soft interfaces Fracture of soft gels Flow through micro-channels Protein crystallization Bio-inspired design of materials
f)	Experience	: Head, Department of Chemical Engg., IIT Kanpur, 2018-2021 Associate Dean Industrial Collaboration IIT Kanpur, 2016-2018 Professor, Dept. of Chemical Engg. IIT Kanpur, 2014-present Adjunct Professor, Dept. of Biological Sciences and Bioengineering, IIT Kanpur, 2014-present Assoc. Prof., Dept. of Chemical Engg. IIT Kanpur, 2009-2014 Visiting Scientist, Leibniz-Institute for New Materials, Saarbrucken & Max Planck Institute for Polymer Chemistry, Mainz, Germany, 2011-2012 and 2015, June-2015, July; Konstanz University, 2018, June-2018, July Astt. Prof., Dept. of Chemical Engg., IIT Kanpur, 2004-2009

Courses: Chemical Process Industries
Numerical Methods
Chemical Engineering Thermodynamics
Unit Operations Laboratory
Mechanics of Soft Materials
Chemical Reaction Engineering
Mathematical Methods in Chemical Engineering

g) Work Experience : Graduate Engineer Trainee
TATA Chemicals Limited, 1994-1996

Project: Process development for generation of value added products from effluents of Soda Ash Plant

h) Patent:

1. Ghatak, A., Singh, N., Tewary, A. A process for dispersing metallic nanoparticles on a large surface, Indian Patent application number 201811042159. **Granted.**

2. Ghatak, A., Roy, A. C., Viswakarma, R. Microscope system and method, Indian Patent application number 201711034629.

3. Ghatak, A., Roy, A. C., Viswakarma, R. A smartphone based microscope, Indian Patent application number 201711028373.

4. Ghatak, A., Singh, N., Reusable polymeric writing surface or media and process thereof, Indian Patent Application Number 201711015292.

5. Ghatak, A., Roy, A. C., A Fabrication method of Biometric Bi-Convex Optical Lenses, Indian Patent Application Number 201611043743.

6. Ghatak, A., Singh, N., Adhesive surface and its process of fabrication, Indian Patent Application Number: 26/DEL/2015. **Granted.**

7. Ghatak, A., Roy, A. C., Peter. E., An optical lens, lens filter and preparation thereof, 2014. Indian Patent Application Number: 1964/DEL/2014.

8. Ghatak, A., Jesbeer, M., An Adhesive for Drugs, Nutrients and Metabolites Delivery, 2014, Indian Patent Application no. 1386/DEL/2014. **Granted.**

9. Ghatak, A., Roy, A., Methods for fabricating optical lenses, International Patent Application sponsored by Intellect Venture, 2013. Patent Application Number: IN-858062.

10. Ghatak, A., Das, S., Laha, S., A non-contact method for measurement of strain profile at a location, Indian Patent Application Number: 1305/DEL/2013. PCT application no. PCT/IN2014/000283.

11. Ghatak, A., Ghatak, A. S., Process for generation of nano-wrinkled substrate and its applications thereof, Indian Patent Application Number: 816/DEL/2013.

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14. Ghatak, A., Sharma, A., Das, A. L., Mukherjee, R., Katiyer, V., Kulkarni, M., Generation of Submicron to Macroscopic Patterns and Objects by Successive Miniaturization Using Shrinkable Materials. **Granted.**

15. Kumar, A., Sami, H., Srivastava, A., Ghatak, A., Cryotropic hydrogels and their use as filters. International Application No.: PCT/SE2010/050285.

i) Book chapter:

1. "Bio-Inspired Adhesion and Adhesives: Controlling Adhesion by Micro-nano Structuring of Soft Surfaces", Majumder, A., Sharma A. and Ghatak, A. Book Title: Microfluidics and Microfabrication, edited by Suman Chakraborty. Springer 2010.

2. "Biologically inspired adhesives", Ghatak, A. Book Title: Handbook on "Microfluidics Nanofluidics" edited by Sushanta K. Mitra and Suman Chakraborty. CRC Press/Taylor & Francis Group, LLC, 2011.

