

# Dr. Santanu Chattopadhyay

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## Academic Qualification

	Degree	Year	Subject	University/Institution	% of Marks/CGPA
1	Master of Science	1995	Chemistry	Indian Institute of Technology, Kharagpur, India.	8.2/10
2	Master of Technology	1997	Materials Science and Engineering	Indian Institute of Technology, Mumbai, India.	9.4/10
3	Doctor of Philosophy	2001	Rubber Technology	Indian Institute of Technology, Kharagpur, India.	--

## Ph.D. thesis title, Guide's Name, Institute/Organization/University, Year of ward

**Thesis Title:** "Development and Properties of Electron Beam Modified Thermoplastic Elastomeric Polyolefin Blends",

Professor Anil Kumar Bhowmick & Professor Tapan Kumar Chaki, Rubber Technology Centre, Indian Institute of Technology Kharagpur, 2001.

## Work experience (in chronological order)

S. No.	Positions Held	Name of the Institute	From	To
1	Visiting Faculty	Rubber Technology Centre, Indian Institute of Technology Kharagpur, Kharagpur, WB, India	Dec 2004	7th Mar 2007
2	Asst. Professor	Rubber Technology Centre, Indian Institute of Technology Kharagpur, Kharagpur, WB, India	2007	2011
3	Associate Professor	Rubber Technology Centre, Indian Institute of Technology Kharagpur, Kharagpur, WB, India	2011	26 <sup>th</sup> Feb 2018
4	Professor	Rubber Technology Centre, Indian Institute of Technology Kharagpur, Kharagpur, WB, India	26 <sup>th</sup> Feb 2018	Till date
5.	Head of the Centre	Rubber Technology Centre, Indian Institute of Technology Kharagpur, Kharagpur, WB, India	1 <sup>st</sup> Oct 2019	30 <sup>th</sup> Sep 2022
6.	Associate Dean, Students' Affairs	Indian Institute of Technology Kharagpur, Kharagpur, WB, India	1 <sup>st</sup> Jan, 2023	On-going

## Professional Recognition/ Award/ Prize/ Certificate, Fellowship received

S.No	Name of Award	Awarding Agency	Year
1	Post Doctoral Fellow	The University of Western Ontario, London, Ontario, Canada	2001-2002
2	Post Doctoral Research Associate	Georgia Institute of Technology, Atlanta, GA, USA.	2002-2004

## Current Research Interests

- Polymer-based nanocomposites, Rubber compounding and modification.
- Viscoelastic behaviour of rubbers and polymer blends.
- Smart rubber composites.
- Biomaterials, Natural and synthetic polymers (TPU and block copolymers) for health care and energy harvesting.
- Extrusion die design by CFD, FEA of rubbery/textile material, and Fracture of elastomeric composites.

## Specialization Subjects

- Science & Technology of rubber and rubber-like materials.
- Engineering Design with Rubber.
- Rubber process engineering.
- Lifetime prediction of rubber.
- Physical testing of rubber.
- Rubber compounding & reinforcement.
- Synthesis and characterization of block copolymers by controlled polymerization.
- Characterization of Rubber, and Composite materials.

## Technical Experiences

Compression Molding, Dynamic Mechanical Analyzer (2980, TA Instruments), X-Ray Diffraction (PW- 1840, X-ray diffractometer), FESEM (Philips XL30 S FEG, Netherland), Scanning Probe Microscope (XE-100(PSIA), Monsanto Rheometer (Monsanto Rheometer R-100), Differential Scanning Calorimeter (NETZSCH DSC 200 PC, Germany), Thermo Gravimetric Analyzer (TG Analyzer, NETZSCH, TG 209, F1, Germany), Tensile Testing Machine (Hounsfield H10KS), Mixing Mill (6"×12" and 14"×36"), Extruder (hot feed 8" rubber extruder and twin screw extruder), Rubber Process Analyzer (RPA), Gel permeation chromatography (GPC), Atomic force microscopy (AFM), Capillary Rheometer, Flexometer, DIN abrader and Du-Pont abrader for rubber wear measurement.

## Number of Ph. D/ M. Tech students guided / Ongoing

- **Ph.D. completed:** 28,
- **Ongoing:** 14 +1 (External registration, Calcutta university)
- **M.Tech:** 50+ (Ongoing-2)

## Membership of Professional Bodies

1. Member: Materials Manufacturing Ontario (Ontario, Canada).
2. Life: Society for Polymer Science, India.
3. Member (membership no. 93241963): IEEE Engineering in Medicine and Biology (IEEE EMB).
4. Editorial board member: Journal of Advanced Biotechnology and Bioengineering.
5. BoS member of CUSAT, Kerela and Midnapore college, WB.
6. Member of the R&D committee of The Rubber Board, India.

## Honors and Awards

1. Editorial Board member of Journal of advanced biotechnology and bioengineering February 2018-December 2021

2. Appointed as the Board of members of NRC Kolkata, Oct 2018
3. RULA AWARDS for International Innovation and betterment and excellence award in technical research as "Outstanding Young Scientist in Bio-materials", 12 Nov 2018.
4. Best Paper Award on "Simulation of Extrusion Dies for Rubber Profiles" at 23rd rubber conference 2018 by IRMRA, Mumbai.
5. International Rubber Expo (IRE) 2021 organizing committee member.
6. APM 2022 organizing committee member.
7. International Rubber Conference (IRC) 2022 organizing committee member.
8. APM 2023 organizing committee member.

## Journal reviewer/reviewing

1. Reviewer: Rubber Chemistry and Technology
2. Reviewer: Biomacromolecules
3. Reviewer: Acta Biomaterialia
4. Reviewer: Polymer
5. Reviewer: Journal of Applied Polymer Science
6. Reviewer: Polymer Composites
7. Reviewer: J. Materials Science
8. Reviewer: Polymer International
9. Reviewer: Polymer Engineering & Science
10. Reviewer: Polymers for Advanced Technologies
11. Reviewer: Composites: Part A
12. Reviewer: J. Polymer Research
13. Reviewer: Composite Science and Technology
14. Reviewer: e-Xpress Polymer Letters
15. Reviewer: RSC Advance
16. Reviewer: ACS Industrial and Engineering Chemical Research
17. Reviewer: Macromolecules
18. Reviewer: Materials Chemistry-B
19. Reviewer: Journal of Industrial Textiles
20. Reviewer: Scientific Reports
21. Reviewer: Materials Today
22. Reviewer: ACS Applied Materials
23. Reviewer: Colloids and Surface B: Biointerface
24. Reviewer: Colloids and Interfaces Science
25. Reviewer: Materials Letters
26. Reviewer: Carbon
27. Reviewer: Journal of Materials Research
28. Reviewer: International Journal of nanomedicine

## Contributions to Book Chapters and Book

1. M. Selvakumar, G. B. Nando and S. Chattopadhyay, "Thermoset-clay Nanocomposites: An Overview", Advances in Polymer Materials and Technology, CRC Press, Boca Raton, USA, (2016).
2. U. Basuli, S. Panja, T.K. Chaki and S. Chattopadhyay, "Preparation and Properties of Nanocomposites Based on Poly(Ethylene-Co-Methyl Acrylate) and Multi-walled Carbon Nanotubes "-Technological Advancement in polymer nanocomposites of carbon nanotubes: Processing Performance and Applications, published by Springer,

(2015).

3. O.P Bajpai, S. Panja, S. Chattopadhyay, D.K. Setua, "Process–structure–property relationships in nanocomposites based on piezoelectric-polymer matrix and magnetic nanoparticles"- Manufacturing of Nanocomposites with Engineering Plastics, Elsevier, (2015).
4. S. Chatterjee, A.K. Chandra and S. Chattopadhyay, "Elastomers based Bio-nanocomposites"-Recent Advances in Elastomers", Volume-II, Springer, (2011)
5. A. Dutta, T. Roy, P.G. Ray, R. Rajasekaran, M. Banerjee, S. Chattopadhyay, S. Gupta, and S. Dhara,, "3D Printing: Challenges and Its Prospect in Futuristic Tissue Engineering Applications" in 3D Printing in Biomedical Engineering, Materials Horizons: From Nature to Nanomaterials Springer (2020).
6. D. Ganguly and S. Chattopadhyay, "Plastics in self-healing applications" - Plastics and Polymers, Elsevier, (2021).
7. A. Guchait, A. Saxena, and S. Chattopadhyay, and T. Mondal, "Conjugated Polymers in Bioelectronics in Conjugated polymers for next generation of photovoltaics, energy storage, and electronics", Elsevier, (2021)
8. S. K. Ghorai and S. Chattopadhyay, "Graphene-elastomer Composite for Biomedical Applications", Elsevier, (2022)
9. S. Hui, S. Chattopadhyay, "Recent developments of the radiation processed hybrid organic-inorganic polymer nanocomposites: expected and unexpected achievements, Applications of high energy radiations: synthesis and processing of polymeric materials, 239-278, Springer (2023).
10. M. Goswami, S. Sharma, G. Subbarayan, S.P. Bordas, & S. Chattopadhyay, Historical purview and recent advances in fracture mechanics of elastomeric matrix composites. Advances in Applied Mechanics, 56,139-187, Elsevier (2023).

## Articles in periodicals

Sl. No.	Title	Authors	Name of the issue	Year
1	The mystery of structural aspects of Natural Rubber and so is the dispersion of silica into NR	Bera A., Ganguly D., Amarnath SKP, Chattopadhyay S.	Rubber India- Nov 2022 Issue	2022
2	Multifunctional effect of natural gum on the properties of rubber compounds	Koley R., Chattopadhyay S., Bhowmick A. K.	Rubber India- Jan 2022 Issue	2022
3	Finite Element Method Based Damage Model for Elastomeric Composites used in Rubber Industries	Goswami M., Chattopadhyay S.	Rubber India- Aug 2021 Issue	2021
4	Fluroelastomer and Silicone Rubber Based Super speciality Blend applicable for Wide Temperature Range	Khanra S., Chattopadhyay S.	Rubber India - Sept 2021 Issue	2021
5	An Approach to Design Extrusion Dies for Complex Shaped Rubber Profiles Using Finite Element Analysis	Sharma S., Deb A., Chattopadhyay S.	Rubber India - Sept 2020 Issue	2020

## Patents

1. S. Kumar, G. B. Nando, S. Nair, G. Unnikrishnan, A. Sreejesh, and S. Chattopadhyay, "Bromobutyl Rubber (BIIR) and Polyepichlorohydrin Rubber (ECH) Blend Nanocomposites (Indian Patent Application No: 1428/KOL/2013), filing date December 18, (2014).
2. J. C. Meredith, J. L. Sormana, and S. Chattopadhyay, "Organically modified reactive nanocomposites for engineering thermoset polymers and elastomers, US Patent provisional application, USPT ID 3624, 2006.
3. S.K. Ghorai, A. Dutta, S. Dhara, and S. Chattopadhyay, "Metal augmented surface engineered bio-fabricated scaffolds for critical bone defects" Indian Patent application No. 202331045098 dated 05-07-2023.
4. R. Hore, D. Ganguly, A. Bera, and S. Chattopadhyay, "A Ceramic Wastes Incorporated Rubber Composite for the Vibration Isolator Application in Electrical Vehicles" Indian Patent application No. 202331044406 dated 03-07-2023.

## Sponsored Projects Handled

### Project support as PI:

Grant agency	Title of the project and reference number	From and to (date/month)	Duration	Amount in lakh Rs.
<b>ISIRD, SRIC, IIT Kharagpur</b>	An approach for recycling of polymeric wastes	01-02-2006 to 31-01-2007	12 months (Completed)	<b>1.0</b>
<b>DST, First Track Project</b>	Nanotechnology and radiation processing of organic-inorganic hybrid materials based on thermoplastic elastomer	02-01-2006 to 31-01-2009	37 months (Completed)	<b>9.12</b>
<b>DMSRDE, DRDO, Kanpur</b>	The Influence of magnetic Nanocomposite to Enhance Thermo-mechanical Properties of SMPs	09-10-2009 to 31-10-2011	24.6 months (Completed)	<b>9.9</b>
<b>NPOL, DRDO, Kochin</b>	Development of Rubber Nanocomposite based encapsulant	06-09-2011 to 05-03-2013	31 months (Completed)	<b>9.0</b>
<b>Small Industry</b>	Analysis of polymer/rubber block	01-11-2016 to 15-12-2020	49.5 months (Completed)	<b>1.5</b>
<b>Usha Martin, Ranchi, JH</b>	Analysis of polymer for composite wire rope	20-04-2016 to 05-06-2016	1.5 months (Completed)	<b>4.5</b>
<b>IGCAR, Tamilnadu</b>	Visual, Dimensional and physico-mechanical evaluation of 2-meter diameter inflatable seals, green and slab specimens: module I	15-06-2017 to 31-10-2018	16.5 months (Completed)	<b>18.15</b>
<b>CEAT LTD, Mumbai</b>	Understanding and characterization of rubber fatigue and viscoelastic behavior for dynamic applications	24-04-2017 to 28-02-2021	46 months (Completed)	<b>17.65</b>

