



## MANAV RACHNA UNIVERSITY, FARIDABAD

Sector 43, Aravalli Hills, Manav Rachna Campus Rd, Faridabad, Haryana 121004

### Dr. Arpit Sand

**Designation:** Associate Professor

**Qualifications:** B.Sc., M.Sc., D.Phil. (Polymer Science) from University of Allahabad. Allahabad

**Post-Doctoral Fellow:** Sweden, Czech Republic, South Korea

**Email :** arpit@mru.edu.in

**Experience:** 11 Years

**Google Scholar Profile:**

<https://scholar.google.co.in/citations?user=QJllo7gAAAAJ&hl=en>



**Research Interest :** Polymers, Superabsorbent Polymers, Hydrogels Inverse Suspension

#### + Journal Publication Details:

Sand A., Shin N. J., Nam H. G., Kwark Y-J. (2021) "Effects of Reaction Parameters on Water Absorption of Poly(itaconic acid) Superabsorbent Particles Synthesized by Inverse Suspension Polymerization", **Fibers and Polymers (Springer)** ISSN 1229-9197 (p) 1875-0052 (e) pp (1-6) **In Press (IF-1.5)** UGC Journal No. - 29341 DOI: <https://doi.org/10.1007/s12221-021-0459-2> (Scopus)

Sharma P., Dagar A., Sapna, Vyas A., Sand A. (2020) "Superabsorbent composites (SACs) based on Xanthan Gum -g-poly (Itaconic acid)/Kaolinite", **Polymer Bulletin (Springer)** ISSN (e) 1436-2449 (p) 0170-0839 **(IF-1.8)** **In Press** UGC Journal No. 38108 DOI: <https://doi.org/10.1007/s00289-020-03436-5>

Sand A., Vyas A. (2020) "Superabsorbent Polymer based on Guar Gum-g-Acrylamide: Solution Polymerization", **Journal of Polymer Research (Springer)** ISSN (e) 1572-8935, Volume 27, 43 pp. 1-10 **(IF-1.5)** UGC Journal No. 19297 DOI: <https://doi.org/10.1007/s10965-019-1951-x> (Scopus)

Ko, S. Y., Sand A., Shin N. J., Kwark, Y-J. (2018) "Synthesis and Characterization of Superabsorbent Polymer based on Carboxymethyl Cellulose-graft-Itaconic Acid", **Fibers and Polymers (Springer)** ISSN 1229-9197 (p) 1875-0052 (e) Volume 19, Issue 2, pp. 255-262 **(IF-1.5)** UGC Journal No. 29341 DOI: <https://doi.org/10.1007/s12221-018-7837-9> (Scopus)

Sand A., Kwark, Y-J. (2017) "Modification of Guar Gum through Grafting of Acrylamide with Potassium Bromate/Thiourea Redox Initiating System", **Fibers and Polymers (Springer)** ISSN 1229-9197 (p) 1875-0052 (e) Volume 18, Issue 4, pp. 675-681 **(IF-1.8)** UGC Journal No. 29341 DOI: <https://doi.org/10.1007/s12221-017-1240-4> (Scopus)

Sand A., Vyas A., Gupta A. K., (2017) Synthesis and Characterization of Graphene Based Hydrogels: A Review **BAOJ Chemistry**, 2017, 3: 2 3: 025

Sand A., Vyas A., Gupta A. K., (2016) "**Graft copolymer based on (sodium alginate-g-acrylamide): Characterization and study of Water swelling capacity, metal ion sorption, flocculation and resistance to biodegradability**", **International journal of biological macromolecules (Elsevier Ltd)**, 90 37-42 **(IF- 5.1)** UGC Journal No. 2634 DOI: <https://doi.org/10.1016/j.ijbiomac.2015.11.085> (Scopus)

Zeng X., Zhang Y., Sand A., Nyström A. (2012) "**Leucine zipper peptide functional liposomal carriers enhances drug uptake in solid tumor**", **Nanomedicine**, ISSN 1743-5889 12/2012, Volume7, Issue 12, pp.1799–1800 **(IF- 5.2)** UGC Journal No. 37211 DOI: <https://doi.org/10.2217/nnm.12.154> (Scopus)

Sand A., Mishra D. K., Pandey S. V., Mishra M., M., Behari, K. (2012) "**Synthesis of graft copolymer (CgOH-g-AGA): physicochemical properties, characterization and application**", **Carbohydrate Polymers**