3. "Mechanics of Peeling of a Flexible Adherent off a thin Layer of Adhesive", Ghatak, A. Book Title: "Mechanics over Micro and Nano Scales" edited by Suman Chakraborty. Springer 2011.

4. "Effect of Asymmetry on Adhesion and Locomotion of Soft-Bodied Objects", Mondal, S. and Ghatak, A. Book Title: "Nanoscale and Microscale Phenomena: Fundamentals and Applications" edited by Yogesh Joshi and Samir Khandekar. Springer 2015.

j) Publication:

1. Ghatak, A, How does a lizard shed its tail? SCIENCE, 2022, Vol 375(6582), pp 721-722.

2. Singh, N., Ghatak, A., Hierarchically Rough Surface used as Rewritable and Reprintable paper, arXiv preprint arXiv:2111.12430.

3. Kuhar, K., Jesbeer, M., Ghatak, A., Soft gel-filled composite adhesive for dry and wet adhesion, *ACS Applied Polymer Materials*. **2021**. Vol 3(8), pp 3755-3765.

4. Rawal, G., Ghatak A. Effect of roughness on the conductivity of vacuum coated flexible paper electrodes, *Nano Select*, **2021**. Vol 1, pp 1-12.

5. Singh, N., Jain, Y., Kishore, K., Ghatak, A. Liquid spreading induced by in-situ

generation of metallic nano-particles, *Langmuir* **2020**, Vol 36(41), pp 12237-12246.

6. Kundan, K. K., Ghatak A. Fingering instability during fracture of a gel block subjected to shear loading, *Physical Review E*, **2020**, Vol 102, pp 013002-1--9.

7. Rajbanshi, P., Ghatak, A., Analysis of mixing in helical micro-channel, *Physical Review Fluids*, **2020**, Vol 5, pp 064502-1—17.

8. Maiti, S. Singh, N., Ghatak, A. Confinement induced alteration of morphologies of oil-water emulsion, *Langmuir* **2019**, Vol 35(10), pp 3797-3804.

9. Kundan, K. K., Laha, S. and Ghatak, A. Vibration assisted puncturing of a soft brittle solid, *Extreme Mechanics Letters* **2019**, Vol 26, pp. 26-34.

10. Rajbanshi, P., Ghatak, A. Flow through triple helical microchannel, *Physical Review Fluids*, **2018**, Vol 3, pp 024201.

11. Kundan, K. K., Ghatak, A. Effect of shape on fracture of soft elastic gel subjected to shear load, *Soft Matter*, **2018**, Vol 14, pp. 1365.

12. Ghatak, A.S., Rawal, G., Ghatak, A. Precipitant-less crystallization of protein molecules induced by incision on substrate, *Crystal*, **2017**, Vol 7, pp 245.

13. Roy, A. C., Yadav, M., Khanna, A. and Ghatak, A., Bi-convex aspheric optical lenses, *Applied Physics Letters*, **2017**, Vol 110(10), 103701.

14. Mohanty, D. P., Rao, L., Das, S. L. and Ghatak, A. Polygonal deformation of a metallic foil subjected to impact by an axisymmetric indenter, *Journal of Adhesion Science and Technology*, **2017**, Vol 31(15), 1647-1657.

15. Sengupta Ghatak, A. and Ghatak, A. Precipitant-less Crystallization of Protein Molecules Induced by High Surface Potential, *Journal of Crystal Growth and Design*, **2016**, Vol 16(9), pp 5323-5329.

16. Roy, A. C., Yadav, M., Arul, E. P., Khanna, A. and Ghatak, A. Generation of aspherical optical lenses via arrested spreading and pinching of a crosslinkable liquid, *Langmuir*, **2016**, Vol 32, pp 5356-5364.

17. Barreau, V., Hensel, R., Guimard, N. K., Ghatak, A., McMeeking, R. M. and Arzt, E., Fibrillar elastomeric micropatterns create tunable adhesion even to rough surfaces, *Advanced Functional Materials* **2016**, Vol 26(26), pp 4687-4694.