<b>DST</b>	Multifunctional polymer/ mesoporous bioactive glass composite nanoparticles as a targeted drug delivery platform for bone	22-09-2017 to 21-03-2021	42 months (Completed)	<b>21.50</b>
<b>Small Industries</b>	Polymer Testing	25-09-2018 to 15-12-2020	26.5 months (completed)	<b>2.95</b>
<b>Usha Martin, Ranchi, JH</b>	Analysis of polymer for composite wire	Oct 2018 to March 2019	06 Months (Completed)	<b>3.5</b>
<b>ICICI Lombard</b>	Analysis of Special Type of SBR	01-08-2018 to 31-08-2018	01 months (Completed)	<b>0.5</b>
<b>Apollo Tyres Ltd.</b>	Development of green NR compounds for tire by replacing carbon black with silica filler restricting its flocculation without compromising wear and abrasion	01-04-2019 to 30-06-2022	39 months (Completed)	<b>34.78</b>
<b>SERB – CRG (Core Research Grant)</b>	Sustainable Exploitation of Industrial Wastes in Rubber Composites for Isolators and Battery Packing in Electrical Vehicles	14-01-2021 to 13-01-2024	Three Years (ongoing)	<b>39.71</b>
<b>ARDB – DRDO</b>	Development of Long Lasting Polyurethane Nanocomposite Films and Life Time Estimation using Finite Element Analysis with respect to Aerostat Application	22-12-2021 to 21-12-2024	Three Years (ongoing)	<b>46.03</b>
<b>SERB-OVDF</b>	Characterizing and modelling the influence of silane/amine with varying silica content in rubber compound for tire application	01-01-2022 to 30-06-2023	18 months (completed)	<b>31.93</b>
<b>Laminar Air Conditioning (UAE)</b>	Gaskets for Smoke Dampers	01-04-2022 to 31-08-2023	20 months (ongoing)	<b>16.06</b>
<b>GOI - Scheme for Promotion of Academic and Research Collaboration (SPARC)</b>	Stretchable Piezoelectric Elastomer Composites		Just Awarded	<b>77.84</b>

**Project support as Co-PI:**

Grant agency	Title of the project and reference number	From and to (date/month)	Duration	Amount in lakhRs.
<b>ISRO, Bangalore</b>	Segmented polyurethane (SPU) based nanocomposites from functionalized nanoclays with special reference to fire and flammability	05-01-2006 to 31-01-2008	Two years (Completed)	<b>6.28</b>
<b>DAE, BARC</b>	Development of electron beam irradiated composites based on multiwalled carbon nanotubes in polymeric matrices	08-06-2007 to 07-06-2010	Three years (Completed)	<b>14.6</b>
<b>CEAT MUMBAI</b>	Application of nanotechnology for improving impermeability of gas and moisture of TBR/PCRinner liner materials	17-08-2011 to 31-07-2015	47.5 months (Completed)	<b>17.42</b>
<b>RCMA Nashik</b>	Ageing, failure analysis and life estimation of rubber seals of military aircraft.	13-07-2007 to 12-07-2008	One year (Completed)	<b>9.16</b>
<b>IGCAR, Tamilnadu</b>	Studies on the technical requirements of elastomeric inflatable seals	01-01-2006 to 30-06-2007	Six months (Completed)	<b>9.0</b>
<b>Phoenix Yule Ltd., Kalyani, W.B</b>	Elimination of pit mark on platen during vulcanization of FR conveyor belt	02-07-2007 to 31-03-2008	Nine Months (Completed)	<b>2.0</b>
<b>NAC group, Aurangabad</b>	Development of Dough Moulding Compound	01-06-2006 to 01-08-2007	Two Months (Completed)	<b>1.0</b>
<b>IMPRINT 2, SERB</b>	Invention of Smart Process Technology for Production of Valuable Products including Oil and Carbon Black from Waste Tire	15-01-2019 to 14-10-2022	45 months (Completed)	<b>88.0</b>
<b>IRI</b>	Training and skill development and its evaluation for IRI members	01-01-2021 to 31-12-2023	36 months (ongoing)	<b>7.52</b>
<b>Indian Railways</b>	Development of next generation elastomeric pad for heavy haul freight wagon	15-12-2021 to 31-08-2023	20.5 months (ongoing)	<b>17.70</b>



## Publications (List of papers published in SCI Journals, in year wise descending order, till June 2023)

S. No.	Author(s)	Title	Name of Journal	Vol. (issue)	Pages	Year
180	Kumar, A., Shahin, M. B., Hossain, S. J., Chattopadhyay, S., & Gonzalez, M.	Mechanical characterization of filled elastomer nanocomposites under finite-deformation cyclic loading using yield-surface-free plasticity.	Composites Science and Technology	241	110140	2023
179	Sahoo, S., Basu, D., Kumar, A., Rasam, P., Koundal, A., Nawale, M., ... & Chattopadhyay, S.	Systematic evaluation of a sustainable plasticizer derived from coconut shell bio-waste in a reinforced styrene-butadiene copolymer system.	Journal of Polymer Research	30(6)	248	2023
178	Koley, R., Ghorai, U. K., Chattopadhyay, S., & Bhowmick, A. K.	An investigation on Moringa oleifera fruit (drumstick)-derived cellulose micro and nanofiber reinforced styrene butadiene rubber composites.	Polymer Composites	44(5)	2778-2793	2023
177	Kumar, A., Basu, D., Sahoo, S., Khanra, S., Kumar, N., Gonzalez, M., & Chattopadhyay, S.	Green Approaches for Functionalized Silica-Based Natural Rubber Nanocomposites Using Eco-friendly Sodium Alginate Biopolymers for Superior Static and Dynamic Behaviors.	ACS Sustainable Chemistry & Engineering	11(18)	6866-6878	2023
176	Koley, R., Chattopadhyay, S., & Bhowmick, A. K.	Synthesis and properties of biophenol-furfural based bioresin for curing of styrene butadiene rubber.	Polymer Engineering & Science	11(18)	6866-6878	2023
175	Prachishree Panda; Agniva Dutta; Sourabh Pal; Debabrata Ganguly; Santanu Chattopadhyay; Narayan Chandra Das; Rajat K. Das	Strain sensing multi-stimuli responsive light emitting lanthanide-based tough and stretchable hydrogels with tunable luminescence and fast self-recovery using metal-ligand and hydrophobic interactions	New Journal of Chemistry	Accepted		2023
174	Agniva Ghosh, Prachishree Panda, Anish Das, Debabrata Ganguly, Santanu Chattopadhyay, Pallab Banerjee, Debabrata Pradhan and Rajat Kumar Das	Intrinsically Freezing Tolerant, Conductive and Adhesive Proton Donor-acceptor Hydrogel for Multifunctional Application	ACS Applied Polymer Materials	Accepted		2022

<b>173</b>	Abhijit Bera, Debabrata Ganguly, Roumita Hore, Jyoti Prakash Rath, S Ramakrishnan, Job Kuriakose, SKP Amarnath, Santanu Chattopadhyay	A feasible method of silica dispersion by introducing a pre-vulcanized gel in the natural rubber matrix	Journal of Polymer Research	30 (3)	124	<b>2023</b>
<b>172</b>	Lakshmi M. Mukundan, Hema Bora, Ragavi Rajasekaran, Santanu Dhara, and Santanu Chattopadhyay	Shell-sheddable antibiotic nanohybrid through drug-mediated surface-initiated polymerization: an overcoat approach for modulated burst release	Journal of Materials Science	54	3014-3116	<b>2023</b>
<b>171</b>	Abhijit Bera, Debabrata Ganguly, Jyoti Prakash Rath, S Ramakrishnan, Job Kuriakose, SKP Amarnath, Santanu Chattopadhyay	The effect of bio-based ingredients in isoprene rubber: A biomimetic approach to improve the dispersion of silica	Materials Chemistry and Physics	295	127151	<b>2023</b>
<b>170</b>	Abhijit Bera, Mohit Goswami, Debabrata Ganguly, Jyoti Prakash Rath, S Ramakrishnan, Job Kuriakose, SKP Amarnath, Santanu Chattopadhyay	The variation of structure and property of sorbitol-treated NR vulcanizates with increasing the silica loading	Journal of Materials Science	56	996-1011	<b>2023</b>
<b>169</b>	D Goswami, G Potnis, S Chattopadhyay, J Das	Observation of a large magnetocaloric effect and suppressed transition in Ti doped Ni-Co-Mn-Sn ribbons upon annealing	Journal of Alloys and Compounds	Accepted		<b>2022</b>
<b>168</b>	Abhijit Bera, Bharat Manna, Debabrata Ganguly, S. K. P. Amarnath, Samik Nanda, Amit Ghosh and Santanu Chattopadhyay	Pre-treatment of Hevea latex by sorbitol: improving the efficacy of silica dispersion by biomimetic approach	ACS Applied Polymer Materials	Accepted		<b>2022</b>
<b>167</b>	Guchait, Aparna; Ganguly, Debabrata; Sengupta, Chandan; Chattopadhyay, Santanu; Mondal, Titash	Synthesis of Polyetheramine grafted Epoxidized Natural Rubber and its Role in Humidity Adhesive Sensor	ACS Sustainable Chemistry & Engineering	Accepted		<b>2022</b>

<b>166</b>	Lakshmi M Mukundan, Remya Nirmal S, Nikhil Kumar, Santanu Dhara and Santanu Chattopadhyay	Engineered nanostructures with sol-gel bioactive glass for enhanced bioactivity and modulated drug delivery	Journal of Materials Chemistry B	Accepted		<b>2022</b>
<b>165</b>	M. Goswami, Nils Hendrik Kröger, Filippo Berto, S. Chattopadhyay	Finite element method based damage model to characterize effect of geometric configuration on fracture properties of elastomeric composites	Mechanics of Advanced Materials and Structures	Accepted		<b>2022</b>
<b>164</b>	M. Goswami, G. Subbarayan, S.P.A. Bordas, S. Chattopadhyay	Historical purview and recent advances in fracture mechanics of elastomeric matrix composites	Advances in Applied Mechanics	Accepted		<b>2022</b>
<b>163</b>	S. Sharma, D. Goswami, M. Goswami, A. Deb, B. Padh, and S. Chattopadhyay	Computational fluid dynamics modeling of multicomponent elastomeric complex profile while flowing through extrusion die	Chemical Engineering Journal	451		<b>2022</b>
<b>162</b>	Das S, Pal K, Chattopadhyay S and Bhowmick A K	3-Octanoylthio-1-propyltriethoxysilane functionalized silica/rubber composites for application in tire: Structure, performance and synergism	Polymer Composites	Accepted		<b>2022</b>
<b>161</b>	Sahoo S, Basu D, Kumar A, Nawale M, Kadam S, Bhujbal A, Rajkumar K, Bhowmick A K and Chattopadhyay S	Bio-based oil derived from waste coconut shell: a potential additive for enhancing silanization in silica filled styrene butadiene copolymer	Journal of Polymer Research	Accepted		<b>2022</b>
<b>160</b>	Khanra S, Sreenivasan P, Das S, Hore R, Ganguly D and Chattopadhyay S	A Strategy of Immobilizing a Biobased Process aid in the Interface for Binary Silicone and Fluoroelastomer Based Super Specialty Blend with Silica for Enhancing Compatibility	Journal of Materials Science	Accepted		<b>2022</b>
<b>159</b>	Ghorai S K, Dutta A, Roy T, Ray P G, Ganguly D, Ashokkumar M, Dhara S and Chattopadhyay S	Metal Ion Augmented Mussel Inspired Polydopamine Immobilized 3D Printed Osteoconductive Scaffolds for Accelerated Bone Tissue Regeneration	ACS Applied Materials	Accepted		<b>2022</b>

<b>158</b>	Ganguly A, Bera A, Hore R, Khanra S, Maji P K, Kotnees D K, and Chattopadhyay S	Coining the attributes of nano to micro dual hybrid silica-ceramic waste filler based green elastomeric composites for triple percolation: mechanical properties, thermal, and electrical conductivity	Chemical Engg Advances	Accepted		<b>2022</b>
<b>157</b>	Bera A, Ganguly D, Ghorai S K, Rath J P, Ramakrishnan S, Kuriakose J, Amarnath S K P, and Chattopadhyay S	Treatment of natural rubber with bio-based components: A green endeavor to diminish the silica agglomeration for tyre tread application	Chemical Engg Advances	Accepted		<b>2022</b>
<b>156</b>	Khanra S., Kumar A. , Ganguly D. , Ghorai S. K., and Chattopadhyay S.	The efficacy of methyl vinyl silicone rubber-g-maleic anhydride in the compatibilization of fluoroelastomer and silicone rubber based super specialty elastomer blend	Journal of Polymer research	Accepted		<b>2022</b>
<b>155</b>	Sarkar K., Khanra S., Sharma S., Ghorai S.K., Chattopadhyay S.	Self-assembled 3D-microstructured dual carbon black filled polymer nanocomposite-coated fabric for tunable electromagnetic interference shielding	Journal of the Textile Institute	Accepted		<b>2022</b>
<b>154</b>	Goswami D., Potnis G. , Chattopadhyay S. , Das J.	Observation of a large magnetocaloric effect and suppressed transition in Ti doped Ni-Co-Mn-Sn ribbons upon annealing	Journal of alloys and compounds	Accepted		<b>2022</b>
<b>153</b>	Guchait A., Saxena A., Chattopadhyay S., Mondal T.	Influence of Nanofillers on Adhesion Properties of Polymeric Composites	ACS Omega	Accepted	3844-3859	<b>2022</b>
<b>152</b>	Kumar A., Khanra S., Bansal V., Goyal S., Nair S., Hossain S.J., Chattopadhyay S.	Hyper-viscoelastic characterization of highly filled rubber compound: Extending approach for geometrical defect analysis	Polymer Engineering and Science	Accepted	447-460	<b>2022</b>
<b>151</b>	Goswami M., Sharma S., Ghosh M.M., Kröger N.H., Berto F., Chakraborty G., Chattopadhyay S.	Finite element method based damage model to characterize effect of geometric configuration on fracture properties of elastomeric composites	Mechanics of Advanced Materials and Structures	Accepted		<b>2022</b>

