

CURRICULUM VITAE

Dr. Ranvijai Ram

M. Tech., Ph.D. from IIT Kharagpur

UGC-NET-JRF/SRF-2010, GATE-2009, GATE-2010

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Father's name: Parashuram Ram

Mother's name: Raj Dei Devi



EDUCATION

- **Doctor of Philosophy (Ph. D.)** in 2017 from **Indian Institute of Technology Kharagpur**, West Bengal, India.

Title of the Ph.D. Thesis: DEVELOPMENT OF POLYVINYLIDENE FLUORIDE (PVDF) BASED CONDUCTIVE COMPOSITES FOR ELECTROMAGNETIC INTERFERENCE (EMI) SHIELDING APPLICATION

Broad area of research: Conducting polymer composite used for EMI shielding application

- **Master of Technology (M. Tech.) in Rubber Technology:** 2012 from Rubber Technology Centre, Indian Institute of Technology Kharagpur, West Bengal, India.
- **Masters of Science (M. Sc.) in Chemistry:** 2006 from L. R. College, Sahibabad (C. C. S. University, Meerut), U. P., India.
- **Bachelor of Science (B. Sc.) in Chemistry, Zoology, Botany:** 2000 from S. G. R. P. G. College Dobhi, Jaunpur (Purvanchal University, Jaunpur), U. P., India.
- **Intermediate in Physics, Chemistry, Biology, Hindi, English:** 1997 from S. H. S. I. C. Deokali, Ghazipur (Board of High School and Intermediate Education Uttar Pradesh), U. P., India.
- **High school in Mathematics, Science, Social Science, Hindi, English:** 1995 from S. H. S. I. C. Deokali, Ghazipur (Board of High School and Intermediate Education Uttar Pradesh), U. P., India.

INTERNATIONAL PUBLICATIONS

1. **Ranvijai Ram**, Mostafizur Rahaman, Dipak Khastgir, Mechanical, Electrical, and Dielectric Properties of Polyvinylidene Fluoride/Short Carbon Fiber Composites with Low-Electrical Percolation Threshold, Journal of Applied Polymer Science, 2013, DOI: 10.1002/APP.39866, 39866 (1 -10). Citation 16, Impact factor 1.901.
2. **Ranvijai Ram**, M. Rahaman , D. Khastgir, Electrical properties of polyvinylidene fluoride (PVDF)/multi-walled carbon nanotube (MWCNT) semi-transparent composites: Modelling of DC conductivity, Composites Part A: Applied Science and Manufacturing 69 (2015) 30–39. Citation 40, Impact factor 4.514.

3. **Ranvijai Ram**, Mostafizur Rahaman, Ali Aldalbahi, Dipak Khastgir, Determination of percolation threshold and electrical conductivity of polyvinylidene fluoride (PVDF)/short carbon fiber (SCF) composites: effect of SCF aspect ratio, *Polymer International* 2017; 66: 573–582. Citation 9, Impact factor 2.352.
4. Deepak Sethi, **Ranvijai Ram**, Dipak Khastgir, Electrical conductivity and dynamic mechanical properties of silicon rubber based conducting composites: Effect of cyclic deformations, pressure, and temperature, *Polymer International*, 2017, 66, 9, 1295-1305. Citation 6, Impact factor 2.352
5. Sethi Deepak, **Ranvijai Ram**, Khastgir D.: Analysis of electrical and dynamic mechanical response of conductive elastomeric composites subjected to cyclic deformations and temperature. *Polymer Composites*, 2017, 39, 11, 3912-3923. Citation 2, Impact factor 1.943
6. **Ranvijai Ram**, D. Khastgir, Mostafizur Rahaman, Physical properties of polyvinylidene fluoride/multi-walled carbon nanotube nanocomposites with special reference to electromagnetic interference shielding effectiveness. *Advances in Polymer Technology*, 2018, 37, 8, 3287-3296. Citation 1, Impact factor 2.352.
7. **Ranvijai Ram**, D. Khastgir, Mostafizur Rahaman, Electromagnetic interference shielding effectiveness and skin depth of poly(vinylidene fluoride)/particulate nano-carbon filler composites: prediction of electrical conductivity and percolation threshold. *Polymer International*, 2019, 68, 61194-61203, Citation 1, Impact factor 2.352
8. **Ranvijai Ram**, D. Khastgir, Mostafizur Rahaman, Electromagnetic Interference (EMI) Shielding Effectiveness (SE) of Polymer-Carbon Composites, *Carbon-Containing Polymer Composites*, Springer, ISBN / ISSN: 978-981-13-2688-2, 2018.

