

Resume

Dr. Ashish Kumar Guleria

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Personal Details

Father's Name: Sh. Dhani Ram

Nationality: Indian

Sex: Male

Date of Birth: 30th September 1986

Education

Ph.D. in Chemistry (2015) (CGPI-8.0)

Under the supervision of Prof. Amar Singh Singha, Professor, National Institute of Technology Hamirpur (NITH), Himachal Pradesh.

M.Sc. Chemistry with specialization in organic chemistry (75%), Jiwaji University, Gwalior, Madhya Pradesh.

General B.Sc. With Physics, Maths, and Chemistry (57.9 %), NSCB Post Graduate College Hamirpur, Himachal Pradesh University, Summer Hill, Shimla-05.

Intermediate with English, Physics, Maths, Chemistry and physical education (63.5 %), GSSS Cholthara, Sarkaghat, Dharamsala Board of School Education, Himachal Pradesh (H.P.).

Visiting Position

1. **Research Associate** at Center of Biomedical Research (Jan. 2015 to July 2015).

Conferences and Meetings

1. 48th Annual Convention of Chemists (2011) at University of Allahabad from Dec. 3-7 2011. **Oral presentation:** (*Surface modification of Abelmoschus Esculentus fibers through graft copolymerization*).

2. 49th Annual Convention of Chemists (2012) at NITTTR Bhopal from Dec. 12-15 2012. **Oral presentation:** (*Adsorption of copper Ions from aqueous solution by chemically modified Abelmoschus Esculentus fibers*).

3. International conference on Polymers [APA 2013] at Punjab University Chandigarh from Feb. 19-21, 2013. **Poster presentation:** (*Adsorption of copper (II) ions from aqueous solution by graft copolymerized cellulosic bio-fibers*).
4. International Conference on Interdisciplinary Areas with Chemical Sciences [ICIACS 2013] (30th October-1st November) Punjab University Chandigarh. **Poster presentation:** (*Functionalization of Cellulosic Biomass by Graft Copolymerization and Its Potential towards Removal of Heavy Metal Ions from Wastewater*).
5. 50th Annual Convention of Chemists (4-7 December 2013) Punjab University Chandigarh. **Oral presentation:** (*Chemical modification of cellulosic fibers for effective removal of toxic metal ions from aqueous solution*).
6. International conference on Polymers (APA 19-21 February 2014) IIT Delhi. **Poster presentation:** (*Removal of Toxic Metal Ions from Aqueous Solution by Succinylated Cellulosic Bio-fibers*).
7. National Conference on Recent Trends in Chemical Engineering and Technology at NIT Hamirpur from May 29-30, 2014. **Poster presentation:** (*Adsorption of toxic heavy metals from aqueous solutions by chemically modified lignocellulosic biomass*).
8. National Conference on Green Nanotechnology (GRNATE 2014) at Chandigarh University, from Jun 5-6, 2014. **Poster presentation:** (*Preparation of chelated cellulosic biomass under microwave radiations and their use in separation of toxic metal ions from waste water*).
9. Workshop on “NMR: From Molecules to Human behaviour” at Centre of Biomedical research, Lucknow from 26th Dec. 2013 to 4th Jan. 2014.

**Publications
in Peer Reviewed
International
Journals**

Publications in International Journals:

1. A. S. Singha, R. K. Rana, and **Ashish Guleria**, “Functional polymers from graft copolymerization of binary monomer mixtures onto lignocellulosic biomass: Synthesis, Characterization, and Properties Evaluation” *Lignocellulose* **1**, 129-152 (2012).
2. A. S. Singha, **Ashish Guleria** and Raj K. Rana “Ascorbic Acid/H₂O₂ Initiated Graft Copolymerization of Methyl Methacrylate onto *Abelmoschus esculentus* Fiber: A Kinetic Approach”. *International Journal of Polymer Analysis and Characterization*, **18**, 1, 1-14 (2013).