<b>150</b>	Arief I., Zimmermann P., Hait S., Park H., Ghosh A.K., Janke A., Chattopadhyay S., Nagel J., Heinrich G., Wiener S., Das A.	Elastomeric microwell-based triboelectric nanogenerators by in situ simultaneous transfer-printing	Materials Horizons	Accepted		<b>2022</b>
<b>149</b>	Khanra S., Kumar A., Ganguly D., Ghorai S.K., Chattopadhyay S.	Effect of FKM-g-acrylamide reactive compatibilizer on mechanical, thermal and ageing behaviours of fluoroelastomer (FKM)/silicone rubber (MVQ) blend	Polymer Engineering and Science	Accepted	1239-1255	<b>2022</b>
<b>148</b>	Ghosh A., Panda P., Ganguly D., Chattopadhyay S., Das R. K.	Dynamic metal ligand cross-link promoted mechanically robust and pH responsive hydrogels for shape memory, programmable actuation and resistive sensing application	Journal of Applied Polymer Science	Accepted		<b>2022</b>
<b>147</b>	Sinha N.K., Chattopadhyay S.	A case study on elimination of premature failure source from manufacture of fluoroelastomer inflatable seals for Sodium-cooled Fast Reactor towards sustainability	Engineering Failure Analysis	Accepted		<b>2022</b>
<b>146</b>	Ghorai S. K., Roy T., Maji S., Ray P. G., Sarkar K., Dutta A., De A., Bandyopadhyay S., Dhara S., and Chattopadhyay S.	A judicious approach of exploiting polyurethane-urea based electrospun nanofibrous scaffold for stimulated bone tissue regeneration through functionally nobbled nanohydroxyapatite	Chemical Engineering Journal 13.273		132179	<b>2021</b>
<b>145</b>	Sharma S., Goswami M., Deb A., Padhan B., and Chattopadhyay S.	Structural deformation/instability of the co-extrudate rubber profiles due to die swell: Experimental and CFD studies with 3D models	Chemical Engineering Journal		130504	<b>2021</b>
<b>144</b>	Goswami M., Ghorai S.K., Sharma S., Chakraborty G., and Chattopadhyay S.	Nonlinear fracture assessment and nano mechanical deformation of elastomeric composites: Development of finite element model and experimental validation	Polymer Composites 3.171		1-21	<b>2021</b>

143	Pradhan, S, Goswami, D, Ghorai, SK, Ratna, D, and Chattopadhyay, S	Excellent electromagnetic interference shielding and mechanical properties accomplished in a manganese dioxide decorated graphene/polymer composite.	Journal of Applied Polymer Science 3.125		50785	2021
142	Murmu S. Paul S., Kapse S. Thapa R. Chattopadhyay, S., N, Abharana Jha, S. N., B, Dibyendu Ghorai, Uttam Kumar	Unveiling the Genesis of the High Catalytic Activity in Nickel Phthalocyanine for Electrochemical Ammonia Synthesis	Journal of Materials Chemistry A 12.73	Accepted		2021
141	Mukundan L.M., Dhara S., Chattopadhyay S.	Trimodal attributes within acidic mesostructured bioactive glass nanoparticles	Materials Letters	Accepted		2021
140	Koley R., Kasilingam R., Sahoo S., Chattopadhyay S., Bhowmick A.K.	Waste moringa oleiferagum as a multifunctional additive for unfilled SBR compound	Rubber Chemistry and Technology		248-267	2021
139	Koley R., Kasilingam R., Sahoo S., Chattopadhyay S., Bhowmick A.K.	Synthesis and characterization of epoxidized neem oil: A bio-derived natural processing aid for elastomer	Journal of Applied Polymer Science	Accepted		2021
138	Sarkar K., Panja S., Ghorai S.K., Das D., Chattopadhyay S.	Tailored secondary microstructure of carbon black in polymer nanocomposite to trigger the conductivity for developing coated fabric	Journal of Industrial Textiles	Accepted		2021
136	A Kumar, M S Dalmiya, M. Goswami, et al.	Entangled network influenced by carbon black in solution SBR vulcanizates revealed by theory and experiment	Rubber Chemistry and Technology 1.868	94	324–338	2021
135	Mandloi B. S., Chattopadhyay S. , Jagadale S. , Kasilingam R. ,	Failure analysis cum review of specification for development of flexible rubber diaphragm used in	International Journal of Research	Accepted		2021

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134	Das, S, Chattopadhyay, S, Dhanania, S, Bhowmick, AK	Improved dispersion and physico-mechanical properties of rubber/silica composites through new silane grafting.	Polymer Engineering and Science 2.428	60	3115–3134	2020
133	Goswami M., Ghosh M.M., Dalmiya M.S., Sharma S., Ghorai S.K., and Chattopadhyay S.	A finite element method based comparative fracture assessment of carbon black and silica filled elastomers: Reinforcing efficacy of carbonaceous fillers in flexible composites	Polymer Testing 4.282	91	106856	2020
132	Sharma S., Sarkar K., Goswami M., Deb A., Dcunha S., and Chattopadhyay S.	An approach to design extrusion dies for complex shaped rubber profiles using finite element analysis	Journal of Manufacturing Processes 5.010	57	700-711	2020
131	Panda, P, Dutta, A, Ganguly, D, Chattopadhyay, S, Das, RK	Engineering hydrophobically associated hydrogels with rapid self-recovery and tunable mechanical properties using metal-ligand Interactions	Journal of Applied Polymer Science 3.125	137	49590	2020
130	Ganguly, D, Khanra, S, Goswami, D, et al.	Controlling the mechanoadaptive properties of hydrogenated nitrile rubber by the incorporation of cementitious based industrial waste for downhole application.	Polymer Composites 3.171	41	4397–4410	2020
129	Khanra, S, Kumar, A, Ghorai, SK, Ganguly, D, Chattopadhyay, S	Influence of partial substitution of carbon black with silica on mechanical, thermal, and aging properties of super specialty elastomer based composites.	Polymer Composites 3.171	41	4379–4396	2020
128	Pradhan S., Goswami D., Ganguly D., Ghorai S.K., Ratna D., Chattopadhyay C.	Graphene and MnO2 decorated graphene filled composites for electromagnetic shielding applications having excellent dielectric properties	Polymer Testing 4.282	90	106716	2020
127	Mandal P., Banarjee S.L., Maji S., Ghorai S.K., Maiti T.K., Chattopadhyay S.	Time-dependent self-assembly of magnetic particles tethered branched block copolymer for potential biomedical application	Applied Surface Science 6.707	527	146649	2020



126	Khanra, S., Ganguly, D., Ghorai, S.K. et al.	The synergistic effect of fluorosilicone and silica towards the compatibilization of silicone rubber and fluoroelastomer based high performance blend.	Journal of Polymer Research 3.097	27(96)		2020
125	Goswami, M, Mandloi, BS, Kumar, A, et al.	Optimization of graphene in carbon black-filled nitrile butadiene rubber: Constitutive modeling and verification using finite element analysis.	Polymer Composites 3.171	41	1853–1866	2020
124	Mahata D., Sarkar K., et al.	Guayule natural rubber composites: impact of fillers on their cure characteristics, dynamic and mechanical behavior	Iranian Polymer Journal 1.899	29	393–401	2020
123	Mandal P., Panja S. et al.	Magnetic particle anchored reduction and pH responsive nanogel for enhanced intracellular drug delivery	European Polymer Journal 4.598	129	109638	2020
122	Debdipta Basu, Arit Agasty, Amit Das, Chattopadhyay S, Puspendu Sahu, Gert Heinrich	Phase changing stearate ions as active fillers in multifunctional carboxylated acrylonitrile–butadiene composite: Exploring the role of zinc stearate	Journal of Applied Polymer Science	48271	1-9	2020
121	Anshul Baral, Sukhvir K. Bhangu, Rita Cimino, Juliane N. B. D. Pelin, Wendel A. Alves, Chattopadhyay S, Muthupandian Ashokkumar, * and Francesca Cavalier	Sono-Assembly of the [Arg-Phe] <sub>4</sub> Octapeptide into Biofunctional Nanoparticles	Nonomaterials	10	1772	2020
120	Goswami, D.; Anand, K.S.; Jana, P.P.; Ghorai, S.K.; Chattopadhyay, S.; Das, J	Synthesis of a robust multifunctional composite with concurrent magnetocaloric effect and enhanced energy absorption capabilities through a tailored processing route	Materials and Design	187	108399	2020
119	Poomuthu A., Stoczek R. et al.	Understanding fracture of a carbon black filled rubber compound using material force theory	Theoretical and Applied Fracture Mechanics 4.26	108	102649	2020



118	Koley R., Kasilingam R, Sahoo S, Chattopadhyay S, and Bhowmick A.K.	Synthesis and Characterization of Phenol Furfural Resin from Moringa Oleifera Gum and Biophenol and its Application in Styrene Butadiene Rubber	ACS Industrial and Engineering Chemistry Research 3.72	58(40)	18519-18532	2019
117	Panja S, Bharti R, Dey G, Nathaniel Lynd N, and Chattopadhyay S.	Co-ordination Assisted Self-assembled Polypeptide Nanogel to Selectively Combat Bacterial Infection	ACS Applied Material Interfaces 9.229	11(37)	33599-33611	2019
116	Ghorai S.K, Maji S, Bhuvaneshwaran S, Tapas Kumar Maiti T.K, and Chattopadhyay S.	Promoted Osteoconduction of Polyurethane-Urea Based 3D Nanohybrid Scaffold through Nanohydroxyapatite Adorned Hierarchical Titanium Phosphate	ACS Applied Bio Materials 3.25	2(9)	3907-3925	2019
115	Das S, Chattopadhyaya S, Dhanania S, and Bhowmick A.K.	Reactive grafting of 3-octanoylthio-1-propyltriethoxysilane in styrene butadiene rubber: Characterization and its effect on silica reinforced tire composites	Polymer 4.329	179(28)	121693	2019
114	Basu D, Airit	Phase changing stearate ions as	Journal of	136	48271	2019
	Agasty A, Das A,	active fillers in multifunctional	Applied Polymer			
	Chattopadhyay S,	carboxylated acrylonitrile-	Science 3.125			
	Sahu P, and	butadiene composite: Exploring the				
	Heinrich G.	role of zinc stearate				
113	Mandal P, Somnath Maji S, Panja S, Bajpai O.P,	Magnetic particle ornamented dual stimuli responsive nanogel for controlled anticancer drug delivery	New Journal of Chemistry 3.591	43(7)	3026-3037	2019
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112	B. Subramanian, T. Agarwal, S. K. Ghorai, T. K. Maiti, S. Chattopadhyay S. and Guha K.	Biocompatible polyvinyl alcohol and RISUG® blend polymeric films with spermicidal potential	Biomedical Materials: 3.715	14(3)	035017	2019
111	Sanjoy Kumar Ghorai; Somnath Maji; Bhuvaneshwaran Subramanian; Tapas Kumar Maiti; Santanu	Coining attributes of ultra-low concentration graphene oxide and spermine: An approach for high strength, anti-microbial and osteoconductive nanohybrid scaffold for bone tissue	Carbon 9.594	141	370-389	2019

	Chattopadhyay	regeneration				
<b>110</b>	Bhuvaneshwaran Subramanian; Arun Prabhu Rameshbabu; Kuntal Ghosh; Pradeep K. Jha; Rakhi Jha; Selvakumar Murugesan; Santanu Chattopadhyay; Santanu Dhara; Keshab C. Mondal; Piyali Basak et al	Impact of styrene maleic anhydride (SMA) based hydrogel on rat fallopian tube as contraceptive implant with selective antimicrobial property	Materials Engineering C 7.328	94	94-107	<b>2019</b>
<b>109</b>	Ghorai, S.; Mondal, D.; Dhanania, S.; Chattopadhyay, S.; Roy, M.; De, D.	Reclaiming of waste guayule natural rubber vulcanizate—reclaim rubber for green tire applications: An approach for sustainable development	Journal of Elastomers and Plastics	51	193-210	
<b>108</b>	Pradhan S., Chattopadhyay S., and Ratna D.	Graphene Nanoplatelets in Polychloroprene Matrix: An Insight to Dispersion with a Special Emphasize to Electro-Mechanical Properties	Polymer Composites 3.171	40	1-13	<b>2019</b>
<b>107</b>	Kumar S, Partheban M, Sofana R S, and Chattopadhyay S.	A brief insight into the prediction of water vapor transmissibility in highly impermeable hybrid nanocomposites based on	Open Chemistry 1.216	16 (1)	1207-1213	<b>2018</b>
<b>106</b>	Roy T., Maity P. P., Rameshbabu A. P., Das B, John A., Dutta A., Sanjoy Kumar Ghorai S. K., Chattopadhyay S. and Dhara S.	Core-Shell Nanofibrous Scaffold Based on Polycaprolactone-Silk Fibroin Emulsion Electrospinning for Tissue Engineering Applications	Bioengineering 4.486	5	68	<b>2018</b>
<b>105</b>	Bajpai O. P., Mandal S., Ananthakrishnan R., Mandal P., Khastgir D. and Chattopadhyay S.	Structural Features, Magnetic Properties and Photocatalytic Activity of Bismuth Ferrite Nanoparticles Grafted on Graphene Nanosheets	New Journal of Chemistry 3.591	42	10712-10723	<b>2018</b>
<b>104</b>	Bajpai O. P., Kumar S., Bhandari S., Dhar A., Khastgir D., and Chattopadhyay S.	Electrolyte and Current Density Determines the Fate of Electrodeposited Polythiophene from Waveguide to Photovoltaics	Solar Energy Materials and Solar Cells 7.267	183	107-119	<b>2018</b>

