

CURRICULUM VITAE



Dr. Keshaw Ram Aadil

Pt. Deen Dayal Upadhyay Nagar
Ward No.06
Rajnandgaon
Chhattisgarh-491441, India

E-mail ID: kaadil7@gmail.com
Tel: +91-9770130757 (Mobile)
+91-9479250988 (Mobile)

Researcher ID: 0-6152-2017
ORCID ID: 0000-0002-1900-9844

Field of Research: Biomaterials, Nanomaterial's, Lignin, Tissue engineering

ACADEMIA

Ph.D. Biotechnology, (Awarded, 19th December 2016). Guru Ghasidas Vishwavidyalaya (Central University), Bilaspur, Chhattisgarh, India.

M.Sc. Biotechnology. (2010) Pt. Ravishankar Shukla University, Raipur, Chhattisgarh, India.

B.Sc. Biotechnology. (2008) Pt. Ravishankar Shukla University, Raipur, Chhattisgarh, India.

Ph.D. Details:

Ph.D. Biotechnology, (Awarded, December, 2016). Guru Ghasidas Vishwavidyalaya (Central University), Bilaspur, Chhattisgarh, India

Ph.D. title: *“Characterization of biopolymers and nanomaterials synthesized from lignocellulosic wastes”.*

Supervisor: Dr. Harit Jha, Assistant Professor, Department of Biotechnology, Guru Ghasidas Vishwavidyalaya, Bilaspur, Chhattisgarh, India.

Professional Experience:

1. SERB National Post-Doctoral Fellow (PDF/2016/001156/LS), August, 2016-August, 2018 at National Institute of Technology-Raipur, Raipur, Chhattisgarh, India. **(Experience: 2 years)**

Title: *“Polysaccharides based electrospun nanofibers for neural tissue engineering”.*

Mentor: Dr. (Mrs.) Pratima Gupta, Assistant Professor, Department of Biotechnology, National Institute of Technology-Raipur, Raipur, Chhattisgarh, India.

In collaboration with Dr. Chandra Shekar Sharma, Assistant Professor, Department of Chemical Technology, IIT Hyderabad and Dr. Lenka Nibedita, Stem Cell Research, NCCS. Pune.

2. Project Fellow: UGC-MRP (41-543/2012, SR) entitled: *‘Application of acacia and rice husk lignin for the synthesis of biopolymers, biofilm and resin’* under the supervision of Dr. Harit Jha, Department of Biotechnology, Guru Ghasidas Vishwavidyalaya, Bilaspur, Chhattisgarh, India. From: 01/10/2012 to 31/12/2015.

Teaching Experience:

1. Assistant Professor (Contract): Center for Basic Sciences, Pt. Ravi Shankar Shukla University, Raipur, Chhattisgarh, India. 01 September 2018 to present.
2. Assistant Professor (Temporary): Department of Biotechnology, Guru Ghasidas Vishwavidyalaya (Central University), Bilaspur, Chhattisgarh, India, 06-31st August 2018.

Sponsored project:

1. As PI: '**Polysaccharides based electrospun nanofibers for neural tissue engineering**' funded by Science and Engineering Research Board (SERB), India. Under National Post-Doctoral Fellowship scheme. (August 2016-August-2018; two years). Completed. Rs. 18,30,323.00, Completed.
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ACHIEVEMENTS/AWARDS

1. Qualified CSIR-UGC **National Eligibility Test (NET)**-December, 2018, (**CSIR-NET-December, 2018**) for Lectureship (LS). Subject: Life Sciences.
 2. Qualified Chhattisgarh **State Eligibility Test** -2017, (**CGSET-2017**) for Lectureship. Subject: Life Sciences.
 3. **Best Poster Award**
 - Catalytic Activity of *Acacia* Lignin stabilized silver Nanoparticles', presented in 17th National Conference on Surfactants, Emulsions and Biocolloids (NATCOSEB-XVII,) organized by School of Studies in Chemistry, Pt. Ravishankar Shukla University, Raipur, Chhattisgarh. November 4-6, 2015. **Poster Presentation.**
 4. **Young Scientist Award**
 - Awarded as **Chhattisgarh Young Scientist** for the year 2013 by Chhattisgarh Council of Science and Technology (CCOST), Raipur, Chhattisgarh, India.
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LIST OF PUBLICATIONS: International: 15 National: 01 Total IF: ~30