18. Mondal, S., Reddy, V., Sarkar, A., Aravindakshan, P. and Ghatak, A., Effect of Surface Modification on Frictional Properties of Polyester fabric. *Tribology International* **2016**, Vol 97, pp 38-48.

19. Mondal, S., Phukan, M. and Ghatak, A., Estimation of solid-liquid interfacial tension using curved surface of a soft solid. *Proceedings of the National Academy of Science*, **2015**, Vol 112(41), pp 12563-12568.

20. Chaudhury, M. K., Chakrabarti, A. and Ghatak, A. Adhesion-induced instabilities and pattern formation in thin films of elastomers and gels. *European Physical Journal E*, **2015**, Vol 38(7), pp 1-26.

21. Mondal, S. and Ghatak, A. Rolling of an elastomeric cylinder: a Marangoni like effect in solid. *Extreme Mechanics Letters*, **2015**, Vol 3, pp 24-35.

22. Das, S., Laha, S. and Ghatak, A. Co-operative effect of closely spaced intruding objects puncturing into a soft solid. *Soft Matter*, **2014**, Vol 10(32), pp 6059-6067.

23. Roy, A. and Ghatak, A. Design of adaptable optofluidic aspherical lens using elasto-capillarity effect, *Advanced Optical Materials* **2014**, Vol 2(9), pp. 874-878. Frontispiece Article.

24. Ghatak, A. Peeling off an adhesive layer with spatially varying topography and shear modulus. *Physical Review E*, **2014**, Vol 89, pp 032407-1--032407-9.

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31. Ganneboyina, S. R. and Ghatak, A. Generation of air-water two phase flow patterns by altering helix angle in triple helical micro-channels, *Industrial and Engineering Chemistry Research*, **2012**, Vol 51 (27), pp. 9356–9364.

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    http://www.rsc.org/chemistryworld/News/2012/March/polymer-cylinder-rolls-uphill.asp

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39. Ghatak, A. S. and Ghatak, A., Controlled crystallization of macro-molecules using patterned substrates in a sandwiched plate geometry. *Industrial and Engineering Chemistry Research*, **2011**, Vol 50(23), pp. 12984-12989.

40. Bhandary, D., Vivek Madnani, V., Mondal, S. and Ghatak, A. Microchannel embedded elastomeric layers for impact damping. *Journal of Adhesion*, **2011**, Vol 87, pp. 531-546.

41. Das, S. and Ghatak, A., Puncturing of soft gels with multi-tip needles. *Journal of Material Science*, **2011**, Vol 46(9), pp. 2895-2904.

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57. Ghatak A., Mahadevan, L., Chung, J. Y., Chaudhury, M. K. and Shenoy, V. Peeling from a biomimetically patterned thin elastic film, *Proceedings of Royal Society, London, Ser. A*. **2004**, Vol. 460, pp. 2725-2735.

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Paper highlighted by Nature Science Update and Nature Physics Update, 2nd December, 2003.
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63. Ghatak A., Khanna, R. and Sharma, A., Dynamics and morphology of holes in dewetting of thin films, *Journal of Colloid and Interface Science*, **1999**, Vol. 212, pp. 483-494.

k) Conference Proceedings/Presentations

1. Ghatak A. Application of Microfluidic Channels in Designing Solid-Liquid Composite Materials, Indo-UK seminar on "Molecular Imprinting: Strategies, Applications and Future Perspectives" during February 05-07, 2014 in Nagpur.

2. Ghatak A. Adhesion, fracture and locomotion of soft materials, IUTAM Symposium on “Transition and Turbulence in Flow through Deformable Tubes and Channels”, Department of Chemical Engineering, Indian Institute of Science, Bangalore, January, 2014.

3. Jesbeer, M., Paretkar, D., Kroner, E., Arzt, E., and Ghatak, A., Design of a Two-Phase Adhesive for Wet and Dry Adhesion, Adhesion Society Meeting, 2013.