<b>103</b>	Dhanania S., Mahato D., Cornish K., Prabhavale O., Nando G. B, and Chattopadhyay S.,	Phosphorylated Cardanol Prepolymer Grafted Guayule Natural Rubber: an Advantageous Green Natural Rubber	Iranian Polymer Journal 1.899	27(5)	307-318	<b>2018</b>
<b>102</b>	Basuli U., Palaninathan E., Chaki T. K. and Chattopadhyay S.	Effect of Plasma, Gamma and Chemically Surface Modified MWNTs on the Rheological and Electrical Properties of Ethylene Methyl Acrylate (EMA) Nanocomposites	Journal of Nanoscience and Nanotechnology 1.354	18	4621-4633	<b>2018</b>
<b>101</b>	Anas K., David S., Babu R. R., Selvakumar M. and Chattopadhyay S.	Energy Dissipation Characteristics of Crosslinks in Natural Rubber: an Assessment Using Low and High- frequency Analyzer	Journal of Polymer Engineering 1.367	38(8)	723-730	<b>2018</b>
<b>100</b>	Dey A., More P., Khanna P. K., Sikder A. K., Chattopadhyay S.	Polymer based Graphene/Zinc Oxide Nano Crystal (GZnNC): An Outstanding Thermoelectrical Energy Conversion Material	Advanced Material Science 2.13	--	--	<b>2017</b>
<b>99</b>	Sarkar K., Das D., Chaki T. K. and Chattopadhyay S.	"Macro-Structured Carbon Clusters for Developing Waterproof, Breathable Conductive Cotton Fabric"	Carbon 9.594	116	1-14	<b>2017</b>
<b>98</b>	Selvakumar M., Das B., Dhara S. and Chattopadhyay S.	"Structurally Tuned Antimicrobial Mesoporous Hydroxyapatite Nanorods by Cyclic Oligosaccharides Regulation to Release a Drug for Osteomyelitis"	ACS Crystal Growth & Design 4.076	17(2)	433-445	<b>2017</b>
<b>97</b>	Sarkar K., Das D., and Chattopadhyay S.	"Smart conductive cotton fabric by macro-structured carbon clusters for electromagnetic interference shielding"	Procedia Engineering 1.88	216	127-134	<b>2017</b>
<b>96</b>	Sarkar K., Das D., and Chattopadhyay S.	"Smart and economic conductive textile for electromagnetic interference shielding"	Procedia Engineering 1.88	216	93-100	<b>2017</b>
<b>95</b>	Panja S, Dey G., Bharti R., Mandal P., Mandal M. and Chattopadhyay S.	"Metal Ion Ornamented Ultrafast Light-Sensitive Nanogel for Potential in-Vivo Cancer Therapy"	Chemistry of Materials 9.811	28 (23)	8598–8610	<b>2016</b>

<b>94</b>	Sankaran K., Manoharan P., Chattopadhyay S., Nair S., Govindan U., Arayambath S. and Nando G. B.	“Effect of Hybridization of Organoclay with Carbon Black on the Transport, Mechanical, and Adhesion Properties of Nanocomposites Based on Bromobutyl/Epoxidized Natural Rubber Blends”	RSC Advances 3.36	6(40)	33723-33732	<b>2016</b>
<b>93</b>	Panja S., Dey G., Bharti R., Kumari K., Maiti T. K., Mandal M. and Chattopadhyay S.	“Tailor-Made Temperature-Sensitive Micelle for Targeted and On-Demand Release of Anticancer Drugs”	ACS Applied Materials and Interfaces 9.229	8(19)	12063-12074	<b>2016</b>
<b>92</b>	Annadura P., Sankaran K., Mukundan T., Joseph R., Sarkar P. and Chattopadhyay S.	“Effect of Nanostructures of Modified Clay-Carbon Black on Physico-Mechanical, Electrical, and Acoustic Properties of Elastomer-Based Composites”	Polymer Composites 3.171	37(6)	1786-1796	<b>2016</b>
<b>91</b>	Kumar Sankaran; Kaushik Mukherjee; Partheban Manoharan; Golok B. Nando; Santanu Chattopadhyay	Prediction of Air Permeability in Hybrid Nanocomposite Based on Bromobutyl/Epichlorohydrin Rubber Blends as Tire Inner Liner Using Finite Element Method	Journal of Materials Science and Engineering B		2161-6221	<b>2016</b>
<b>90</b>	Dey, A.; Maity, A.; Shafeeuulla Khan, M.A.; Sikder, A.K.; Chattopadhyay, S	PVAc/PEDOT:PSS/graphene-iron oxide nanocomposite (GINC): An efficient thermoelectric material	RSC Advances	6	22453-22460	<b>2016</b>
<b>89</b>	Dey A., Bajpai O.P., Sikder A.K., Chattopadhyay S. and Khan M.A.S.	“Recent Advances in CNT/Graphene Based Thermoelectric Polymer Nanocomposite: a Proficient Move towards Waste Energy Harvesting”	Renewable and Sustainable Energy Reviews 14.98	53	653-671	<b>2016</b>
<b>88</b>	Panja S., Maji S, Maiti T.K. and Chattopadhyay S.,	“A Smart Magnetically Active Nano Vehicle for On-demand Drug Delivery: where van der Waals Force Balances the Magnetic Interaction”	ACS Applied Materials and Interfaces 9.229	7 (43)	24229 – 24241	<b>2015</b>
<b>87</b>	Payyappilly S.S., Panja S., Mandal P., Dhara S. and Chattopadhyay S.	“Organic Solvent-free Low Temperature Method of Preparation of Self Assembled Amphiphilic Poly (Caprolactone)-Poly(Ethylene Glycol) Block Copolymer Based Nanocarriers for Protein Delivery”	Colloids and Surface B: Biointerfaces 3.997	135	510-517	<b>2015</b>

<b>86</b>	Dey A., Hadawale S., Khan M.A.S., More P., Khanna P.K., Sikder A.K. and Chattopadhyay S.	“Polymer Based Graphene/Titanium Dioxide Nanocomposite (GTNC): an Emerging and Efficient Thermoelectric Material”	Dalton Transactions 4.39	44(44)	19248-19255	<b>2015</b>
<b>85</b>	Dey A., Nangare V., More P.V., Khan M.A.S., Khanna P.K., Sikder A.K. and Chattopadhyay S.	“A Grapheme Titanium Dioxide Nanocomposite (GTNC): One Pot Green Synthesis and its Application in a Solid Rocket Propellant”	RSC Advances 3.36	5(78)	63777-63785	<b>2015</b>
<b>84</b>	Selvakumar M., Jaganathan S. K., Nando G.B. and Chattopadhyay S.	“Synthesis and Characterization of Novel Polycarbonate Based Polyurethane/Polymer Wrapped Hydroxyapatite Nanocomposites: Mechanical Properties, Osteoconductivity and Biocompatibility”	Journal of Biomedical Nanotechnology 4.099	11(2)	291-305	<b>2015</b>
<b>83</b>	Kumar S., Chattopadhyay S., Sreejesh A., Nair S., Unnikrishnan G. and Nando G. B.	“Analysis of air permeability and WVTR characteristics of highly impermeable novel rubber nanocomposite”	Material Research Express, 1.620	2	025001	<b>2015</b>
<b>82</b>	Kumar P. S., Selvakumar M., GaneshBabu S., Karuthapandian S. and Chattopadhyay S.	“CdO Nanospheres: Facile Synthesis and Bandgap Modification for the Superior Photocatalytic Activity”	Materials Letters 3.423	151	45-48	<b>2015</b>
<b>81</b>	Panja S., Maji S., Maiti T.K. and Chattopadhyay S.	“A Branched Polymer as a pH Responsive Nanocarrier: Synthesis, Characterization and Targeted Delivery”	Polymer 4.329	61	75-86	<b>2015</b>
<b>80</b>	Dey A., Athar J., Varma P., Prasant H., Sikder A. K. and Chattopadhyay S.	“Graphene-iron Oxide Nanocomposite (GINC): an Efficient Catalyst for Ammonium Perchlorate (AP) Decomposition and Burn Rate Enhancer for AP Based Composite Propellant”	RSC Advances 3.36	5(3)	1950–1960	<b>2015</b>
<b>79</b>	Kumar S.,Nando G. B., Nair S., Unnikrishnan G., Sreejesh A. and Chattopadhyay S.	“Effect of Organically Modified Montmorillonite Clay on Morphological, Physicomechanical, Thermal Stability, and Water Vapor Transmission Rate Properties of BIIR-CO Rubber Nanocomposites”	Rubber Chemistry and Technology 1.868	88(1)	176-196	<b>2015</b>

<b>78</b>	Kumar S., Chattopadhyay S., Padmanabhan R., Sreejesh A., Nair S., Unnikrishnan G. and Nando G.B.	“Tailoring Permeation Characteristics of Bromobutyl Rubber with Polepichlorohydrin and Graphene Nanoplatelets”	Materials Research Express 1.620	2(10)	10500 7, 1-17	<b>2015</b>
<b>77</b>	Dey A., Panja S., Sikder A. K. and Chattopadhyay S.	“One Pot Green Synthesis of Graphene–iron Oxide Nanocomposite (GINC): an Efficient Material for Enhancement of Thermoelectric Performance”	RSC Advance 3.36	5(14)	10358 – 10364	<b>2015</b>
<b>76</b>	Senthil Kumar, P.; Selvakumar, M.; Babu, S.G.; Jaganathan, S.K.; Karuthapandian, S.;Chattopadhyay, S	Novel CuO/chitosan nanocomposite thin film: Facile hand-picking recoverable, efficient and reusable heterogeneous photocatalyst	RSC Advances	71(5)	57493-57501	<b>2015</b>
<b>75</b>	Kumar S., Nando G.B., Padmanabhan R., Nair S., Unnikrishnan G., Sreejesh A. and Chattopadhyay S.	“Influence of Hybrid Nanostructures and its Tailoring Mechanism on Permeability, Rheology, Conductivity, and Adhesion Properties of a Novel Rubber Blend Nanocomposite”	RSC Advances 3.36	5(107)	87864-87875	<b>2015</b>
<b>74</b>	Bajpai O.P., Setua D. K. and Chaattopadhyay S.	“A Brief Overview on Ferrite (Fe <sub>3</sub> O <sub>4</sub> ) Based Poly Nanocomposites: Recent Developments and Challenges”	Journal of Research Updates in Polymer Science	3(4)	184-204	<b>2014</b>
<b>73</b>	Panja S., Nayak S., Selvakumar M., Ghosh S. and Chattopadhyay S.	“Self-assembly of Biodegradable Branched PEPCL-b-PEC Amphiphilic Polymer: Synthesis, Characterization and Cancer Cell Targeted Drug Delivery”	RSC Advances 3.36	4(93)	51766 – 51775	<b>2014</b>
<b>72</b>	Payyappilly S., Dhara S. and Chattopadhyay S.	“The Heat–chill Method for Preparation of Self-assembled Amphiphilic Poly(ε-Caprolactone)–Poly(Ethylene Glycol) Block Copolymer Based micellar Nanoparticles for Drug Delivery”	Soft Matter 3.679	10(13)	2150-2159	<b>2014</b>
<b>71</b>	Sarkar P., Mohanty A. K., Bandyopadhyay P, Chattopadhyay S. and Banerjee S.	“Proton Exchange Properties of Flexible Diamine-based New Fluorinated Sulfonated Polyimides”	RSC Advances 3.36	4(23)	11848-11858	<b>2014</b>

<b>70</b>	Payyappilly S., Dhara S. and Chattopadhyay S.	“Thermoresponsive Biodegradable PEG-PCL- PEG Based Injectable Hydrogel for Pulsatile Insulin Delivery”	Journal of Biomedic al Materials Research Part A 4.396	102(5)	1500- 1509	<b>2014</b>
<b>69</b>	Bajpai O.P., Kamdi J.B., Selvakumar M., Ram S., Khasgir D. and Chattopadhyay S.	“Effect of Surface Modification of BiFeO <sub>3</sub> on the Dielectric, Ferroelectric, Magneto-Dielectric Properties of Polyvinylacetate/BiFeO <sub>3</sub> Nanocomposites”	Express Polymer Letters 4.161	8(9)	669- 681	<b>2014</b>
<b>68</b>	Panja S., Saha B., Ghosh S. K. and Chattopadhyay S.	“Synthesis of Novel Four Armed PE-PCL Grafted Superparamagnetic and Biocompatible Nanoparticles”	Langmuir 3.882	29(40)	12530- 12540	<b>2013</b>
<b>67</b>	Mohanty T. R., Bhandari V., Chadra A. K., Chattopadhyay P. K. and Chattopadhyay S.	“Role of Calcium Stearate as a Dispersion Promoter for New Generation Carbon Black- Organoclay Based Rubber Nanocomposites for Tyre Application”	Polymer Composit es 3.171	34(2)	214- 224	<b>2013</b>
<b>66</b>	Chattopadhyay P.K. and Chattopadhyay S.	“Role of Epoxy Functionality Microstructure-Property Relationships within Elastomeric Nanocomposites”	Plastics Rubber and Composit es 2.021	42(8)	340- 348	<b>2013</b>
<b>65</b>	Chattopadhyay P.K., Praveen S., Das N.C. and Chattopadhyay S.	“Contribution of Organommodified Clay on Hybrid Microstructures and Properties of Epoxidized Natural Rubber-Based Nanocomposites”	Polymer Engineeri ng & Science 2.428	53(5)	923- 930	<b>2013</b>
<b>64</b>	Chatterjee S., Chandra A.K. and Chattopadhyay S.	“Elastomer-Based Bio- Nanocomposites”	Advances in Elastomer s II	--	205- 226	<b>2013</b>
<b>63</b>	Basuli U., Chaki T. K. and Chattopadhyay S.	“Rheological Signatures of Ethylene Methyl Acrylate- multiwalled Carbon Nanotube Nanocomposites”	Polymers for Advanced Technolog ies 3.665	23(1)	65-76	<b>2012</b>
<b>62</b>	Basuli U., Chaki T.K. and Chattopadhyay S.	“Mechanical, Thermal and Rheological Behavior of Ethylene Methyl Acrylate- MWNT Nanocomposites”	Polymer Engineeri ng and Science 2.428	52 (2)	277- 288	<b>2012</b>



