

BIO DATA

Dr. M Chandra Shekhar Nayak

Scientist-C

CSIR - Advanced Materials and Processes Research Institute (AMPRI),

Bhopal – 462026, Madhya Pradesh, India.

Email: mcsnayak@ampri.res.in, nayaknitk@gmail.com

Contact No.: +91 94903 35563.

EDUCATIONAL QUALIFICATIONS:

- **B.Sc.** (B.Z.C) from Osmania University, Telangana state (2005-2008).
- **PGDCA** (Post Graduate Diploma in Computer Applications) from JNNYC, New Delhi.
- **M.Sc.** (Organic Chemistry) from Jawaharlal Nehru Technological University Anantapur (JNTU-A), Andhra Pradesh (2008-2010).
- **B.Ed.** (Biological Sciences) from Acharya Nagarjuna University (ANU), Andhra Pradesh (2012-2013).
- **M.Ed.** (General Education) from Regional Institute of Education (RIE-NCERT), Mysuru, Karnataka (2014-2015).
- **Ph.D.** in Chemistry (Specialization: Membrane Science and Technology for wastewater treatment) from National Institute of Technology (N.I.T.) Karnataka, Surathkal, Mangaluru (2018). Ph.D. Thesis entitled with “*Fabrication and characterization of polyphenylsulfone-based membranes with nanocomposite additives for water purification application*”.

EXPERIENCE:

- ❖ Worked as **Research Trainee** at CSIR-Indian Institute of Chemical Technology, Hyderabad (2010)
- ❖ Worked as **Junior Lecturer** at Rao’s Junior college, Wanaparthy Dist. Telangana state (2011-2012)
- ❖ Worked as a **Visiting Research Student Intern** for three months at Advanced Membrane Technology Research Centre (AMTEC), **Universiti Teknologi Malaysia**, Skudai, Johor Bahru, Malaysia.

- ❖ Conducted teaching & laboratory practical classes to B.Tech. & M.Sc. students at NITK Surathkal (while pursuing Ph.D. 2015-2018)
- ❖ Worked as a **Technical Assistant-A (Instruments)**, Division of Polymeric Medical Devices, (from April-2018 to April-2023) Bio-Medical Technology Wing, Sree Chitra Tirunal Institute for Medical Sciences and Technology (*Dept. of Sci. & Tech., Govt. of India*), Thiruvananthapuram, Kerala, India.
- ❖ May-2023 to Present: Scientist-C at CSIR - Advanced Materials and Processes Research Institute (AMPRI), Bhopal, Madhya Pradesh, India.

AWARDS & ACHIEVEMENTS:

- ❖ Received *Young Achiever Award 2020*, from Institute of Scholars, Bangalore.
- ❖ Received *Higher Educational award (Ph.D.)* from SCTIMST Employees Society, Kerala state government, October 2019.
- ❖ Received *NCERT-Delhi merit scholarship* in M.Ed. (2014-2015).
- ❖ Presented research outcomes in the form of Oral/ Poster presentation in >15 International & 5 National conferences. Also, attended >15 workshops.
- ❖ Delivered Keynote & Invited lectures in several prestigious organizational conferences (>10).

INVITED TALKS:

- ❖ Delivered *Invited lecture* at the online *Indo-African International Conference on Emerging Materials Science and Technologies (IAFICEMST 2022)*, held from 3rd -5th August 2022, and jointly organized by Durban University of Technology (South Africa) and Chandigarh University (India).
- ❖ Delivered *Invited Talk* at *Institute of Engineers India (IEI) webinar series 2021* on 27th March 2021, organized by IEI students chapter of Department of Mechanical Engineering, MEA Engineering College, Perinthalmanna, Malappuram Dist., Kerala.
- ❖ Delivered *Invited lecture* at the *International Online Congress on Membranes and Membrane Assisted Processes (ICMMAP – 2021)*, held from 12th – 14th February 2021, Organized by the School of Energy Materials (SEM), Mahatma Gandhi University, Kottayam, Kerala, India.
- ❖ Delivered *Invited keynote lecture* at the online *National Conference on “Emerging Science and Technologies for Energy and Environment Management (ESTEEM – 2021)”* on 21st to 23rd January 2021, Organized by the Department of Chemical

Engineering, Maulana Azad National Institute of Technology, Bhopal, Madhya Pradesh, India.