1. **Keshaw R. Aadil**, Akash Nathani, Chandra S. Sharma, Nibedita Lenka, Pratima Gupta (2019). Fabrication, characterization and in-vitro cytotoxicity assessment of poly(vinyl) alcohol-gellan gum based electrospun nanofiber scaffolds for tissue engineering application. *Journal of Drug Delivery Science and Technology* (Elsevier). **[IF: 2.606]**. Under revision R1.
2. **Keshaw R. Aadil**, Neha Pandey, Solange I. Mussatto, Harit Jha (2019). Green synthesis of silver nanoparticles using acacia lignin, their cytotoxicity, catalytic, metal ion sensing capability and antibacterial activity. *Journal of Environmental Chemical Engineering* (Elsevier). 7: 103296.
3. **Keshaw R. Aadil**, Solange I. Mussatto, Harit Jha (2018). Synthesis and characterization of silver nanoparticles loaded lignin-poly(vinyl alcohol) electrospun nanofibers and their antimicrobial activity. *International Journal of Biological Macromolecules*. 120 (Part A), 763-767. **[IF: 4.784]**. Indexing: Scopus/Pubmed. PMID: 30144548. (Corresponding author). Citation:3.
4. **Keshaw R. Aadil**, Anand Barapatre, Avtar Singh Meena, Harit Jha (2016). Hydrogen peroxide sensing and cytotoxicity of *Acacia* lignin stabilized silver nanoparticles. *International Journal of Biological Macromolecules*. 82, 39-47. **[IF: 4.784]**. Citation: 26. Elsevier. Indexing: Scopus/Pubmed. PMID: 26434518.
5. Anand Barapatre, **Keshaw R Aadil**, Bhupendra N Tiwary, Harit Jha, (2015). *In-vitro* antioxidant and antidiabetic activity of bio modified *Acacia* wood lignin. *International Journal of Biological Macromolecules*. 75; 81-89. **[IF: 4.784]**. Citation: 36. Indexing: Scopus/Pubmed. PMID: 25600985.
6. Keshaw R Aadil, A. Barapatre, S. Sahu, H Jha, B.N.Tiwary, (2014). Free radical scavenging activity and reducing power of *Acacia nilotica* wood lignin. *International Journal of Biological Macromolecules*. 67, 220-227. **[IF: 4.784]**. Citation: 51. Indexing: Scopus/Pubmed. PMID: 24685465.
7. **Keshaw R. Aadil**, Akash Nathani, Chandra S. Sharma, Nibedita Lenka, Pratima Gupta (2018). Fabrication of biocompatible alginate-poly(vinyl alcohol) nanofibers scaffolds for tissue engineering applications. *Material Technology: Advanced Performance Material*. 33(8), 507-512. **[IF: 1.820]**. Taylor & Francis. Indexing: Scopus (Corresponding author).
8. **Keshaw R Aadil**, Dolly Prajapati, Harit Jha (2016). Improvement of physico-chemical and functional properties of alginate film by *Acacia* lignin. *Food Packaging and Shelf Life*. 10, 25-33. **[IF = 3.636]**. Elsevier. Citation: 11. (Corresponding author).

9. Anand Barapatre, **Keshaw R Aadil**, Harit Jha, (2017). Biodegradation of triphenylmethane dye Malachite Green by ligninolytic fungus *Aspergillus flavus*. CLEAN-Soil, Air, Water. Vol. 45(4), 1-12. DOI: 10.1002/clen.201600045. [IF = 1.716]. WILEY-VCH Verlag GmbH & Co. KGaA, Weinheim. Citation: 8.
10. **Keshaw R Aadil**, Harit Jha (2016). Physico-chemical properties of lignin-alginate based edible films in the presence of different plasticizers. *Iranian Polymer Journal*. 25 (8), 661-670. [IF = 1.707]. Springer. Citation: 4
11. **Keshaw R Aadil**, Anand Barapatre, Harit Jha (2016). Synthesis and characterization of *Acacia* lignin-gelatin film for its possible application in food packaging. *Bioresources and Bioprocessing*. 3(27):1-11. Citation: 12, Springer
12. **Keshaw R Aadil**, Rajan Jha, Harit Jha (2016). Synthesis, characterization and metal adsorption capacity of *Acacia* lignin based resin. *Asian Journal of Biological and Life Sciences*. 5(1):40-45.
13. Anand Barapatre, **Keshaw R Aadil**, Harit Jha, (2016). Synergistic antibacterial and antibiofilm activity of silver nanoparticles biosynthesized by *Aspergillus flavus* and *Emericella nidulans*. *Bioresources and Bioprocessing*. 3(8): 1-13. Springer Citation: 31.
14. Shyam Sunder Sharma, **Keshaw Aadil**, Madan Singh Negi, Shashi Bhushan Tripathi. (2014). Efficacy of two dominant marker systems, ISSR and TE-AFLP for assessment of genetic diversity of biodiesel species *Pongamia pinnata*. *Current Science*. 106, (11), 1576-1580. [IF: 0.926]. Citation: 14.
15. Harit Jha, Anand Barapatre, Mithlesh Prajapati, **Keshaw Ram Aadil** and Sunil Senapati (2013). Antimicrobial activity of rhizome of selected Curcuma variety. *International Journal of Life Sciences Biotechnology and Pharma Research*, 2, (3) 183-189. Citation:16
16. Anand Barapatre, Sudha Sahu, **Keshaw Aadil** and Harit Jha (2013). Value added products from agrowaste. *Recent Research in Science and Technology*, 5(2): 07-12. Citation: 3 [Proceedings of **National Conference on Biological Sciences in Present Scenario**, Oct 10-11, 2012. Held at Post Graduate Department of Biotechnology and Microbiology, St. Thomas College, Bhilai Chhattisgarh, India].
17. **Keshaw Ram Aadil**, Anand Barapatre, Namrata Rathore, Sandhya Pottam and Harit Jha (2012). Comparative study of *in-vitro* antioxidant and antidiabetic activity of plant extracts of *Acacia arabica*, *Murraya koenigii*, *Catharanthus roseus* and *Rouwolfia serpentina*. *International Journal of Phytomedicine*, 4 (4), 543-551. [IF = 1.23]. Citation: 5