<b>61</b>	Basuli U., Chattopadhyay S., Nah C., and Chaki T.K.	“Electrical Properties and Electromagnetic Interference Shielding Effectiveness of Multi-walled Carbon Nanotubes-reinforced EMA Nanocomposites”	Polymer Composites 3.171	33(6)	897-903	<b>2012</b>
<b>60</b>	Basuli U., Chattopadhyay S., Nah C. and Chaki T.K.	“Rheological Behaviours and Electrical Properties of Nanocomposites Based on Poly(Ethylene-co-Methyl Acrylate) and Multi-walled Carbon Nanotubes”	Advanced Science Letters	17(1)	27-39	<b>2012</b>
<b>59</b>	Mishra A. K., Chattopadhyay S., Rajamohanan P.R. and Nando G.B.	“Effect of Tethering on Structure-property Relationship of TPU-dual Modified Laponite Clay Nanocomposites by Ex-situ and In- situ Techniques”	Polymer 4.329	52(4)	1071-1083	<b>2011</b>
<b>58</b>	Mitra S., Chattopadhyay S. and Bhowmick A. K.	“Dynamic Stress Relaxation Behavior of Nanogel Filled Elastomers”	Journal of Polymer Research 3.097	18(4)	489-497	<b>2011</b>
<b>57</b>	Mishra A.K, Rajamohanan P. R., Nando J. B. and Chattopadhyay S.	“Structure-Property of Thermoplastic Polyurethane-Clay Nanocomposite Based on Covalent and Dual-modified Laponite”	Advanced Science Letters	4(1)	65-73	<b>2011</b>
<b>56</b>	Hui S., Chaki T.K. and Chattopadhyay S.	“Effect of Controlled Electron Beam Irradiation on Rheological Properties of Nano Silica-Filled LDPE-EVA Based Thermoplastic Elastomer”	Journal Applied Polymer Science 3.125	119(4)	2153-2166	<b>2011</b>
<b>55</b>	Basuli U., Chaki T.K. and Chattopadhyay S.	“Thermo-mechanical and Rheological Behavior of Polymer Nanocomposites Based on Ethylene-methyl Acrylate (EMA) and Multi-walled Carbon Nanotube (MWNT)”	Plastics, Rubber and Composites: Macromolecular Engineering 2.021	40 (5)	213-222	<b>2011</b>
<b>54</b>	Basuli U., Chaki T.K., Setua D.K. and Chattopadhyay S.	“A Comprehensive Assessment on Degradation of Multi-walled Carbon Nanotubes-reinforced EMA Nanocomposites”	Journal of thermal analysis and calorimetry 2.471	108 (3)	1223-1234	<b>2011</b>



53	Mitra S., Chattopadhyay S. and Bhowmick A. K.	“Studies of Reinforcement Behavior of Unique Elastomer Based Nanocomposite Gels”	Polymer Composites 3.171	32(1)	103-113	2011
52	Chattopadhyay P. K. and Chattopadhyay S.	“Prediction of Swelling in Ternary Particulate Rubber-nanocomposites: Development of Modified Kraus equation”	Rubber Chemistry and Technology 1.868	84(1)	1-23	2011
51	Mondal M., Chattopadhyay P. K., Setua D.K., Das N.C. and Chattopadhyay S.	“Influence of Surface Modified Nanoclay in Self-organized Nanostructure of Segmented Polyurethane Composites”	Polymer International 3.08	60(9)	1334-1341	2011
50	Chattopadhyay P.K., Das N.C. and Chattopadhyay S.	“Influence of Interfacial Roughness and the Hybrid Filler Microstructures on the Properties of Ternary Elastomeric Composites”	Composite: Part A, Applied Science and Manufacturing 7.664	42(8)	1049-1059	2011
49	Chattopadhyay P. K., Chattopadhyay S., Das N. C. and Bandyopadhyay P. P.	“Impact of Carbon Black Substitution with Nanoclay in Microstructure and Tribological Properties of Ternary Elastomeric Composites”	Journal of Materials and Design 7.991	32 (10)	4696-4704	2011
48	Mondal M., Chattopadhyay P. K., Chattopadhyay S. and Setua D. K.	“Thermal and Morphological Analysis of Thermoplastic Polyurethane-clay Nanocomposites: Comparison of Efficacy of Dual Modified Laponite vs. Commercial Montmorillonites”	Thermochimica Acta 3.115	510(1)	185-194	2010
47	Mishra A.K., Mushtaq S., Nando G.B. and Chattopadhyay S.	“Effect of Cloisite and Modified Laponite Clays on the Rheological Behavior of TPU-clay Nanocomposites”	Rheologica Acta, 2.627	49(8),	865-478	2010
46	Mishra A.K., and Chattopadhyay S.	“Thermoplastic Polyurethane-Modified Laponite Clay Nanocomposites”	Indian Institute of Technology, Thesis,	--	--	2010
45	Hui S., Chaki T. K. and Chattopadhyay S.	“Dielectric Properties of EVA/LDPE TPE Systems: Effect of Nano-Silica and Electron Beam Radiation”	Polymer Engineering and Science 2.428	50(4)	730-738	2010

44	Hui S., Chaki T. K. and Chattopadhyay S.	“Dynamic and Capillary Rheology of LDPE-EVA Based Thermoplastic Elastomer (TPE): Effect of Silica Nano-Filler”	Polymer Composites 3.171	31(3)	377-391	2010
43	Maji S., Chattopadhyay P.K., Khastgir D. and Chattopadhyay S.	“Transition Metal Catalyzed Oxidative Aging of Low Density Polyethylene: Effect of Manganese (III) Acetate”	Journal of Polymer Research 3.097	17(3)	325-334	2010
42	Praveen S., Chattopadhyay P.K., Jayendran S., Chakraborty B.C. and Chattopadhyay S.	“Effect of Nanoclay on the Mechanical and Damping Properties of Aramid Short Fibre-filled Styrene Butadiene Rubber Composites”	Polymer International 3.08	59(2)	187-197	2010
41	Mitra S., Chattopadhyay S., and Bhowmick A. K.	“Electron Beam Cross-linked Gels- Preparation, Characterization and Their Effect on the Mechanical, Dynamic Mechanical and rheological Properties of Rubbers”	Radiation Physics and Chemistry 2.858	79(3)	289-296	2010
40	Basuli U., Chaki T. K., Sabharwal S. and Chattopadhyay S.	“Influence of Acrylate Content on the Properties of Ethylene Methyl Acrylate-Multi Walled Carbon Nanotube Composites”	Advanced Science Letters	3(1)	10-19	2010
39	Mitra S., Chattopadhyay S. and Bhowmick A. K.	“Preparation and Characterization of Elastomer Based Nanocomposite Gels Using a Unique Latex Blending Technique”	Journal of Applied Polymer Science 3.125	118(1)	81-90	2010
38	Chattopadhyay P. K., Basuli U. and Chattopadhyay S.	“Studies on Novel Dual Filler based Epoxidized Natural Rubber Nanocomposite”	Polymer Composites 3.171	31(5)	835-846	2010
37	Mishra A. K., Chattopadhyay S. and Nando G. B.	“Effect of Modifiers on Morphology and Thermal Properties of Novel Thermoplastic Polyurethane-peptized Laponite Nanocomposites”	Journal of Applied Polymer Science 3.125	115(1)	558-569	2010
36	Hui S., Chattopadhyay S. and Chaki T. K.	“Thermal and Thermo-oxidative Degradation Study of a Model LDPE/EVA Based TPE system: Effect of Nano Silica and Electron Beam Irradiation”	Polymer Composites 3.171	31(8)	1387-1397	2010

<b>35</b>	Basuli U., Chaki T.K., Chattopadhyay S. and Sabarwal S.	“Thermal and Mechanical Properties of Polymer-Nanocomposites Based on Ethylene Methyl Acrylate and Multi-walled Carbon Nanotube”	Polymer Composites 3.171	31(7)	1168-1178	<b>2010</b>
<b>34</b>	Praveen S., Chattopadhyay P.K., Jayendran S., Chakraborty B.C. and Chattopadhyay S.	“Effect of Rubber Matrix Type on the Morphology and Reinforcement Effects in Carbon Black-nanoclay Hybrid Composites - A Comparative Assessment”	Polymer Composites 3.171	31(1)	97-104	<b>2010</b>
<b>33</b>	Mondal M., Chattopadhyay P.K., Setua D.K., Das N.C. and Chattopadhyay S.	“Self-Organization of Macromolecules in Novel TPU-clay Nanocomposites”	Advanced Materials Research	123	435-438	<b>2010</b>
<b>32</b>	Mishra A. K., Rajamohan P. R., Nando G. B. and Chattopadhyay S.	“ Effects of Covalent and Dual Modification of Clays on the Structure and Property of TPU- Laponite Clay Nanocomposites”	Advanced Science Letters	4	1	<b>2010</b>
<b>31</b>	Praveen S., Chattopadhyay P.K., Albert P., Dalvi V.G., Chakraborty B.C. and Chattopadhyay S.	“Synergistic Effect of Carbon Black and Nanoclay Fillers in Styrene Butadiene Rubber Matrix: Development of Dual Structure”	Composite Part A 7.664	40(3)	309-316	<b>2009</b>
<b>30</b>	Hui S., Chaki T. K. and Chattopadhyay S.	“Exploring the Simultaneous Effect of Nano Silica Reinforcement and Electron Beam Irradiation on a Model LDPE-EVA Based TPE System”	Polymer International 3.08	58(6)	680-690	<b>2009</b>
<b>29</b>	Praveen S., Chakraborty B.C., Jayendran S., Raut R.D., and Chattopadhyay S.	“Effect of Filler Geometry on Viscoelastic Damping of Graphite/Aramid and Carbon Short Fiber-Filled SBR Composites: A New Insight”	Journal of Applied Polymer Science 3.125	111(1)	264-272	<b>2009</b>
<b>28</b>	Mitra S., Chattopadhyay S. and Bhowmick A. K.	“Influence of Nanogels on Mechanical, Dynamic Mechanical and Thermal Properties of Elastomers”	Nanoscale Research Letters 4.703	4(5)	420-430	<b>2009</b>

27	Mitra S., Chattopadhyay S., Sabharwal S. and Bhowmick A. K.	“Rheological Behavior of Gel-Filled Raw Natural Rubber and Styrene- Butadiene Rubber with Reference to Gel-Matrix Intermixing”	Polymer Engineeri ng and Science 2.428	49(6)	1050- 1062	2009
26	Ganguly A., Saha S., Bhowmick A. K. and Chattopadhyay S.	“Augmenting the Performance of Acrylonitrile–Butadiene– Styrene Plastics for Low-Noise Dynamic Applications”	Journal of Applied Polymer Science 3.125	109(3)	1467- 1475	2008
25	Mishra A. K., Nando G. B. and Chattopadhyay S.	“Exploring Preferential Association of Laponite and Cloisite with Soft and Hard Segments in TPU-clay Nanocomposite Prepared by Solution Mixing Technique”	Journal of Polymer Science, Part B: Polymer Physics 2.435	46(21)	2341- 2354	2008
24	Sormana J. L., Chattopadhyay S. and Meredith J. C.	“Mechanical and Thermal Properties of Poly(Urethane Urea) Nanocomposites Prepared with Diamine- Modified Laponite”	Journal of Nanomate rials 4.034	--	1-9	2008
23	Mishra A. K., Chattopadhyay S., Nando G. B. and Devadoss E.	“Synthesis and Characterization of Elastomeric Polyurethane- Laponite Nanocomposite”	Designed Monomer s and Polymers 2.65	11	395	2008
22	Hui S., Chaki T. K. and Chattopadhyay S.	“Effect of Silica-Based Nanofillers on the Properties of a Low-Density Polyethylene/Ethylene Vinyl Acetate Copolymer Based Thermoplastic Elastomer”	Journal of Applied Polymer Science 3.125	110(2)	825- 836	2008
21	Bhadra S., Chattopadhyay S., Singha N.K. and Khastgir D.	“Improvement of Conductivity of Electrochemically Synthesized Polyaniline”	Journal of Applied Polymer Science 3.125	108(1)	57-64	2008
20	Mitra S., Chattopadhyay S. and Bhowmick A. K.	“Synthesis and Characterization of Chemically Cross-linked Styrene- Butadiene Rubber Nano-gels and Their Effect on Various Properties of the Rubber”	Rubber Chemistry and Technolog y 1.868	81 (5)	842- 864	2008
19	Mitra S., Chattopadhyay S. and Bhowmick A. K.	“Effects of Quasi-nanogel Particles on the Rheological and Mechanical Properties of Natural Rubber - A New Insight”	Journal of Applied Polymer Science 3.125	107 (5)	2755- 2767	2008

<b>18</b>	Mitra S., Chattopadhyay S., Bharadwaj Y. K., Sabharwal S.  and Bhowmick A. K.	“Effect of Electron Beam-cross- linked Gels on the Rheological Properties of Raw Natural Rubber”	Radiation Physics and Chemistry 2.858	77(5)	630-642	<b>2008</b>
<b>17</b>	Bhadra S., Singha N. K., Chattopadhyay S. and Khastgir D.	“Effect of Different Reaction Parameters on the Conductivity and Dielectric Properties of Polyaniline Synthesized Electrochemically and Modeling of Conductivity against Reaction Parameters through Regression Analysis”	Journal of Polymer Science-polymer physics 2.435	45(15)	2046-2059	<b>2007</b>
<b>16</b>	Rincon C., Chattopadhyay S. and Meredith J. C.	“Development of Semi-conductor Bio-materials for Regulating Cell Growth”	The 2007 Annual Meeting	--	--	<b>2007</b>
<b>15</b>	Satapathy S., Chattopadhyay S., Chakrabarty K. K., Nag A.,  Tiwari K.N., Tikku V.K.  and Nando G.B.	“Studies on the Effect of Electron Beam Irradiation on Waste Polyethylene and its Blends with Virgin Polyethylene”	Journal of Applied Polymer Science 3.125	101(1)	715-726	<b>2006</b>
<b>14</b>	Rincon C., Chattopadhyay S. and Meredith J. C.	“Combinatorial Bio-surface Chips for Quantitative Characterization of Polymer-Cell Interactions”	The 2006 Annual Meeting	--	--	<b>2006</b>
<b>13</b>	Chattopadhyay S. and Meredith J. C.	“Combinatorial Screening of Organic Electronic Materials: Thin Film Stability”	Journal of Measurement Science and Technology 2.046	16,	128-136	<b>2005</b>
<b>12</b>	Sormana J. L., Chattopadhyay S. and Meredith J. C.	“High-Throughput Mechanical Characterization of Free-Standing Polymer Films”	Review of Scientific Instruments 1.587	76 (6)	062214	<b>2005</b>
<b>11</b>	Meredith J. C., Chattopadhyay S., Andres G. and Zorina G.	“Design of Polymers for Electronics and Bio-medicine with Combinatorial Methods”	Polymeric Materials Science and Engineering	90	760	<b>2004</b>
<b>10</b>	Chattopadhyay S. and Meredith J. C.	“Instability and Dewetting of Conducting-Insulating Polymer Thin Film Bilayers”	Macromolecular Rapid. Comm. 5.734	25(1)	275-279	<b>2004</b>