INTERNATIONAL CONFERENCE PRESENTATION (ORAL/POSTER)

1. **Ranvijai Ram**, M. Rahaman, D. Khastgir, Development of polymer based conductive composites, **International Conference** on “Advancements in Polymeric Materials” APM-2012, Manuscript page size 1-3, Organized by Central Institute of Plastics Engineering and Technology (CIPET), **Ahmedabad, India**- February 10-12, 2012.
2. **Ranvijai Ram**, M. Rahaman, D. Khastgir, Electrical and Dielectric properties of PVDF/CNT composite, **International Conference** on Rubber and Rubber - like Materials (ICRRM 2013), Manuscript page size 1-4, Organized by Rubber Technology Centre, Indian Institute of Technology Kharagpur, **Kharagpur, India**- March 6-9 (2013).
3. **Ranvijai Ram**, Mostafizur Rahaman, Dipak Khastgir, Mechanical, Electrical, and Dielectric Properties of Polyvinylidene Fluoride/Short Carbon Fiber Composites with Low-Electrical Percolation Threshold, **International Conference** on Functional Materials (ICFM 2014), February 5 – 7, 2014, Materials Science Centre, Indian institute of technology Kharagpur, **Kharagpur, India**
4. **Ranvijai Ram**, M. Rahaman, D. Khastgir, Effect of Multiwall Carbon Nanotube (MWCNT) on Morphology, Mechanical, and Thermal Properties of Polyvinylidene Fluoride (PVDF), pages 1-4, **International Conference** on Polymers and Allied Materials (ICPAM 2014), Organized by Department of Materials Science and Engineering, Indian Institute of Technology Patna (IITP), in association with Hari Shankar Singhania Elastomer and Tyre Research Institute (HASETRI). Hotel Maurya, **Patna, India** | May 30 - 31, 2014.

5. **Ranvijai Ram**, M. Rahaman, D. Khastgir, Electrical properties and DC conductivity modelling of Polyvinylidene fluoride (PVDF)/multi-walled carbon nanotube (MWCNT) composites, 1 page, **International symposium** on Polymer Science and Technology (MACRO 2015), January 23-26 2015, poster presentation, organized by Indian Association for the Cultivation of Science, **Kolkata, India**.
6. **Ranvijai Ram**, M. Rahaman, D. Khastgir, Effect of Aspect Ratio of carbon Fiber on Electrical and Dielectric Properties of Polyvinylidene Fluoride (PVDF)/Short Carbon Fiber (SCF) Composites, The 31st **International Conference** of the Polymer Processing Society (PPS 31), 7-11 June 2015, Organised by ICC Jeju, **Jeju, South Korea**.
7. **Ranvijai Ram**, D. Khastgir, Mechanical, electrical, dielectric and thermal property of Polyvinylidene fluoride (PVDF)/Conducting Carbon Black (CCB) and Poly(vinylidene fluoride-co-hexafluoropropylene) (PVDF-HFP)/(CCB) composites, The 32nd **International Conference** of the Polymer Processing Society (PPS 32), 25-29 July 2016, Organised by **Lyon, France**.
8. **Ranvijai Ram**, D. Khastgir, Green method of preparation of Polyvinylidene Fluoride (PVDF)-Carbon Nanotube (MWCNT) Based Nanocomposites: Physico-mechanical properties; **International Conference** on Advancing Green Chemistry: Building a Sustainable Tomorrow, Green Chemistry Network Centre, Department of Chemistry, University of Delhi and Hindu College, University of Delhi, New Delhi, India, 3-4 October 2017.