PUBLISHED BOOK/ Book Chapter

1. **Book:** Harit Jha and **Keshaw R Aadil** (2016). *Lignocellulose Based Composites and Biopolymers*. Lambert Academic Publishing. [13/06/2016]. ISBN no. 978-3-659-89712-2.
2. **Keshaw R Aadil** and Pratima Gupta. (2019). *Fabrication and characterization of hair keratin-chitosan based porous scaffolds for biomedical application*. Book: REUSE AND RECYCLING OF MATERIALS: NEW HEADWAYS. River Publisher, Denmark, pages: 313-325. ISBN No. 9788770220583; e-ISBN: 9788770220576. [Book Chapter].
3. **Keshaw R Aadil** et al., (2019). *Synthesis of Micro and Nanoparticles of Lignin*. © Springer Nature Switzerland AG 2019. S. Sharma and A. Kumar (eds.), Lignin Biosynthesis and Transformation for Industrial Applications, Springer Series on Polymer and Composite Materials. In Press. **Book Chapter**.

CONFERENCES International: 6; National: 7; Invited lecture: 01

1. Fabrication, characterization and biocompatibility study of Poly(hydroxyl butyrate) - collagen based electrospun nanofiber scaffolds. Presented on UGC-SAP-DRS-II 3rd National Conference on Advances in Environmental & Chemical Sciences, organized by School of Studies in Chemistry, Pt. Ravi Shankar Shukla University Raipur, Chhattisgarh, India. 27-28 March, 2019. **Oral Presentation**
2. Fabrication of biocompatible gellan gum-poly(vinyl) alcohol based electrospun nanofiber for tissue engineering applications. Presented on International Conference on Emerging Researches in Bioscience (ICERB-2018), Organized by Department of Zoology, Guru Ghasidas Vishwavidyalaya, Bilaspur, CG, India. October 28-30th, 2018. **Oral Presentation**.