9	Chattopadhyay S. and Meredith J.C.	“Combinatorial Studies of Polymeric Conducting-Insulating thin Film Dewetting”	Abstract of Papers of the ACS	226	U367	2003
8	Shaikh S., Chattopadhyay S. and Puskas J.	“New Approach to Measure Copolymerization Reactivity Ratios by Real Time FTIR Spectroscopy”	Polymer Preprints (ACS Division of Polymer Chemistry)	43(1)	258	2002
7	Chattopadhyay S., Chaki T.K., Ghosh R.N. and A.K. Bhowmick	“Surface Analysis and Printability Studies on Electron Beam-irradiated Thermoplastic Elastomeric Films from LDPE and EVA Blends”	Journal of Adhesion Science and Technology 2.077	15(3)	303-320	2001
6	Chattopadhyay S., Chaki T.K. and Bhowmick A.K.	“New Thermoplastic Elastomer from Poly(Ethylene-octene) (Engage), Poly(Ethylene-vinyl acetate) and Low-density Polyethylene by Electron Beam Technology: Mechanical Properties and Structural Characterization”	Rubber Chemistry and Technology 1.868	74(5)	815-833	2001
5	Chattopadhyay S., Chaki T.K. and Bhowmick A. K.	“Structural Characterization of Electron-beam Cross-linked Thermoplastic Elastomeric Films from Polyethylene and Ethylene Vinyl-acetate Copolymers”	Journal of Applied Polymer Science 3.125	81	1936-1950	2001
4	Chattopadhyay S., Chaki T.K. and Bhowmick A.K.	“Development of New Thermoplastic Elastomers from Blends of Polyethylene and Ethylene Vinyl Acetate Copolymer by Electron Beam Technology”	Journal of Applied Polymer Science 3.125	79	1877-1889	2001
3	Chattopadhyay S., Chaki T.K. and Bhowmick A.K.	“Electron Beam Modification of Thermoplastic Elastomeric Blends Made from Polyolefins”	Journal Material Science 4.22	36(18)	4323-4330	2001
2	Chattopadhyay S., Khastgir D., Chaki T.K. and Bhowmick A.K.	“Electrical Properties of Electron Beam Modified Films of Thermoplastic Elastomeric LDPE and EVA Blends”	Polymers and Polymer Composites 2.000	8 (5)	345-354	2000

1	Chattopadhyay S., Chaki T.K. and Bhowmick A.K.	"Heat Shrinkability of Electron Beam Modified Thermoplastic Elastomeric Films from Blend of Ethylene Vinyl Acetate Copolymer and Polyethylene"	Radiation Physics Chemistry 2.858	59(5)	501-510	2000
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## International/National Conference/Symposium

1. A. Kumar, S. Chattopadhyay "Analyzing Geometrical Imperfections on Tire Tread Compound and Mechanical Validation Through Finite Element Analysis", APM 2022.
2. A. Bera, S. Chattopadhyay "An early stage modification of natural rubber by bio-based integrant: a green obtention to enhance the efficacy of silica dispersion of tyre tread compound", APM 2022.
3. R. Hore, S. Chattopadhyay "Exploitation of Hybrid Composite System for the Vibration Isolator Application", APM 2022.
4. A. Guchait, T. Mondal, S. Chattopadhyay "Impact of Nano-filler on the Adhesion Properties of Pressure -sensitive Adhesives", APM 2022.
5. D. Ganguly, S. Chattopadhyay "In-situ modification of filler-filler network improvising the thermal conductivity and dispersion in hybrid elastomeric composite", APM 2022.
6. S. Sharma, A. Deb, S. Chattopadhyay "Investigating the structural deformation of the extrudate during the processing and simulation of an extrusion die for polymeric products", APM 2022.
7. M. Goswami, S. Chattopadhyay "Mixed-Mode and Mode-I fracture analysis of elastomeric composites using damage model assisted finite element analysis", APM 2022.
8. N. Kumar, S. Chattopadhyay "Multi Stimuli Responsive Biphasic Dual Network Hydrogel for Drug Delivery", APM 2022.
9. S. Das, A. K. Bhowmik, S. Chattopadhyay "Physico-mechanical properties of NXT silane grafted Styrene butadiene rubber/silica composites", APM 2022.
10. L. M. Mukundan, S. Dhara, S. Chattopadhyay "Polycaprolactone encrusted bioactive glass antibiotic nanohybrid through drug mediated surface initiated polymerization", APM 2022.
11. S. Khanra, S. Chattopadhyay "Reactive Compatibilization of the Fluoroelastomer and Silicone Rubber Blend with Fluoroelastomer-g-Acrylamide", APM 2022.
12. P. Sreenivasan, S. Chattopadhyay "Study of processing and sound attenuation characteristics of hollow glass balloon filled rubber composites", APM 2022.
13. R. Koley, S. Chattopadhyay "Sustainability in Indian rubber industries framework: How to practice, implement and face the future challenges of business", National Rubber Conference (NRC 2022), Delhi-NCR.
14. M. Goswami, S. Chattopadhyay "A Damage Model Based on Maximum Principal Strain Theory to Trace Fracture of Elastomeric Composites: Finite Element Analysis and Experimental Validation", International elastomer conference, 2021.
15. S. Sharma, A. Deb, S. Chattopadhyay "An Approach to investigate the effect of rheology during polymer extrusion using computational method", Complex Fluid



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2021.

- 16.**S. Sharma, A. Deb, S. Chattopadhyay "An investigation of polymeric extrudate rheological behaviour using a computational method", 7th Edition of International Conference on Polymer Science and Technology, 2021.
- 17.**S. Sharma, A. Deb, S. Chattopadhyay "An investigation of structural deformation on elastomeric profiles during extrusion process using finite element analysis", Global conference on advances in polymer science & nanotechnology, 2021.
- 18.**S. Sharma, A. Deb, S. Chattopadhyay "Design and development of polymeric extrusion die", 12th Asia Pacific Conference on Polymer Science and Engineering, 2021.
- 19.**S. Sharma, A. Deb, S. Chattopadhyay "An investigation of structural deformation on elastomeric profiles during extrusion process using finite element analysis", Global conference on advances in polymer science & nanotechnology, 2021.
- 20.**S. Sharma, A. Deb, S. Chattopadhyay "An investigation of structural deformation on elastomeric profiles during extrusion process using finite element analysis", Global conference on advances in polymer science & nanotechnology, 2021.
- 21.**R. Koley, R. Kasilingam, S. Sahoo, S. Chattopadhyay, A.K. Bhowmick, "Synthesis and characterization of bio-based tackifying resin and it's application in rubber", ACS, International Elastomer Conference, Knoxville, USA. 21st October, 2020. (Best presentation award)
- 22.**S Pradhan and S. Chattopadhyay "Graphene Nanoplatelet: Potential Nanofiller for Polychloroprene Elastomer" at e-Poster Conference on COMSE, May 15 – 20, 2020.
- 23.**M. Goswami, Sunil Goyal, G.A. Harmain and S. Chattopadhyay "Adapting Finite Element Method as a Propitious Structural Analysis Tool for Metals and Polymers" at e-Poster Conference on COMSE, May 15 – 20, 2020.
- 24.**S. Khanra and S. Chattopadhyay "Compatibilization of silicone rubber and advanced polymer architecture based fluoroelastomer for high performance blend using fluorosilicone and silica" at e-Poster Conference on COMSE, May 15 – 20, 2020.
- 25.**S.K.Ghorai, S. Maji, T.K.Maiti and S. Chattopadhyay "Accelerated bone regeneration of polyurethane-urea based 3D nanohybrid scaffolds through titanium phosphate decorated nanohydroxyapatite" at e-Poster Conference on COMSE, May 15 – 20, 2020.
- 26.**D. Ganguly and S. Chattopadhyay "Electrical, thermal and rheological properties of hybrid ceramic-carbon filled HNBR System" at e-Poster Conference on COMSE, May 15– 20, 2020.
- 27.**S. Sharma, Arghya Debb and S. Chattopadhyay "Predicting the Deformation Behaviour of the Extrudate during manufacturing of Complex Rubber Profiles using Finite Element Analysis" at e-poster conference on COMSE, May 15-20,2020
- 28.**D. Ganguly and S. Chattopadhyay "Rheological Studies on Mechano-Adaptive and Electrically Conductive Rubber Ceramic-Waste Composites with Reduced Carbon Footprint" at APM 20, CIPET Bangalore, February 13 - 15, 2020.
- 29.**M. Goswami and S. Chattopadhyay "Synergistic effect of silica in carbon black filled styrene butadiene rubber: Fracture analysis using finite element analysis." at APM 20, CIPET Bangalore, February 13 - 15, 2020.
- 30.**S. Sharma, Arghya Debb and S. Chattopadhyay "An Investigation of Overall Deformation due to Die-swell during Manufacturing of Extrudate Rubber Product



Using Finite Element Analysis" at APM 20, CIPET Bangalore, February 13 - 15, 2020.

- 31.**L. Mukundan, S. Dhara and S. Chattopadhyay "Polymeric tempting approach for the infusion Apatite Nanocrystals in Mesosstructured bioactive glass through sono-reacted sol- gel synthesis" at GSPFM 20, IIT KGP, February 7 - 8, 2020.
- 32.**D. Ganguly and S. Chattopadhyay "Smart Mechano-Adaptable Elastomeric Composites Having Superior Electrical Properties" at ICMAT 20, Mysore, January 16-18, 2020.
- 33.**S. K. Ghorai and S. Chattopadhyay, "Polyurethane-urea Based Macro-porous Nanohybrid Scaffold for Bone Tissue Regeneration "at Jadavpur University, 10th January, 2020.
- 34.**S. Panja and S. Chattopadhyay, "Co-ordination assisted self-assembled nanostructures for biomedical applications" at Jadavpur University, 10th January, 2020.
- 35.**R. Koley, Rajkumar Kasilingam, Suchismita Sahoo, Anil K. Bhowmick and S. Chattopadhyay, "Synthesis of bio-based phenol furanic resin as a green additive for rubber application." at NRC Kolkata, December 4 -5, 2019. (2nd Position)
- 36.**S. Das, Sawar Dhanania, Anil K. Bhowmick and S. Chattopadhyay, "Reactive grafting of 3-Octanoylthio-1-propyltriethoxysilane in styrene butadiene rubber and its effect on green tire technology." at NRC Kolkata, December 4 -5, 2019.
- 37.**D. Ganguly and S. Chattopadhyay, "Effect of hybrid ceramic-carbon filler system on electrical, thermal and rheological properties of HNBR" at NRC Kolkata, December 4 -5, 2019. (3rd Position)
- 38.**S. Sharma, Arghya Debb and S. Chattopadhyay, "Predicting the Effect of Rheology in Rubber Extrusion using Finite Element Method" at NRC Kolkata, December 4 -5, 2019. (1st Position)
- 39.**M. Goswami and S. Chattopadhyay, "Fracture analysis of silica and carbon black filled SSBR using finite element method" at NRC Kolkata, December 4 -5, 2019.
- 40.**D. Ganguly, S. Khanra and S. Chattopadhyay "Mechano-Adaptive and Electro-Responsive Smart Elastomeric Composites" at APSRT 19, IIT KGP, September 24 - 27, 2019.
- 41.**S. Khanra, D. Ganguly and S. Chattopadhyay "Compatibilization of silicone rubber and advanced polymer architecture based fluoroelastomer for high performance blend using fluorosilicone and silica" at APSRT 19, IIT KGP, September 24 - 27, 2019.
- 42.**S.K.Ghorai, S. Maji, and S. Chattopadhyay " Metal co-ordinated polyurethane-urea based 3D nanohybrid scaffolds for bone tissue regeneration." at APSRT 19, IIT KGP, September 24 - 27, 2019.
- 43.**A. Kumar and S. Chattopadhyay "Significance of hyperelastic parameters for filled rubber: A validation through finite element simulation" at APSRT 19, IIT KGP, September 24 - 27, 2019.
- 44.**S. Das, S Dhanania, Anil K. Bhowmick and S. Chattopadhyay "Reactive grafting of 3-Octanoylthio-1-propyltriethoxysilane in styrene butadiene rubber and its effect on silica reinforced tire composites " at APSRT 19, IIT KGP, September 24 - 27, 2019.
- 45.**R. Koley, Rajkumar Kasilingam, Suchismita Sahoo, Anil K. Bhowmick and S. Chattopadhyay "Synthesis and characterization of phenol furfural resin from bioresources as a green compounding aid." at APSRT 19, IIT KGP, September 24 - 27, 2019.