4. Mondal, S. Ghatak A. Solvent Powered Rolling of an Elastomeric Cylinder, Adhesion Society Meeting, 2013.

5. Susmita Das, Ghatak, A. Puncturing of Soft Gel using Multi-tip Syringe Needles, Euromat 2011, Montpellier, France.

6. Arul, Ed. P., Ghatak, A., Bio-Inspired Design of Hierarchically Structured Adhesives, Adhesion Society Meeting, 2011.

7. Bhandary, D., Arul, Ed. P., A. Ghatak, A., Sub-surface Fracture of a Thin Metallic Foil under Impact Loading, Adhesion Society Meeting, 2011.

8. Ghatak, A., Role of Sub-surface Micro-Structures on Bio-Inspired Adhesion, Gecko Workshop, Saarbrucken, Germany, 2010.

9. Ghatak, A., Elastic instability and pattern formation in confined soft elastomeric films, American Physical Society Meeting, Pittsburgh, US, 2009.

10. Majumder, A., Ghatak A., Sharma, A. Bio-Inspired Microfluidic Adhesive. Proceedings of the Annual meeting of the Adhesion, 2008.

11. Ghatak A., Verma, M. K. S. and Majumder, A. Template Assisted Fabrication of Complex micro-channels and design of a micro-mixer and a micro-fluidic adhesive. Gordon Research Conference on Physics and Chemistry of Microfluidics, 2007.

12. Ghatak A., Bio-inspired adhesion on patterned elastic film, Conference on Assembly, Organization and Propulsion in Complex Systems, 2007, IIT Madras.

13. Chung, J. Y., Ghatak, A. and Chaudhury, M. K. Adhesive behavior of segmented films. Proceedings of the Annual Meeting of the Adhesion Society, 2006.

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15. Ghatak, A. and Chaudhury, M. K., Adhesion Induced Instability in Thin Solid Film, The Second World Congress on Adhesion and Related Phenomena (WCARP-II) 2002.

16. Berry, D. H., Namkanisorn, A., Ghatak, A. and Chaudhury, M. K., A molecular and kinetic approach to study glassy polymer-metal adhesion. Proceedings of the Annual Meeting of the Adhesion Society (2002), 25th 248-251.

17. Ghatak, A. and Chaudhury, M. K., Meniscus Instability in Thin Elastic Film, 75th ACS conference on Colloid and Surface Sciences, 2001.

18. Chaudhury, M. K., Ghatak, A., Shenoy, V. and Sharma, A., Meniscus instability in thin elastic films. Proceedings of the Annual Meeting of the Adhesion Society (2001), 24th 283-286.

l) Invited Talks

1. Faculty Development Program (FDP) entitled **"***Microfluidics, soft matter and their applications*" from 6th September 2021 to 10th September 2021. Department of Chemical Engineering, National Institute of Technology Calicut, Kerala

2. Ghatak A. Effect of Confinement on the Alteration of Morphologies of Oil-water Emulsion, COMFLU 2020.

3. Ghatak A., Fracture of soft materials with a sharp object: towards design of a painless syringe needle, International conference on material-based therapeutic engineering and regenerative medicine. IIT Kanpur 2019.

4. Ghatak A., Adhesion and fracture of soft mterials. Indian Institute of Chemical Engineers - Kharagpur Regional Centre and Department of Chemical Engineering, IIT Kharagpur.

5. Ghatak A., Adhesion and fracture of soft mterials. Professor C. N. R. Rao Endowed lecture, IIT Kanpur 2019.

6. Ghatak A., Adhesion and fracture of soft mterials. C. V. Sheshadri memorial distinguished lecture, IIT Bombay 2018.

7. Ghatak A., Estimation of solid-liquid interfacial tension. Distinguished speaker, Chemcon 2015.

8. Ghatak A. & Singh, N. K., Bio-inspired adhesion and locomotion, RSC (UK) - IIT Kanpur Symposium, 2015.

9. Ghatak A., Estimation of solid-liquid interfacial tension. Research Scholars Day, Department of Chemical Engineering, IIT Kanpur, 2015.

10. Ghatak A. Manipulating liquid-solid interactions to generate bio-inspired adhesion and locomotion in soft materials, 8th India Singapore Symposium in Condensed Matter Physics, 2015.

11. Ghatak A. Bio-inspired Adhesion and Locomotion of Soft Materials, Indo-British Frontiers of Science (FOS) Symposium, 2014.