3. 'Fabrication, characterization and biocompatibility study of alginate-poly(vinyl alcohol) nanofibers', presented in National Seminar on Nanotechnology to Translational Nanomedicine: Status Assessment, Challenges and New Horizons. Organized by University Institute of Pharmacy, Pt. Ravi Shankar Shukla University Raipur, Chhattisgarh, India. 15-17th March, 2018. **Oral Presentation.**
4. 'Fabrication and characterization of hair keratin-chitosan based porous scaffolds for biomedical application', presented in Fourth International Conference on Reuse and Recycling of Materials (ICRM 2018). Organized by International and Inter University Center for Nanoscience and Nanotechnology (IIUCNN), Mahatma Gandhi University, Kottayam, Kerala, India. 9-11th March, 2018. **Invited Lecture.** Abstract book ISBN No. 978-93-5300-475-0
5. Entitled: 'Hydrogen peroxide sensing and cytotoxicity of *Acacia* lignin stabilized silver nanoparticles' presented in International Conference on Biomaterials, Biodiagnostics, Tissue Engineering, Drug Delivery and Regenerative Medicine (BiTERM-2016) Organized by Centre for Biomedical Engineering, Indian Institutes of Technology-Delhi, New Delhi, from April 15-17, 2016. **Poster Presentation.**
6. 'Catalytic Activity of *Acacia* Lignin stabilized silver Nanoparticles', presented in 17th National Conference on Surfactants, Emulsions and Biocolloids (NATCOSEB-XVII,) organized by School of Studies in Chemistry, Pt. Ravishankar Shukla University, Raipur, Chhattisgarh, under the aegis of Indian Society for Surface Science and Technology (ISSST) Kolkata. November 4-6, 2015. **Poster Presentation. [Best Poster Award]**
7. Entitled: '*In-vitro* cytotoxicity and antimicrobial activity of novel lignin-zinc oxide nanoparticles,' presented in 'National Conference on Empowering Mankind with Microbial Technologies (AMI-EMMT 2014), Organized by Association of Microbiologists of India (AMI) and Tamil Nadu Agriculture University (TNAU), Coimbatore from November 12-14, 2014. **Poster Presentation.**
8. Entitled 'synthesis and characterization of cellulose nanocrystals from *acacia* wood for its putative applications in biomedical,' presented in International Conference on Polymeric Biomaterials, Bioengineering & Biodiagnostics (Biomaterial-2014 Organized by Department of Textile Engineering, Indian Institutes of Technology-Delhi, New Delhi, from Oct 27 to 30, 2014. **Poster Presentation.**
9. 'Lignin mediated novel route for the synthesis of silver nanoparticles', presented in International Conference on Polymer: Vision and Innovations (APA-2014), organized by Department of Textile Engineering, Indian Institutes of Technology-Delhi, New Delhi February 19-21, 2014. **Poster Presentation.**
10. 'Synthesis and characterization of *Acacia* lignin based resin,' presented in International Conference on Chemical and Bioprocess Engineering-India (ICCBPE-IN, 2013), organized by Department of Chemical Engineering, National Institutes of Technology-Warangal, Andhra Pradesh, November 16, 17, 2013. **Oral Presentation.**
11. 'Development of novel biodegradable polymeric composites from *Acacia* (Babool) waste' presented in XI Chhattisgarh Young Scientist Congress-2013 from 28th Feb to 1st March, 2013. **Oral Presentation**
12. Controlled drug release study of synthesized lignin-alginate copolymer, National conference on 'Microbial Diversity: Exploration, Conservation & Application' organized by Department of Botany, Govt. Science college, Bilaspur, from 14-17th March, 2013. **Oral Presentation**
13. 'Study of antioxidant activities of lignin extracted by various methods,' presented in National seminar on Plant Biology & it's role in Sustainable food & Energy Production, from March 17-18, 2012, organized by Department of Botany, Guru Ghasidas Vishwavidyalaya, Bilaspur, CG. **Poster presentation.**

WORKSHOPS ATTENDED

1. GIAN workshop: Biomaterial Engineering and Digital Manufacturing 12-21st December, 2016, Organized by Department of Chemical Engineering, IIT Hyderabad, Hyderabad, India.
2. Training on Electrospraying techniques under the supervision of Prof. Natarajan TS, at Department of Physics, IIT Madras from 23rd June to 10th July 2014.

3. Two days national workshop on 'Alternative to use of animal sacrifice in life science education for teachers' organized by Department of Zoology, Guru Ghasidas Vishwavidyalaya, Bilaspur, CG from 24-25th August, 2013.
4. Attended 02 days workshop on 'Ion beam induced material modifications and neutron beam generation using 3 MV particle accelerator- Application in physical, chemical and life sciences' organized by Department of Physics, Guru Ghasidas Vishwavidyalaya, Bilaspur, CG from 19-20 August, 2013.
5. Successfully completed the training course on 'Application of NMR' organized by Indian Institute of Technology-Madras, Chennai from 21st to 23rd March, 2013.
6. Successfully completed dissertation work from The Energy & Resources Institute (TERI), New Delhi entitled 'Assessment of genetic diversity in *Pongamia pinnata* using AFLP and ISSR marker, (2009).
7. Attended 7 days' workshop on Phylogenetic and Structural analysis of Hemoglobin (Protein) in Bioinformatics entitled "Phylogenetic and structural analysis of Insulin (Protein), in Bioinformatics and emphasis on Drug designing". During the period I learnt about using various bioinformatics softwares, how to use these softwares for analysis of Protein and dealt with Drug designing, learnt about the softwares like BLAST, Hex and Hyperchem organized by niTza Biologicals, Hyderabad, (24th Nov. to 1st December, 2008).

REVIEWER

1. Journal of Nanoparticle Research (Springer)
2. Macromolecular Research (Springer)
3. Brazilian Journal of Microbiology (Springer)
4. ACS Sustainable Chemistry & Engineering.

MEMBERSHIPS

- i. Asian Polymer Association (APA) Life Member.
 - ii. Society of Tissue Engineering and Regenerative medicine, India (STERM). Life Member.
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[Dr. Keshaw Ram Aadil]