- 46.**P. Mondal and S. Chattopadhyay at APSRT 19, IIT KGP, September 24 - 27, 2019.  
(Best Poster by ACS)
- 47.**D. Ganguly, S. Khanra and S. Chattopadhyay "Coining the Attributes of Cement like Ceramics in Hydrogenated NBR for Smart Applications" at IRC 2019, London, September 3 - 5, 2019.
- 48.**D. Goswami, Jayanta Das and S. Chattopadhyay "Enhancement of structural transition induced vibration-damping capacity in Ni-Mn-Ga-polysulfone composite" at ISMANAM 2019, Chennai, July 8 - 12, 2019.
- 49.**D. Ganguly and S. Chattopadhyay "Smart Cement Rubber Composites Having Cyclic Responsive Characteristics" at ICETSD 2019, Kolkata, March 5 - 6 2019.
- 50.**A. Kumar and S. Chattopadhyay "Validation of elastomer tensile properties with varying filler content using finite element analysis, proceedings of international conference on emerging technologies for sustainable development" at ICETSD 2019, Kolkata, March 5 - 6 2019.
- 51.**D. Ganguly and S. Chattopadhyay at IRC 2019, London, 3-5th September, 2019 on Coining the attributes of cement like ceramics in hydrogenated NBR for smart applications.
- 52.**D. Ganguly and S. Chattopadhyay at International Conference on Emerging Technologies for Sustainable Development 2019, Kolkata, March 19 on Smart Cement Rubber Composites Having Cyclic Responsive Characteristics.
- 53.**D. Goswami and S. Chattopadhyay at National Metallurgist's Day Annual Technological Meeting 2018, Kolkata, Nov 2018 on Effect of ball milling on the magnetocaloric performance of a NiMnGa alloy.
- 54.**S. Khanra and S. Chattopadhyay at NRC Kolkata, by AIRIA, Nov 2018 on Advanced Polymer Architecture (APA) Technology-based Fluoroelastomers
- 55.**A. Kumar and S. Chattopadhyay at NRC Kolkata, by AIRIA, Nov 2018 on An approach of predicting tensile response with varying filler loading in rubbers using Finite Element Analysis
- 56.**D. Ganguly and S. Chattopadhyay at NRC Kolkata, by AIRIA, Nov 2018 on Smart Stimuli Responsive Cement Rubber Composites (Best Poster)
- 57.**S. Sharma and S. Chattopadhyay at NRC Kolkata, by AIRIA, Nov 2018 on Design and Simulation of Extrusion Dies to Obtain Precise Rubber Profiles
- 58.**A. Kumar and S. Chattopadhyay at 23rd Rubber Conference by IRMRA, Mumbai, Dec 2018 on Prediction of tensile response with varying filler loading in rubbers – A validation using Finite Element Analysis
- 59.**S. Sharma and S. Chattopadhyay at 23rd Rubber Conference by IRMRA, Mumbai, Dec 2018 on Simulation of Extrusion Dies for Rubber Profiles (Best Paper)
- 60.**D. Goswami and S. Chattopadhyay at Innovation in Materials Science and Technology 18, Kolkata, Dec 18 on Enhanced vibration damping capabilities of a Ni-Mn-Ga alloy – Polysulfone composite material
- 61.**L. Mukundan and S. Chattopadhyay at Innovation in Materials Science and Technology 18, Kolkata, Dec 18 on Polymeric templating approach using amphiphilic block copolymers for ordering the mesopores of sol-gel derived bioactive glass
- 62.**S. Chattopadhyay, "Design and simulation of extrusion dies: an introduction to make perfect dies for rubber product", NRC, AIRIA, 23-24 Feb 2018, India.

- 63.** S. K. Ghorai and S. Chattopadhyay, at 5th TERMIS World Congress- 2018, Kyoto, Japan, Sept 18 on New Generation Spermine Based Polyurathane-Urea Dderiev High Strenght Osteoconductive Scaffold
- 64.** T. Roy and S. Chattopadhyay at 5th TERMIS World Congress- 2018, Kyoto, Japan, Sept 18 on Biopolymer based electrospinning of synthetic polyester for tissue engineering applications.
- 65.** O. P Bajpai and S. Chattopadhyay, "Tuning Morphology and Functional Properties of Electrochemically Synthesized Polythiophene for Photovoltaic Applications: Effect of Solvent and Current Density", Advanced Energy Materials Congress – 25- 28 March 2018, Sweden, (Committed).
- 66.** K. Sarkar, D. Das, and S. Chattopadhyay, "Smart conductive cotton fabric by macro-structured carbon clusters for electromagnetic interference shielding", ICMAT-2017, Suntec City, Singapore, 18-23 June 2017.
- 67.** K. Sarkar, D. Das, and S. Chattopadhyay, "Smart and economic conductive textile for electromagnetic interference shielding", Suntec City, Singapore, 18-23 June 2017.
- 68.** K. Sarkar, D. Das, T. K. Chaki and S. Chattopadhyay, "Macro-structured carbon composites and their electrical properties for developing conductive textiles by coating process", TCPFT-2017, CRNN, University of Calcutta, Kolkata, 3-5 January 2017.
- 69.** K. Sarkar, D. Das, T. K. Chaki and S. Chattopadhyay, "Smart conductive cotton fabric by structurally modified carbon particles", 44th Textile Research Symposium, IIT Delhi, New Delhi, 14-16 December 2016.
- 70.** S. Panja and S. Chattopadhyay, "Synthesis and morphological study of branched PE-PCL immobilized superparamagnetic nanocomposite", Macro-2015, IACS, Kolkata, 23-26 January 2015.
- 71.** A. Dey, M. A. S. Khan, J. Athar, A. K. Sikder and S. Chattopadhyay, "Effect of microstructure on HTPB based polyurethane (HTPB-PU)", Macro-2015, IACS, Kolkata, 23-26 January 2015.
- 72.** S. Kumar, G.B. Nando, S. Nair, G. Unnikrishnan, A. Sreejesh and S. Chattopadhyay, "Application of nanotechnology for TBR/PCR tire innerliner materials", Tire Technology Expo 2015, Cologne, Germany, 10-12 February 2015.
- 73.** S. Kumar, G.B. Nando, S. Nair, G. Unnikrishnan, A. Sreejesh and S. Chattopadhyay, "Development, characterization and properties of novel quaternary rubber nanocomposites", 186th International elastomer conference, Rubber Division, ACS, Nashville, TN, USA, 14-16 October 2014.
- 74.** M. Selvakumar, S. K. Jaganathan, G. B. Nando and S. Chattopadhyay, "Structure property relationship of novel in-situ prepared thermoplastic polyurethane/hydroxylapatite nanocomposites with improved antithrombic property for biomedical applications", 186th International elastomer conference, Rubber Division, ACS, Nashville, TN, USA, 14-16 October 2014.
- 75.** S. Kumar, G.B. Nando, S. Nair, G. Unnikrishnan, A. Sreejesh and S. Chattopadhyay, "Development, characterization and properties of BIIR-CO rubber nanocomposites", Rubber Conference 2014, Beijing, China, 16-18 September 2014.
- 76.** A. Dey, J. Athar, A. K. Sikder, M. Ghosh, S. J. Pawar, A. Tripathi, H. Prasanth and S. Chattopadhyay, "Graphene-iron oxide nanocomposite: An efficient catalyst for ammonium perchlorate(AP) decomposition reaction", International Conference on

Functional Materials (ICFM-2014), Materials Science Centre, IIT, Kharagpur, 5 -7 February 2014.

- 77.**S. Payyappilly, S. Dhara and S. Chattopadhyay, "Self assembled block copolymer nanoparticles for drug delivery", International Conference on rubber and rubber-like materials (ICRRM 2013), RTC, IIT Kharagpur, 6-9 March 2013.
- 78.**S. Panja and S. Chattopadhyay, "Synthesis and characterization of armed PE-PCL grafted superparamagnetic nanoparticles", International Conference on rubber and rubber-like materials (ICRRM 2013), RTC, IIT Kharagpur, 6-9 March 2013.
- 79.**S. Payyappilly, S. Dhara and S. Chattopadhyay, "Self assembled PEG-PCL-PEG for insulin delivery", FAPS-MACRO-2013, IISc, Bangalore, 15-18 May 2013.
- 80.**O. P. Bajpai, S. Panja, S. Chattopadhyay and D. K. Setua, "Nanocomposite based on piezoelectric polymer matrix and magnetic nanoparticles", ICRRM, IIT Kharagpur, 6-9 March 2013.
- 81.**S. Payyappilly, S. Dhara and S. Chattopadhyay, "Biodegradable injectable hydrogel for drug delivery", 7th International Conference on materials for advanced technologies (ICMAT-2013), Suntec, Singapore, 30th June-6th July 2013.
- 82.**S. Panja and S. Chattopadhyay, "Branched polymer-based pH responsive micelle for delivery of doxorubicin selectively on cancer cell: synthesis, characterization, cell uptake and release", (ICMAT 2013), Suntec, Singapore, 30th June-6th July 2013.
- 83.**A.K. Mishra, G.B. Nando and S. Chattopadhyay, "Novel morphology development of TPU-clay nanocomposites based on single & dual modified Laponite", Processing and Fabrication of Advanced Materials (PFAM-19), Auckland, New Zealand, 14-17 January 2011.
- 84.**U. Basuli, T.K. Chaki and S. Chattopadhyay "Studies on nanotube networks in polymer nanocomposites by dynamic and steady shear rheology", Processing and Fabrication of Advanced Materials (PFAM-19), Auckland, New Zealand, 14-17 January 2011.
- 85.**U. Basuli, T.K. Chaki and S. Chattopadhyay, "Polymer –nanosilica-carbon nanotube nanocomposites: unique nanofiller synergistic effect", Proceedings of Advances in Polymer Science and Rubber Technology (APSRT-2011) Challenges towards 2010 and beyond., IIT, Kharagpur, India, March 3-5, 2011.
- 86.**P.K. Chattopadhyay and S. Chattopadhyay, "Investigation of the hybrid filler microstructure in the performance property development within epoxidized natural rubber based ternary particulate nanocomposites", Oral presentation in International Rubber Conference and Exhibition-2010, Mumbai, 17-19 November 2010.
- 87.**S. Praveen, B.K. Chattopadhyay and S. Chattopadhyay, "Vibration damping and energy loss in bromobutyl rubber –Effect of filler size and shape", Oral presentation in International Rubber Conference and Exhibition-2010, Mumbai, 17-19 November 2010.
- 88.**U. Basuli, T.K. Chaki, and S. Chattopadhyay "Thermo-mechanical, electrical and morphological characteristics of ethylene methyl acrylate (EMA)/CNT nanocomposites", 2nd Indo Swiss Bonding International Symposium 2010, Sikkim Manipal University (SMU), 11-13 February 2010.
- 89.**S. Maji, P.K. Chattopadhyay, D. Khastgir and S. Chattopadhyay, "Oxidative degradation of polyolefin – a novel avenue plastics recycling", National Seminar on E-waste, NASEW- 10, NML, Jamshedpur, January 21-22, 2010.
- 90.**M. Mondal, P.K. Chattopadhyay, D.K. Setua, N. C. Das and S. Chattopadhyay "Self

organization of macromolecules in novel TPU-clay Nanocomposites", Oral presentation in the 3rd International Conference on Multi-Functional Materials and Structures Jeonju, South Korea, September 14-18, 2010.

- 91.** S. Hui, T. K. Chaki and S. Chattopadhyay, "Electron beam modified LDPE/EVA based thermoplastic elastomeric nano-composites with improved properties", India Rubber Expo 2009, 5th International Exhibition, Conference and Reverse Buyer-Seller Meet, Hyatt Regency Kolkata, 2009.
- 92.** S. Hui, T. K. Chaki and S. Chattopadhyay, "Effect of silica nano-filler on the dynamic and capillary rheology of LDPE-EVA based thermoplastic elastomer", 25th Annual Meeting of The Polymer Processing Society (PPS 25), Goa, India, 2009.
- 93.** S. Hui, T. K. Chaki and S. Chattopadhyay, "Electrical properties and morphological study of LDPE/EVA based nanocomposites", International Conference on Hi-Tech Materials (ICHTM-09), Indian Institute of Technology, Kharagpur, India, 11-13 February 2009.
- 94.** S. Hui, T. K. Chaki and S. Chattopadhyay, "Electron beam modified thermoplastic elastomer nanocomposites based on inorganic nanofiller", International Conference on Electron Beam Irradiation: An Eco-Friendly Technology for Processing of Food and Industrial Products", The Maurya, New Delhi, India, 30-31 July 2009.
- 95.** A. K. Mishra, S. Chattopadhyay and G. B. Nando, "Polyurethane-laponite clay nanocomposites", IRE-09, Hyatt Regency, Kolkata, 2009.
- 96.** A. K. Mishra, S. Chattopadhyay and G. B. Nando, "Effect of aspect ratio and state of dispersion on the rheological behavior of TPU-clay nanocomposite", PPS-25, Goa, India, 2009.
- 97.** A. K. Mishra, S. Chattopadhyay and G. B. Nando, "Effect of modifiers on thermal properties of TPU- peptised laponite clay nanocomposite", MACRO-09, IIT, Madras, 2009.
- 98.** A. K. Mishra, S. Chattopadhyay and G. B. Nando, "Preparation and characterization of segmented polyurethane-laponite clay nanocomposites", ICHTM-09, IIT Kharagpur, 2009.
- 99.** U. Basuli, T.K. Chaki and. S Chattopadhyay, "Flexible composites based on EMA and modified conducting carbon black", IRE-09, Hyatt Regency, Kolkata, 2009.
- 100.** U. Basuli, T.K. Chaki, and S. Chattopadhyay, "Morphology and thermal properties of solution and melt-mixed multi-walled carbon nanotube/ EMA nanocomposites: a comparative study", PPS - 25, Goa, India, 2009.
- 101.** S. Praveen, P. K. Chattopadhyay, B. C. Chakraborty, and S. Chattopadhyay, "Indulgence of novel ternary structures comprising nanoclay-carbon black and elastomers: cooperative effect on property development", IRE-09, Hyatt Regency, Kolkata, 2009.
- 102.** S. Mitra, S. Chattopadhyay, Y. K. Bhardwaj, S. Sabharwal and A. K. Bhowmick, "Chemically crosslinked gels – new generation modifiers for elastomers", India Rubber Expo 2009, Hyatt Regency, Kolkata, 2009.
- 103.** S. Mitra, S. Chattopadhyay, and A. K. Bhowmick, "Improvement in processability of unfilled natural rubber by the addition of chemically crosslinked quasi-nano gels", PPS- 25, Goa, India, 2009.
- 104.** P. K. Chattopadhyay and S. Chattopadhyay, "Thermal and dynamic rheological studies on nanostructure development within novel ENR based ternary nano-



composites", IRE- 09, Hyat Regency, Kolkata, 2009.