12. Ghatak A. Bio-inspired Adhesion and Locomotion of Soft Objects, Delhi University, Physics Department, March 2014.

13. Ghatak A. Adhesion, fracture and locomotion of soft materials, JNCASR, October 2013.

14. Ghatak A. Adhesion, fracture and locomotion of soft materials, Guest speaker, Research Scholars Day, IIT Kharagpur, June 2013.

15. Ghatak A. Fabrication and Application of Three Dimensional Micro-Structure Embedded in Soft Gels, Workshop on micro & nano fabrication, IIT Kanpur, February 2013.

16. Ghatak A. Adhesion, fracture and locomotion of soft materials, Department of Chemical Engineering, Indian Institute of Science, Bangalore, October 2012.

17. Ghatak, A. and Das, S. Easy Puncturing of Soft Gels with Multi-tip Needles, Nano-indentation conference, Leibnitz Institute for New Materials, Saarbrucken, Germany, March 2012.

18. Ghatak A. Adaptive adhesion via subsurface network of fluid-filled micro-channel, Gordon Research Conference on Adhesion Science, USA, July 2011.

19. Ghatak A. Two stories on fracture and adhesion with soft gels, School of Engineering and Applied Sciences, Harvard University, July 2011.

20. Ghatak, A., Sub-Surface Fracture of Soft gels and Thin Metallic Foil, Department of Mechanical Engineering, IIT Kanpur, October 2010.

21. Ghatak, A., Role of Sub-surface Micro-Structures on Bio-Inspired Adhesion, Gecko Workshop, Leibniz Institute of New Materials, Saarbrücken, July 2010.

22. Ghatak A., Probing interfacial adhesion on smooth and patterned layer of adhesive, Max-Planck-Institut für Polymerforschung, Mainz, March 2010.

23. Ghatak A., Adaptive Adhesion via Sub-surface Network of Fluid Filled microchannels, Leibniz Institute of New Materials, Saarbrücken, March 2010.

24. Ghatak A., Adhesion enhancement via physical patterning of surfaces. TATA Iron and Steel Co., Jamshedpur, February 2009.

25. Ghatak A., 3-dimensionally Oriented Multihelical Channels for Microfluidic Mixing, Indo-German Workshop on Micro-reaction Technology, Pune, March 2009.

26. Ghatak A., Biomimetic Engineering: Applying Nature's Solutions to Human problems, SURGE program, Indian Institute of Technology, 2008.

27. Ghatak, A., Bio-inspired Microfluidic Adhesion. Department of Physics, Indian Institute of Technology, 2008.

28. Ghatak, A., Bio-inspired Microfluidic Adhesion. Department of Chemical Engineering, Cornell University, USA, 2008.

29. Ghatak, A., Bio-inspired Microfluidic Adhesion. Department of Chemical Engineering, University of Akron, USA, 2008.

30. Ghatak, A., Template Assisted Generation of Complex 3D Microchannels for Fabricating Microfluidic Devices, Department of Mechanical Engineering, University of Alberta, Canada, 2008.

31. Ghatak, A., Template Assisted Generation of Complex 3D Microchannels for Fabricating Microfluidic Devices, Indo-US Frontiers of Engineering Symposium, Irvine, USA, 2008.

32. Ghatak, A., "Symposium on complex fluids" at National Chemical Laboratory, Pune, 2008.

33. Ghatak, A., Adhesion Induced Instability of a Thin Elastic Film: Effect of Confinement. National Chemical Laboratory, Pune, 2008.

34. Ghatak, A., Textured Functional Materials. "IITK REACH Symposium 2007" held at Hotel Timber Trail Heights, Timber Trail, 2007.

35. Ghatak, A., Peeling from a Smooth and a Patterned Layer of Elastic Adhesive. "Symposium on complex fluids" at National Chemical Laboratory, Pune, 2005.

36. Ghatak, A., Chaudhury, M. K., Adhesion induced instability in thin elastic film and the problem of crack initiation. Department of Chemical Engineering, Indian Institute of Technology, Kanpur, 2003.