3. A. S. Singha, **Ashish Guleria** and Raj K. Rana “Characterization and Evaluation of Thermal, Morphological, and Physicochemical Properties of Chemically Modified Lignocellulosic Biomass” *International Journal of Polymer Analysis and Characterization*, **18**, 377-389 (2013).
4. A. S. Singha, **Ashish Guleria** and Raj K. Rana “Tailoring Surface Properties of Cellulosic Fibers through Chemically Initiated Graft Copolymerization of Butyl Acrylate” *Trends in Carbohydrates Research* **5 (4)** 33-45 (2013).
5. A. S. Singha, **Ashish Guleria** and Raj K. Rana “Adsorption and Equilibrium Isotherm Study of Removal of Copper (II) Ions from Aqueous Solution by Chemically Modified *Abelmoschus esculentus* Fibers”. *International Journal of Polymer Analysis and Characterization* **18**, 451-463 (2013).
6. A. S. Singha and **Ashish Guleria** “Chemical modification of cellulosic biopolymer and its use in removal of heavy metal ions from wastewater”. *International Journal of Biological Macromolecules* **67**, 409-417 (2014).
7. A. S. Singha and **Ashish Guleria** “Application of vinyl monomers functionalized cellulosic biopolymer for removal of dissolved toxic metal ions from polluted water samples” *Journal of Environmental Chemical Engineering* **2**, 1456-1466 (2014).
8. A. S. Singha and **Ashish Guleria** “Functionalized cellulosic fibers for removal of toxic metal ions from contaminated water”. *International Journal of Polymer Analysis and Characterization* **19**, 10-21 (2014).
9. A. S. Singha and **Ashish Guleria** “Use of low cost cellulosic biopolymer based adsorbent for the removal of toxic metal ions from the aqueous solution” *Separation Science and Technology* **49**, 1-11 (2014).
10. A. S. Singha, **Ashish Guleria** and Raj K Rana “Microwave assisted graft copolymerization of cellulosic fibers for removal of heavy metal ions from aqueous solution”. *International Journal of Polymer Analysis and Characterization* **19**, 318-331 (2014).
11. A. S. Singha and **Ashish Guleria** “Utility of chemically modified agricultural waste okra biomass for removal of toxic heavy metal ions from aqueous solution” *Engineering in Agriculture, Environment and Food*, **8**, 52-60, (2015).

12. A. S. Singha and **Ashish Guleria** "Synthesis and Applications of Functional polymers from Natural Okra Fibers for Removal of Cu(II) ions from Aqueous Solution" *Journal of Natural Fibers (accepted)*.

13. A. S. Singha and **Ashish Guleria** "Thermal, morphological, mechanical and biodegradable studies of okra cellulosic fiber reinforced starch-based biocomposites" *Advances in Polymer Technology (accepted)*.

14. A. S. Singha and **Ashish Guleria** "Preparation and properties of starch based biocomposites reinforced with mercerized Abelmoschus esculentus lignocellulosic fiber" *Polymer Composites (Communicated)*.

15. A. S. Singha and **Ashish Guleria** "Removal of toxic inorganic pollutants from aqueous solution using functionalized cellulosic biopolymer" *International Journal of Biological Macromolecules (Communicated)*.

Book chapter

"Modification of cellulose and cellulosic derivatives through graft copolymerization" by Raj K. Rana, A. S. Singha and **Ashish Guleria** in Cellulose and cellulose derivatives book edited by Md. Ibrahim H. Mondal and published by Nova Science Publishers, Inc. New York.

Awards and Honors

1. Qualified **National Eligibility Test** (NET) 2010 in Chemical Sciences.
2. Qualified **Graduate Aptitude Test in Engineering** (GATE) 2010 in Chemical Sciences.

Expertise

1. Synthesis of graft copolymers of natural polymers with single and binary monomer mixtures.
2. Synthesis and characterization of starch matrix based biocomposites.
3. Removal of toxic metal ions from polluted water.
4. Fourier transform infrared spectrophotometer (FT-IR), Thermogravimetric analysis (TGA, DTA), Differential scanning calorimeter (DSC)

5. X-ray diffraction and scanning electron microscopy (SEM) and energy dispersive x-ray analysis (EDAX).

Software Tools/Languages: Mathematica, Origin, Topspin, Design expert, Chem- Draw.

Other Skills/Methods learned:

Instrument interfacing using lab view to automate data acquisition from standard laboratory equipments.

References

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