- 105.** S. Hui, T. K. Chaki and S. Chattopadhyay, "Dynamic and steady state rheology of radiation processed nano-silica filled model TPE blend systems", Second International Conference on Polymer Blends, Composites, IPNs, Membranes, Polyelectrolytes and Gels: Macro to Nano Scales (ICBC-2008), Kottayam, Kerala, 2008.
- 106.** S. Hui, T. K. Chaki and S. Chattopadhyay, "A comprehensive study of degradation of nano-silica filled model TPE blend systems", International Conference on Advances in Polymer Technology, Kochi, Kerala, 2008.
- 107.** S. Hui, T. K. Chaki and S. Chattopadhyay, "Thermoplastic elastomer with nanofiller", International Conference on Rubber & Rubber-like materials (ICRRM-2008), Indian Institute of Technology, Kharagpur, India, 8-10 January 2008.
- 108.** A. K. Mishra, S. Chattopadhyay and G. B. Nando, "Synthesis and characterization of polyurethane laponite nanocomposite", Polychar-16, Lucknow, 2008.
- 109.** S. Praveen, A. Pradeesh, B.C. Chakraborty and S. Chattopadhyay, "Augmenting structural vibration damping: effect of filler geometry in SBR – a comparative study", IRMRA 20th Rubber conference, Ramada, Powai, Mumbai, 2008. (Awarded for best Student's paper).
- 110.** S. Mitra, S. Chattopadhyay, Y. K. Bharadwaj, S. Sabharwal and A. K. Bhowmick; "Effect of electron beam cross-linked gels on the rheological properties of raw natural rubber", ICRRM – 2008, IIT Kharagpur, India, 8-10 January 2008.
- 111.** S. Mitra, S. Chattopadhyay, S. Sabharwal and A. K. Bhowmick, "Electron beam crosslinked gels – preparation, characterization and their effect on the mechanical, dynamic mechanical and rheological properties of rubbers", IRaP – 2008, Rio de Janeiro, Brazil, 2008.
- 112.** G. B. Nando, A. K. Mishra, and S. Chattopadhyay, "Preparation and characterization of segmented polyurethane-laponite clay nanocomposites", Internationale Fachtagung Polymerwerkstoffe 2008, Halle/Saale Universitätsplatz, 2008.
- 113.** C. Rincon, S. Chattopadhyay, and J. C. Meredith, "Combinatorial biosurface chips for quantitative characterization of polymer –cell interactions", AIChE Annual Meeting, San Francisco, California, 12-17 November 2006.
- 114.** S. Bhadra, N. K. Singha, S. Chattopadhyay and D. Khastgir, "Controlled conductive polyaniline by electropolymerization (Determination of structure-property relationship)", 12th International Conference on Polymers and Organic Chemistry (Under IUPAC auspices), Okazaki, Japan, 02-07 July 2006.
- 115.** S. Chattopadhyay, A. Ganguly, S. Saha and A.K. Bhowmick, "Modification of damping and frictional behaviour of ABS plastics with thermoplastic elastomer", India International Rubber Conf. & Expo 2007, 1-3 November 2007.
- 116.** G.K. Abraham, B. George, K.T. Thomas, S. Chattopadhyay and N.M. Mathew, "Effect of curing system and modification of EPDM on vulcanizate properties of ENR/EPDM blends", Asia Rubtech Expo '06, Kochi, Kerala, 23-25 November 2006.
- 117.** S. Maji, D. Khastgir and S. Chattopadhyay, "Oxidative degradation of polyolefins – a novel avenue of recycling", Asia Rubtech Expo, Kochi, Kerala, November 2006.
- 118.** T.K. Chaki, A.K. Bhowmick and S. Chattopadhyay, "Printability and peel adhesion studies of electron beam irradiated thermoplastic elastomeric film from LDPE and

EVA", 19th Internationales symposium SWISSBONDING, Zurich, Switzerland 23-25 May 2005.

- 119.** P. Zapata, J. Su, S. Chattopadhyay, C. Rincón, A. García and J. C. Meredith, "Combinatorial biosurface chip to study polymer - cell interactions", BIO 2005 Annual International Convention, Philadelphia, PA, 22 June 2005.
- 120.** S. Chattopadhyay and J. C. Meredith, "High-throughput screening of semiconducting- insulating polymer interfacial stability", Proceedings of the Annual Meeting of the Adhesion Society, 2004.
- 121.** J. C. Meredith and S. Chattopadhyay, "Controlling dewetting and instability in conducting polymers and conducting/insulating polymer interfaces", Technical Presentation, AIChE Annual Meeting, San Francisco, CA, USA, 16-21 November 2003.
- 122.** S. Chattopadhyay and J. C. Meredith, "Combinatorial studies of polymeric conducting- insulating thin film bilayer dewetting", Technical Paper, 226th ACS National Meeting, New York, NY, United States, 7-11 September 2003.
- 123.** S. Chattopadhyay, Y. Kwon, A.K. Naskar, A.K. Bhowmick, and J.E. Puskas, "Novel dendritic (arborescent) polyisobutylene-polystyrene thermoplastic elastomers", Technical Papers - ACS, Rubber Division, 162nd, Pittsburgh, PA, United States, 8-11 October 2002.
- 124.** S. Chattopadhyay, T.K. Chaki and A.K. Bhowmick, "Thermoplastic elastomeric films from ethylene vinyl acetate and polyethylene blend and its heat shrinkability", Rub. Tech. 2000, New Delhi, India, 21-23 February 2000.
- 125.** S. Shaikh, S. Chattopadhyay, J. E. Puskas, "A new approach to measure the copolymer reactivity ratios by real time FTIR spectroscopy", Polymer Preprints (ACS, Division of Polymer Chemistry), 2002.

## Coordinated

- 1.** 5th Research Scholars' Day of Rubber Technology Centre, IIT Kharagpur, 6th April 2018 with Prof. N. K. Singha.
- 2.** Short Term Course On "Rubber Technology" at Rubber Technology Centre, IIT Kharagpur, 12-15 Nov 18 with Prof. A.K. Bhowmik.
- 3.** NPTEL online certification 12-week course on "Characterization of Polymers Elastomers and Composites" Jan 2023.
- 4.** NPTEL online certification 8-week course on "Rheology and processing of Paints, Plastics, Elastomers and Composites" Jul 2023.

## Conference session chaired and invited talks delivered

- 1.** Invited Speaker at CUSAT, a Symposium on "Nanocomposites for sustainable future" delivered lecture on "CFD modeling for the prediction of structural deformation/ instability in the polymeric extrudate profile due to die swell using 3D models", May 10-11, 2023.
- 2.** Invited Speaker at NRC Delhi 2023 on "Innovative routes to facilitate silica dispersion in natural rubber for green and sustainable rubber products".
- 3.** Session Chair and delivered an Invited Keynote Lecture at APM 2023, Bengaluru, "on

Engineered nano-particulates and hydrogel based biomaterials towards bone tissue regeneration”.

4. 7th National Conference on Biopolymers & Green Composites (BPGC 2022) at CIPET-Kochi, delivered a lecture on “Nanodoped nanohydroxyapatite incorporated polyurethane-urea based porous scaffolds for accelerated bone regeneration: A judicious approach”, December, 2022.
5. Session Chair and delivered an Invited Lecture at IRC 2022, Bengaluru on “CFD modeling for predicting the flow behavior of filled EPDM rubber compound during extrusion: An approach to optimize the die design for complex automotive profiles”.
6. Invited Speaker at NRC Kolkata 2022 on “Featuring Silicone Rubber and its Application Towards Footwear Industry”.
7. Session Chair and delivered an Invited Keynote Lecture at APM 2022, CIPET: SARP-ARSTPS, Chennai, on “CFD modeling for the prediction of structural deformation/instability in the polymeric extrudate profile due to die swell using 3D models”.
8. Session Chair and Speaker at an international symposium, 'Exploring Molecules, Materials and Biomaterials for Sustainable Society', at Midnapore college on “Sustainability in Indian rubber industries framework: How to practice, implement and face the future challenges of business”, 8-10 September 2022.
9. Invited Speaker at NRC Delhi 2022 on “Sustainability in Indian Rubber Industries Framework: How to Practice, Implement and Face the Future Challenges of Business”.
10. Invited Speaker at NRC Mumbai 2022 on “Silicone and fluoroelastomer based high performance blend by strategic compatibilization replacing fluorosilicones unveiling Industrial prospects”.
11. Invited Speaker at NRC Delhi, 2019 on “Devulcanize waste rubber and alternative natural source of rubber: An approach for sustainable development”.
12. Invited Speaker at NRC Mumbai 2019 on “Finite element analysis as a sustainable tool toward global rubber business challenges”.
13. Session Chair and Speaker at NRC Kolkata and International Conference and Exhibition on Polymers, Mani Ram Dewan Trade Centre, Guwahati on 24th Feb 2018 “Design and Simulation of Extrusion dies, An introduction to make perfect dies for rubber products.”
14. Invited Talk at National Rubber Conference, Mumbai, 1st - 2nd Oct 18 on “Stimuli Responsive Smart Rubber-Cement and Cement-like Composites”
15. Plenary Speaker at National Rubber Conference, Kolkata, 26th -27th Nov 18 on Futuristic Design for Rubber Products with Special Reference to Applications in E-Automotive, High Speed Railways & Strategic Defense
16. Invited speaker at Innovation in Materials Science and Technology 18, Kolkata 14-16 Dec 18 on Pentaerythritol Poly(caprolactone)-b-poly(acrylic acid) Based Light-responsive Nanogel for on Demand and Targeted Cancer therapy
17. Invited speaker at 23rd National Rubber Conference by IRMRA, Mumbai, 14-15 Dec 18 on Augmenting Feathers of Macro-Structured Carbon Black to Textiles: Development of Smart Conductive Fabric
18. Invited Speaker at J.K. Tyre, Hasetry, Mysore on “Microscopy of Rubbers for Tyre industries” 16th July 2018



- 19.** Guest Speaker at Cochin University of Science and Technology (CUSAT), 12th – 14th August 18 on “Extrusion Die Design – Way to Obtain Precise Shapes for Rubber Profiles.”
- 20.** Invited speaker at Saint Gobain, Mori 1-2nd Oct 18, on Science and Technology of rubber mixing
- 21.** Invited speaker at IIT Guwahati 24-25 DEC, 18 Co-ordination assisted self-assembled nanostructure: a futuristic engineered Nano-formulation for advanced therapeutic application
- 22.** Invited lecturer at International Rubber Expo (IRE) Mumbai 17-19 Jan 19, 4 hours Lecture in workshop on Rubbers.

## Short Term Courses

- 1.** Delivered lectures in Short Term Course On “Rubber Technology” at Rubber Technology Centre, IIT Kharagpur, 12-15 Nov 18 coordinated by Prof. A.K. Bhowmick and Prof. Santanu Chattopadhyay.
- 2.** Delivered lectures in Short Term Course On “Recent Advancement in Rubber Technology” at Rubber Technology Centre, IIT Kharagpur, 12-15 Feb 19, coordinated by prof. K Naskar and Dr. N. C. Das.
- 3.** Delivered lectures in off-campus Short Term Course On “Adhesion & Polymer basics at Asian Paints” at Asian Paints Limited, Mumbai, Feb 28 - March 2 2019, coordinated by Prof. A.K. Bhowmick and Prof. N. K. Singha.
- 4.** Delivered lectures in Short Term Course On “Recent Advancement in Rubber Technology” at Rubber Technology Centre, IIT Kharagpur, Feb 27 – March 2 2023, coordinated by Prof. K Naskar and Dr. T. Mondal.

## Addition Academic and Administrative responsibilities

- 1.** Serving as Associate Dean (SA) of the Institute since January 2023.
- 2.** Served as Head of the Centre since October 2019 to September 2022.
- 3.** Chairperson in workshops: GSPFM 2020, RPGF 2021, FPMGS 2021, RAEC 2021.
- 4.** Appointed as the Gymkhana Election Officer for the year 2019-2020.
- 5.** Involved with the departmental administrative works (Prof-in-charge examination, training, purchase currently), Up to 2017 Spring for seven years acted as Seminar-in- charge). Accompanying students for Industrial visits every year.
- 6.** Associated Faculty, School of nanoscience and technology, IIT Kgp, since inception.
- 7.** Acted as the Warden, Patel Hall, IIT Kharagpur, October 2015 to October 2017.
- 8.** Acted as the Vice Chairman, Technology Aquatic Society, October 2014 to October 2017.
- 9.** Volunteered in the four convocations (2012, 2013, 2015 and 2016).
- 10.** Acted as the Warden, Patel Hall of Residence, July 2013 to December 2013.
- 11.** Acted as an Assistant Warden, MMM Hall from November 2010 to July 2013.
- 12.** Actively involved with Gymkhana activities with the students, worked as a sports

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advisor and Gymkhana student's election since joining.

- 13.** Actively involved with the GATE and JEE activities and confidential operations.
- 14.** Participated in every year for night vigilance in student hostels. In 2010, given night vigilance for one month along with four other team members in RP and RK halls.
- 15.** Actively taking part in inter IIT staff sports meets and accompanying students.
- 16.** Involved with M. Tech. counseling, PhD interviews (every summer vacations since joined as a faculty).
- 17.** Development of laboratory facility, maintaining several sophisticated Instruments, Lab- in- charge.
- 18.** Organized short-term course as a coordinator and organized two international conferences in the capacity of Treasurer.
- 19.** Organizing members of IRI entrance examination since 2006.
- 20.** Delivered lectures for manpower training for several CEP sponsored short-term courses.

## Software Skill

C- Programming, Origin, MATLAB, AutoCAD, ABAQUS, ANSYS, Material Studio (BIOVIA), and other computer applications.

## Languages Proficiency

English, Bengali, Hindi.

## Declaration:

I hereby solemnly declare that all the statements given above are true and genuine to the best of my knowledge and belief.

***Place: Kharagpur, WB.***

***Date: 13-07-2023***

***Prof. Santanu Chattopadhyay***