OTHER CERTIFICATES

1. Visit cum training on Rubber Processing and Technology, RUBBER TRAINING INSTITUTE, RUBBER BOARD, KOTTAYAM, 13/12/2010-15/12/2010, Issue date 15/12/2010.
2. SciFinder, for participation in workshop on “SciFinder and its new features” at IIT KGP on 09/01/2014.
3. NSS, Serial number 59573, issue date 26/08/1999, B Sc 2nd year, from 1997-1998 to 1998-1999, in for 2 years, Shivar = 20/12/1997 to 29/12/1997
4. Springer, Author workshop jointly organised by Springer and Indian Institute of Technology, Kharagpur, on 16/01/2015 at IIT Kgp.
5. International Workshop on Green Chemistry: Building a Sustainable Tomorrow, Green Chemistry Network Centre, Department of Chemistry, University of Delhi and Hindu College, University of Delhi, New Delhi, India, 3-4 October 2017

INSTRUMENTAL KNOWLEDGE

(1) LCR meter for dielectric analysis, (2) High resistance meter for volume/surface resistivity measurement, (3) TGA/DTA and DSC for thermal analysis, (4) DMA for thermo-mechanical analysis, (5) X-ray diffraction (XRD) techniques for crystallographic study, (6) UV-Visible Spectroscopy, (7) FTIR spectroscopy, (8) Dynamic light scattering (DLS) for particle size analysis, (9) Universal testing machine for mechanical properties (Tensile/Tear Strength) measurement, (10) Image Analyzer, (11) Field emission scanning electron microscope (FESEM), (12) High resolution transmission electron microscope (HRTEM), (13) Atomic force microscope (AFM), (14) X-ray photoelectron spectroscopy (XPS), (15) Thermal conductivity test, (16) Electrochemical impedance spectroscopy (EIS) for

corrosion resistance study, (17) Potentiostatic method for corrosion rate study, (18) Kelvin probe for surface potential measurement, (19) Autolab electrochemical workstation etc. (20) Temperature dependent electrical conductivity and dielectric measurement. (21) EMI shielding effectiveness (22) Optical microscopy (OM), (23) Contact angle measurement (24) Smart Rheo for Rheological study of polymer and its composites, (25) Aging Test, (26) Fracture to failure test (FTFT).

INDUSTRIAL VISIT

- ✚ MRF, Chennai, Tamil Nadu
- ✚ Hi- Tech carbon, Chennai Tamil Nadu
- ✚ Apollo Tyres, Thrissur, Kerala
- ✚ Rubber Park, Cochin, Kerala
- ✚ Kerala rubber Reclaim Ltd. Cochin, Kerala
- ✚ Vajra Rubber Products Ltd. Cochin Kerala
- ✚ HLL Trivandrum
- ✚ Rubber Board
- ✚ Apollo Tyres Ltd., Thrissur, Kerala
- ✚ Cochin Special economic zone
- ✚ CIPET, Chennai, Tamil Nadu

STRENGTHS

Good communication skills, in-depth understanding of subject, analytical skill, good practical hand, hard working, sincere, patience to work under pressure, working in a group.

PERSONAL PROFILE

<p>Present address: E – 440, Nandgram, Ghaziabad, Uttar Pradesh, 201003, India</p> <p>Blood Group: O⁺ve, Marital Status: Married</p> <p>Date of birth: 13/08/1979, Languages Known: English and Hindi (Read , Write & Speak)</p>	<p>Permanent address: Village: Rajapur urf Agapur, Post: Bhitari, Tehsil: Saidpur, District: Ghazipur, State: Uttar Pradesh, 233304, India</p>
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DECLARATION

I hereby declare that the above written particulars are true to the best of my knowledge and belief.

Date: 02/01/2020

Dr. Ranvijai Ram