37. Ghatak, A. and Mahadevan, L., Cycloidal wake of a cylinder ripping through a thin solid sheet, Oxfam meet on mathematical sciences, Oxford University, 2003.

38. Ghatak, A., Chaudhury, M. K., Instability in Thin Films. Center for Polymer Science and Engineering seminar series, Lehigh University, 2002.

39. Ghatak, A., Chaudhury, M. K., Instability in Thin Films. Chemical Engineering Colloquium, Department of Chemical Engineering, Lehigh University, 2001.

m) Academic Activities:

Editor of
Transactions of Indian National Academy of Engineering

Reviewer of
SCIENCE, Phys. Rev. Lett., Langmuir, ACS Appl. Mater. & Interf., Phys. Rev. E, Eur. Phys. J. E, J. Appl. Polym. Sci., J. Coll. and Surf. A, J. Adhes., J. Adhes., Sci. Tech., Comp. Mater. Sci., Physica D, Sens. and Act. B., Soft Matter, Tribology Letter, RSC Advances, Journal of Mechanic and Physics of Solids, Tribology International, Royal Society Interface.

Guest editor of special issue on "**Bio-inspired Adhesion**", **Journal of Adhesion Science and Technology.**

n) PhD Students Advised

Dr. Abhijit Majumder, co-advised with Professor Ashutosh Sharma
Thesis Title: Microfluidic Adhesion Induced by Subsurface Micro-Structures
Post Doctoral Fellow at **Institute for Stem Cell Biology and Regenerative Medicine**, Bangalore, India 2010-2014
Associate Professor at Department of Chemical Engineering, **IIT Bombay**

Dr. Edward Peter Arul
Thesis Title: Design of an Adhesive Embedded with Hierarchically Structured Sub-surface Features
DST Inspire Faculty, Electro-hydrometallurgy division, 2013-present
Central Electrochemical Research Institute, Karaikudi, India.

Dr. Sambasiva Rao Ganneboyina
Thesis Title: Experimental investigation of two phase flow of fluid through Multi-helical Microchannels
Senior Scientist in Hydro - Electrometallurgy Department, Institute of Minerals and Materials Technology, Bhubaneswar, India.

Dr. Susmita Das

Thesis Title: Fracture of soft gel with hypodermic needle
Assistant Professor, Department of Chemical Engineering, NIT Calicut

Dr. Subrata Mondal
Thesis: Adhesion and locomotion of soft bodied objects
Scientist, Atotech Group

Dr. Abhijit Chandra Roy
Thesis: Soft optical lenses: fabrication and application
INSPIRE Fellow, Indian Institute of Science, Bangalore.

Dr. Krishnakant Kundan
Thesis: Fracture of soft brittle gels
Process Technologist, Aditya Birla Group.

Pravat Rajvanshi
Thesis: Flow through multihelical microchannels.
Degree awarded posthumously

Nitish Singh
Thesis: Bio-inspired design of nano-patterned adhesives
Continuing

Gaurav Rawal
Thesis: Flexible pressure sensors
Continuing

Kuldeep Kuher
Thesis: Double Network gel for design of adhesive
Continuing

Tanima Bhowmik
Thesis: Starch-PDMS two-phase material for adhesion applications
Continuing

Aditya Singh
Thesis: Spinjet electrospinning machine for continuous fabrication of non-woven nano-fiber mat
Continuing

o) Projects sponsored by

Indian Institute of Technology, Kanpur

Department of Science and Technology

Council for Scientific and Industrial Research

Indian Council of Medical Research

Unilever Industries Private Limited

Portescap India Private Limited

Maruti Suzuki

p) Awards and Honors:

1. SERB - Science and Technology Award for Research (SERB-STAR), 2020.
2. C. V. Seshadri Chair Professor, IIT Kanpur, 2019-2022.
3. Fellow of Indian National Academy of Engineering, 2018.
4. C. N. R. Rao Faculty Award, IIT Kanpur 2016.
5. DOST Professor S. K. Sharma Medal and Chemcon Distinguished Speaker Award, 2015.
6. Gireesh Jankinath Chair Professorship, 2014-2017.
7. Humboldt Research Fellowship for Experienced Researchers, 2011-2012 & 2015, May-2015, June
8. Invited to speak in Gordon Research Conference, Adhesion Science of, 2011.
9. Mr. and Mrs. Gian Singh Bindra Research Fellowship, 2009-2012.
10. Diamond Jubilee Young Achiever's Award of the Indian Institution of Chemical Engineering, 2007.
11. REACH 2007 Symposium Research Award of the Indian Institution of Technology, Kanpur
12. Young Engineer Award of the Indian National Academy of Engineering, 2006.
13. Alan Gent Best Student Paper Award in Second world Congress on Adhesion and related Phenomena, 2002.
14. Peebles Travel Grant Award for attending Second world Congress on Adhesion and related Phenomena, 2002.
15. Leonard A. Wenzel award for best presentation in Qualifying/General examination, Department of Chemical Engineering, Lehigh University, 1999.
16. Byllesby Fellowship from the Department of Chemical Engineering, Lehigh University, 1998.

q) Student Achievement:

Dr. Abhijit Chandra Roy: **INAE-Innovative Student Projects Award** – 2018, Doctoral Level, conferred on me by **The Indian National Academy of Engineering (INAE), India**

BIRAC-SRISTI GYTI Award-2016, for making a "Table Top Digital Microscope" for detection of various diseases. The award assessment was conducted by the body of **Gandhian Young Technological Innovation Award.**

1st position in in the poster presentation event Research Convention, **Techkriti-2015**, IIT Kanpur.

Dr. Subrata Mondal: **Peebles Travel Grant Award** for attending Adhesion Society meeting, 2014.

Mr. Muhamed Jesbeer: **Peebles Travel Grant Award** for attending Adhesion Society meeting, 2013.

Dr. Edward Peter Arul: **Peebles Travel Grant Award** for attending Adhesion Society meeting, 2010.
Recipient of **DST Inspire Fellowship**, 2013

Dr. Abhijit Majumder: **Peebles Travel Grant Award** for attending Adhesion Society meeting & Runners up for Alan Gent Best Student Paper Award, 2008
Winner of the **India Technology Review 35**, 2012

r) Highlights:

Research highlighted by **Nature News, Nature Physics, Press release of Science, Press release of Royal Society of Chemistry, Chemistry World, Chemical & Engineering News**

Research highlighted by **Alumni News Bulletin of Lehigh University, PA, USA**

Published papers in top international journals: **Science, Proceedings of the National Academy of Science, Advanced Materials, Advanced Functional Materials, Physical Review Letters, Proceedings of Royal Society, Journal of Royal Society Interface, Langmuir, Crystal Growth and Design, Soft Matter, Electrochmica Acta and others**

Created a state of the art laboratory at IIT Kanpur for research on Soft Materials

Invited to lecture in top institutions and universities in India, United States, Canada and Germany

Invited as a speaker at the **Gordon Research Conference** on **Adhesion Science**

s) Administrative Achievements:

1. Associate Dean of Industrial Collaboration (ADIC)

    a. Acted as a representative from R&D in deciding terms and conditions of technology transfer in Industry-Academia collaborative projects
    b. Created a web search page for availability of expertise in faculty members of the institute
    c. Created a web search page for industry-oriented courses that faculty members wish to offer
    d. Generated a list of Corporate Social Responsibility (CSR) projects being sought by faculty members of the institute
    e. Successfully executed a project from Maruti Suzuki Udyog Limited (MSIL) as a co-PI; coordinated with several faculty members from various departments and representatives from MSIL.
    f. Oversaw proposal submission and execution of UAY projects

2. Head of the Department of Chemical Engineering

    a. Gave academic and administrative leadership to the department
    b. Oversaw completing of a FIST proposal and successful submission and granting of another one
    c. Oversaw recruitment of four faculty members in the department
    d. Started and edited a NEWSLETTER for the department
    e. Worked with the institute to secure @ 4700 sq ft laboratory space in a newly built building for the department

3. Convener, Department Post Graduate Committee

    a. Headed a sub-committee on improvement of PhD program at IIT Kanpur. Prepared an extensive report and gave necessary recommendations