- ❖ Delivered ***Invited Talk*** in the Virtual *International Conference on Chemical Sciences in Sustainable Technology and Development (IC²S²TD-2020)*, 1st – 3rd December 2020, Organized by Applied Chemistry Department, S. V. National Institute of Technology, Surat 395 007, Gujarat, India, In Association with Department of Chemistry Chung-Ang University Seoul, South Korea.
- ❖ Delivered ***Invited keynote talk*** in online “*International Conference on Advances in Management and Technology (ICAMT-2020)*”, November 6-7, 2020, jointly organized by Sadabai Raisoni Women’s College Nagpur, G H Raisoni School of Business Management Nagpur and Mazedan International Research Academy.
- ❖ Delivered ***Invited keynote talk*** in AICTE-Delhi sponsored International E-Conference on “*Advancements in Nanotechnology (AINT 2020)*”, 11-12 September 2020, organized by Kingston Engineering College Vellore, Tamilnadu.
- ❖ Delivered ***Invited talk*** in Indo-Korea Virtual Conference on “*Development of Advanced Materials for Future Technologies (DAMFT-2020)*”, 9-10 July 2020, organized by Vellore Institute of Technology Chennai, Tamilnadu in collaboration with Jeonbuk national University, South Korea.
- ❖ Delivered ***invited talk*** as a ***special guest*** in Two-Day “*National Seminar on Eco-friendly Technologies for Sustainable Waste Management*”, 07-08th February, 2020, organized by Department of Environmental Sciences, Acharya Nagarjuna University, Guntur, Andhra Pradesh.

RESEARCH INTERESTS:

1. Polymer Science,
2. Wastewater treatment *via* Membrane Technology,
3. Nanoscience and Nanotechnology,
4. Polymer Technology for Bio-Medical Engineering.

INTERNATIONAL RESEARCH JOURNAL PUBLICATIONS:

1. Chandrashekhar Nayak, M., Arun M. Isloor, Moslehyani, and Ismail. (2017). “Preparation and characterization of PPSU membranes with BiOCl nanowafers loaded on activated charcoal for oil in water separation.” *Elsevier-J. Taiwan Inst. Chem. Eng.*, 77, 293-301.

2. Chandrashekhar Nayak, M., Arun M. Isloor, Moslehyani, and Ismail. (2018). "Fabrication of novel PPSU/ZSM-5 ultrafiltration hollow fiber membranes for separation of proteins and hazardous reactive dyes." *Elsevier-J. Taiwan Inst. of Chem. Eng.*, 82, 342–350.
3. Chandrashekhar Nayak M., Arun M. Isloor, Inamuddin, Balakrishna Prabhu, Norafiqah Ismail, A.F. Ismail and Abdullah M. Asiri. (2019). "Novel PPSU/nano tin oxide mixed matrix ultrafiltration hollow fiber membranes: Fabrication, characterization and toxic dyes removal from aqueous solutions." *Reactive and Functional Polymers- Elsevier*, 2019, 139, 170-180.
4. Chandrashekhar Nayak, M., Arun M. Isloor, Inamuddin, Lakshmi, Hadi M Marwani, Imran Khan. (2020). "Polyphenylsulfone/multiwalled carbon nanotubes mixed ultrafiltration membranes: Fabrication, characterization and removal of heavy metals lead, mercury and cadmium from aqueous solutions". *Arabian Journal of Chemistry - Elsevier*, 13 (3), 4661-4672.
5. Kumar, M., Isloor, A. M., Nayak, M. Chandrashekhar, Todeti, S. R., Padaki, M., & Ismail, A. F. (2023). "Hydrophilic polydopamine/polyvinylpyrrolidone blended polyphenylsulfone hollow fiber membranes for the removal of arsenic -V from water". *Journal of Environmental Chemical Engineering - Elsevier*, 11 (5), 110358.

PATENTS:

1. Indian patent filed on novel "*Ultrafiltration Membrane*".

FOREIGN COUNTRY VISIT:

- ❖ Visited *UNIVERSITI TEKNOLOGI MALAYSIA, Malaysia* (Advanced Membrane Technology Research Centre - AMTEC) as a visiting research scholar for 3 months.

PROFESSIONAL MEMBERSHIP:

- ❖ Life member in Society for Polymer Science in India (SPSI).
- ❖ Life member in Institute of Scholars.

JOURNAL REVIEWER: *InSc – International Journal of Basic and Applied Sciences.*

TECHNICAL SKILLS:

- Polymeric membranes fabrication (Hollow fiber membranes & Flat sheet).

- Membrane characterization using several instruments such as FTIR, Contact angle, Zeta potential analyzer, Scanning electron microscopy, UV-visible spectrometer, Universal testing machine.
- Polymer processing techniques (good involvement and command on various instruments such as Plastograph Brabender Instrument, Compression moulding unit, Injection moulding unit), electrospinning process, Parylene Coating unit, etc. and the mechanical characterization (Universal testing machine) .

PERSONAL DETAILS:

Name : Dr. M Chandra Shekhar Nayak

Sex : Male

Nationality : Indian

Date of Birth & Age : 15-08-1988 & 35 Years.

Languages known : Telugu, English, Hindi, Kannada.

Corresponding Address: Dr. M Chandra Shekhar Nayak,
Maddelabanda Thanda Village & Post,
Maldakal (Mandal), Jogulamba Gadwal (Dist.)
Telangana State-509132.

I hereby declare the all the information provided here is true to the best of my knowledge.

Date: 21.08.2023,

Place: Bhopal.

(Dr. M Chandra Shekhar Nayak)