(Elsevier Ltd), ISSN 0144-8617, Volume 90, Issue 2, pp. 901 – 907 (IF 7.1) UGC Journal No. 5035 DOI: <a href="https://doi.org/10.1016/j.carbpol.2012.06.018">https://doi.org/10.1016/j.carbpol.2012.06.018</a> (Scopus)
Yadav, M., Sand A., Behari, K. (2012) <b>“Synthesis and properties of a water soluble graft (chitosan-g-2-acrylamidoglycolic acid) copolymer”</b> , International journal of biological macromolecules (Elsevier Ltd), ISSN 0141-8130, Volume 50, Issue 5, pp. 1306 – 1314 (IF- 5.1) UGC Journal No. 2634 DOI: <a href="https://doi.org/10.1016/j.ijbiomac.2012.03.010">https://doi.org/10.1016/j.ijbiomac.2012.03.010</a> (Scopus)
Yadav, M., Sand A., Mishra, D. K.; Behari K. (2012) <b>“Synthesis, characterization and applications of graft copolymer (k-carrageenan-g-vinylsulfonic acid)”</b> , International Journal of Biological Macromolecules (Elsevier Ltd), ISSN 0141-8130, Volume 50, Issue 3, pp. 826 – 832 (IF-5.1) UGC Journal No. 2634 DOI: <a href="https://doi.org/10.1016/j.ijbiomac.2011.11.018">https://doi.org/10.1016/j.ijbiomac.2011.11.018</a> (Scopus)
Sand A., Yadav, M., Mishra, D. K.; Behari, K. (2011) <b>“Alginate-g-poly (N-vinylformamide) graft copolymer: Synthesis, characterization, swelling, and flocculation property”</b> , Journal of Applied Polymer Science (Wiley), ISSN 0021-8995, Volume 121, Issue 3, pp. 1400 – 1407 (IF- 2.5) UGC Journal No. 21426 DOI: <a href="https://doi.org/10.1002/app.33540">https://doi.org/10.1002/app.33540</a> (Scopus)
Yadav, M., Mishra, D. K.; Sand A., Behari, K. (2011) <b>“Modification of alginate through the grafting of 2-acrylamidoglycolic acid and study of physicochemical properties in terms of swelling capacity, metal ion sorption, flocculation and biodegradability”</b> , Carbohydrate Polymers (Elsevier Ltd), ISSN 0144-8617, Volume 84, Issue 1, pp. 83 – 89 (IF- 7.1) UGC Journal No. 5035 DOI: <a href="https://doi.org/10.1016/j.carbpol.2010.10.065">https://doi.org/10.1016/j.carbpol.2010.10.065</a> (Scopus)
Sand A., Yadav, M., Mishra M., M., Tripathy, J., Behari, K. (2011) <b>“Studies on graft copolymerization of 2-acrylamidoglycolic acid on to partially carboxymethylated guar gum and physico-chemical properties”</b> , Carbohydrate Polymers (Elsevier Ltd), ISSN 0144-8617, Volume 83, Issue 1, pp. 14 – 21 (IF- 7.1) UGC Journal No. 5035 DOI: <a href="https://doi.org/10.1016/j.carbpol.2010.07.016">https://doi.org/10.1016/j.carbpol.2010.07.016</a> (Scopus)
Sand A., Yadav, M., Behari, K. (2010) <b>“Synthesis and Characterization of Alginate-g-vinyl Sulfonic Acid with a Potassium Peroxydiphosphate/ Thiourea, System”</b> , Journal of Applied Polymer Science (Wiley), ISSN 0021-8995, Volume 118, Issue 6, pp. 3685 – 3694 (IF- 2.5) UGC Journal No. 21426 DOI: <a href="https://doi.org/10.1002/app.32447">https://doi.org/10.1002/app.32447</a> (Scopus)
Mishra M., M., Mishra, D. K.; Sand A., Yadav, M., Behari, K. (2010) <b>“Free radical graft copolymerization of N-vinyl-2-pyrrolidone onto k-carrageenan in aqueous media and applications”</b> , Carbohydrate Polymers (Elsevier Ltd), ISSN 0144-8617, Volume 82, Issue 2, pp. 424 – 431 (IF- 7.1) UGC Journal No. 5035 DOI: <a href="https://doi.org/10.1016/j.carbpol.2010.04.080">https://doi.org/10.1016/j.carbpol.2010.04.080</a> (Scopus)
Yadav, M., Sand A., Behari, K. (2010) <b>“Synthesis and characterization of graft copolymer (alginate-g-N,N-dimethylacrylamide)”</b> , Chinese Journal of Polymer Science, (Springer) ISSN 0256-7679, Volume 28, Issue 5, pp. 673 – 683 (IF- 3.1) UGC Journal No. 18494 DOI: <a href="http://dx.doi.org/10.1007/s10118-010-9114-x">http://dx.doi.org/10.1007/s10118-010-9114-x</a>
Yadav, M., Sand A., Mishra, D. K.; Behari, K. (2010) <b>“A study toward the physicochemical properties of graft copolymer (partially carboxymethylated guar gum-g-N,N'-dimethylacrylamide): Synthesis and characterization”</b> , Journal of Applied Polymer Science (Wiley), ISSN 0021-8995, Volume 117, Issue 2, pp. 974 – 981 (IF- 2.2) UGC Journal No. 21426 DOI: <a href="https://doi.org/10.1002/app.31535">https://doi.org/10.1002/app.31535</a>
Yadav, M., Sand A., Behari, K. (2010) <b>“Graft copolymerization of 2-Acrylamidoglycolic acid on to xanthan gum and study of its physicochemical properties”</b> , Carbohydrate Polymers (Elsevier Ltd), ISSN 0144-8617, Volume 81, Issue 3, pp. 626–632 (IF-7.1) UGC Journal No. 5035 DOI: <a href="https://doi.org/10.1016/j.carbpol.2010.03.022">https://doi.org/10.1016/j.carbpol.2010.03.022</a> (Scopus)
Yadav, M., Sand A., Behari, K. (2010) <b>“Preparation and characterization of modified sodium carboxymethyl cellulose via free radical graft copolymerization of vinyl sulfonic acid in aqueous media”</b> , Carbohydrate Polymers (Elsevier Ltd), ISSN 0144-8617, 2010, Volume 81, Issue 1, pp. 97–103 (IF-7.1) UGC Journal No. 5035 DOI: <a href="https://doi.org/10.1016/j.carbpol.2010.02.001">https://doi.org/10.1016/j.carbpol.2010.02.001</a> (Scopus)
Sand A., Yadav, M., Mishra, D. K., Behari, K. (2010) <b>“Modification of alginate by grafting of N-vinyl-2-</b>

**pyrrolidone and studies of physicochemical properties in terms of swelling capacity, metal-ion uptake and flocculation**", Carbohydrate Polymers (Elsevier Ltd), ISSN 0144-8617, 2010, Volume 80, Issue 4, pp. 1147 – 1154 (IF- 7.1) UGC Journal No. 5035 DOI: <https://doi.org/10.1016/j.carbpol.2010.02.001> (Scopus)

Mishra M., M., Yadav, M., Sand A., Tripathy, J., Behari, K. (2010) **"Water soluble graft copolymer (j-carrageenan-g-N-vinyl formamide): Preparation, characterization and application"**, Carbohydrate Polymers (Elsevier Ltd), ISSN 0144-8617, Volume 80, Issue 1, pp. 235 – 241 (IF- 7.1) UGC Journal No. 5035 DOI: <https://doi.org/10.1016/j.carbpol.2010.01.036> (Scopus)

Tripathy, J., Mishra, D. K.; Yadav, M., Sand A., Behari, K. (2009) **"Modification of  $\kappa$ -carrageenan by graft copolymerization of methacrylic acid: Synthesis and applications"**, Journal of Applied Polymer Science (Wiley), ISSN 0021-8995, Volume 114, Issue 6, pp. 3896 – 3905 (IF- 2.5) UGC Journal No. 21426 DOI: <https://doi.org/10.1002/app.30703> (Scopus)

**+ Research Supervised(PhD):**

Sapna on "Superabsorbent Polymer: Synthesis and Characterization" (Ongoing)

**+ Book/Chapter Publications:**

Reference Book "**Organic Polymers**" ISBN Number 978-1-78984-573-0 published by-Intechopen London United Kingdom Year: 2020 Author Arpit Sand

Introductory Chapter: Organic Polymer-Graft Copolymers in **Organic Polymers**" ISBN Number 978-1-78984-573-0 published by-Intechopen London United Kingdom Year: 2020 Author Arpit Sand

Reference Book "**Graft copolymerization and Polysaccharides**" ISBN Number-978-613-9-97543-3 published by-Lambert Publishing Academy, Germany Year: 2018 Author Arpit Sand

**+ Administrative Responsibilities:**

"Project Coordinator" in MRU from 2019 to Till date

"R & D team member" in MRU from 2019 to Till date

"Member- Internal Quality Assurance Cell (IQAC)" MRU from 2019 to Till date

"Lab In Charge in Department of Chemistry" MRU from 2018 to Till date

**+ Professional Affiliation:**

Academic Editor in Intech Open, UK Since 2018

Advisory Board Member of "Polymer Science and Technology" published by Cambridge Scholars Publishing, UK

Editorial Board Member of "SM Journal of Polymer Science" published by USA

Life member of GCNC, India.

Life member of The Indian Society of Analytical Scientists (ISAS)-Delhi Chapter (Membership Number- LM-2019/35)

**+ Expert Talk Delivered**

Delivered talk in one week Short term course on theme 'Advanced Materials For Aatmanirbhar Bharat' in organized by J C Bose University of Science and Technology, YMCA Faridabad, Department of Chemistry in association with American Chemical Society (ACS) & VIBHA (Vigyan Bharati) Faridabad during 13-28 February 2021 (only Sat. and Sun.).

Delivered talk in Innovative Frontiers in Applied Science Organised by Chemical Society, Department of Chemistry CMP College Affiliated to University of Allahabad during 26-28 September 2019

Delivered talk in National Conference on "Polymers: Usefulness and Current Concerns", organized by Motilal Nehru National Institute of Technology Allahabad during 23-24 December 2018.

**+ Event Organized(Conference/Seminar/FDP/Workshops**

Green & Sustainable Chemistry Conference GSCC-2019" during 07-08 Nov 2019 and worked as **Convener**.

**+ Patent**

Multipurpose Medicated and Biodegradable Absorbent Material/Pad; Meena Kapahi, Dr. Arpit Sand, Prof. (Dr.) B.M. Bahal, Akanksha Ahuja; Date of filing - 31/12/2018; Application no.: 201811049912

**+ Awards**

Outstanding Contribution in reviewing research papers award Elsevier Journal “Carbohydrate Polymers” in 2018