

# NIHER RANJAN SARKER

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## HIGHLIGHTS

- 13+ years of industry & research experience in technology innovation, commercialization, and capacity building
- Working on innovating advanced non-porous polymeric membrane materials to enable low-energy, high-efficiency water desalination systems
- Aiming to contribute for a sustainable future – combining economic success with environmental protection and social responsibility as a researcher.

## RESEARCH INTEREST

- Water Treatment
- CO<sub>2</sub> capture
- Advance Membrane Materials
- Bio-based product & functional material
- Desalination and Brine Recovery
- Nanotechnology

## INDUSTRY AND RESEARCH EXPERIENCES

Organization	Duration	Role
Chemical Engineering and Applied Chemistry, University of Toronto	Sep 2022 – Present	Graduate Researcher – Advanced Membranes Lab
<a href="#">Pidilite Industries Limited</a>	Mar 2020 – Sep 2022	Head of Department -Industrial Products
	Apr 2019 - Feb 2020	BU Head - Industrial Solutions
	Apr 2017 - Mar 2019	Deputy Manager - Performance Chemicals, Dispersions & Pigments
<a href="#">BASF Bangladesh Ltd</a> (Subsidiary of BASF Society Europea, Germany)	Apr 2015 - Mar 2017	Senior Assistant Manager - Paper & Water solutions, Plastic additives, Dispersions & Pigments
	Apr 2014 - Mar 2015	Assistant Manager - Water solutions, Plastic additives, Pigments, Resins
	Apr 2012 - Mar 2014	Senior Executive - Water solutions, Plastic additives, Pigments
	Jul 2010 - Mar 2012	Executive - Plastic additives
<a href="#">Bangladesh Council of Scientific and Industrial Research</a> (BCSIR)	Jun 2009 -Jun 2010	Research Fellow - Chemical Research Division

## EDUCATION

2022- Ongoing	<b>Ph.D. in Chemical Engineering and Applied Chemistry</b> Department of Chemical Engineering and Applied Chemistry University of Toronto, ON, Canada Dissertation (ongoing): <i>Insights into Desalination Selective Layers – Understanding Water and Salt Transport in Linear Aromatic Polyamide Membranes</i>
2009-2010	<b>M.S. in Applied Chemistry and Chemical Engineering (First Class)</b> Department of Applied Chemistry and Chemical Engineering Faculty of Engineering and Technology, University of Dhaka, Bangladesh Dissertation: <a href="#">Studies on Chemical Constituents of Nigella Sativa Linn. and its Antimicrobial and Antioxidant activities</a> Supervisor: Prof. Dr. Manoranjan Saha, Applied Chemistry & Chemical Engg., University of Dhaka; Co-supervisor: Sudhangshu Kumar Roy, Chief Scientific Officer, Bangladesh Council of Scientific and Industrial Research (BCSIR); Gour Chandra Saha, Principal Scientific Officer, BCSIR
2003-2008	<b>B.Sc. (Honours) in Applied Chemistry and Chemical Technology (First Class)</b> Department of Applied Chemistry and Chemical Engineering Faculty of Engineering and Technology, University of Dhaka, Bangladesh Undergraduate Project: <i>Formulation development, Production and Project Planning to set up a Deodorant Stick Manufacturing Plant in Bangladesh</i> Supervisor: Prof. Dr. Ahmad Ismail Mustafa, Applied Chemistry & Chemical Engg., University of Dhaka

## PUBLICATIONS/ACCEPTED PROCESS

- Utilization of Karanja (Pongamia pinnata) as a major raw material for the production of biodiesel, Dhaka University Journal of Science, 60(2), pp 203-207, 2012(July). <http://dx.doi.org/10.3329/dujs.v60i2.11506>
- Accepted process in BCSIR (considerable for leasing commercially): Production of Essential Oil from Kalozira. D/L.10.05.2011. (2011)  
[http://www.bcsir.gov.bd/sites/default/files/files/bcsir.portal.gov.bd/page/e512be7e\\_af5e\\_414f\\_bd7a\\_764fd6c63219/ProcessList-BCSIR.pdf](http://www.bcsir.gov.bd/sites/default/files/files/bcsir.portal.gov.bd/page/e512be7e_af5e_414f_bd7a_764fd6c63219/ProcessList-BCSIR.pdf)

## SPECIALIZATION

Gas chromatography–mass spectrometry, X-ray fluorescence, Gas Liquid chromatography, UV-Vis spectrophotometry, Water treatment, Paper processing technology, Plastic extrusion & stabilization, Water base architectural coatings, Pigments, Industrial Adhesives

## HONORS/AWARDS

- Bert Wasmund Graduate Fellowship from the University of Toronto in 2022
- Selected in BASF Leadership Excellence Asia Pacific Talent Pool in 2019.
- Certificate of award from BASF for 'Customer and Product Expansion' project in 2018.
- Selected in BASF Sub-regional Talent Pool in 2017.
- 'Distinguished Certificate of Merit' within BASF Asia Pacific in 2017.
- 'Certificate of Merit' within BASF Asia Pacific in 2017, 2015 & 2013.
- Best Performer Award from BASF Bangladesh Ltd in 2016.
- Designated as the prestigious 'Prof. Mukarram Hussain Khundkar Fellow' from BCSIR in 2009.
- University of Dhaka Merit Scholarship in B.Sc. (Honours) in 2006.

## TRAINING SUMMARY

Timeline	Topic	Provided by	Location/Country
Jul 2020	Technical training on Industrial adhesives	Pidilite Industries Ltd	Dhaka, Bangladesh
May 2020	Technical training on Footwear adhesives	Pidilite Industries Ltd	Dhaka, Bangladesh
Feb 2016	Technical training on specialty dispersions for Architectural coatings	BASF India Ltd	Mumbai, India
Jan 2016	The 7 Habits of Highly Effectice People - Signature Program	Franklin Covey Co.	Dhaka, Bangladesh
Feb 2015	Technical training on Dispersions, Formulation additives & Pigments for Architectural & Industrial coatings	BASF India Ltd	Mumbai, India
Aug 2014	Dr. Edward de Bono's Six Thinking Hats Course	de Bono Thinking Systems	Dhaka, Bangladesh
Feb 2014	Technical training on effect pigments, org. & inorganic pigments and dyes for Plastics	BASF India Ltd	Mumbai, India
Nov 2013	Market place of connecting mind 2013	BASF Asia Pacific Campus	Singapore
Jan 2013	Technical Training on Waste water treatment, Boiler & Cooling tower water management, Sludge dewatering, RO & UF technology, Desalination	BASF India Ltd	Mumbai, India
Jan 2013	Technical Training on UV stabilizers, Primary & Secondary Antioxidants and colorants for Plastics & Rubber	BASF India Ltd	Mumbai, India
Jan 2013	Technical Training on BASF Fuel & Lubricant Solutions	BASF India Ltd	Mumbai, India
Sep 2011	Technical Training on Colorants & Plastics Technology	BASF Auxiliary Chemicals Co. Ltd.	Shanghai, China
Oct 2009	Industrial Training on 'Industrial Process Unit Operation & Process Control Technique'	Training Institute for Chemical Industries	Gorasaal, Bangladesh
Aug 2008	Industrial Training on Pharmaceutical Process & Technology, QA/QC, HVAC operation, ETP operation, Production Planning & Inventory Control	Square Pharmaceuticals Ltd	Gazipur, Bangladesh
Jul 2007	Industrial Training on Urea Fertilizer Production Technology	Natural Gas Fertilizer Factory ltd	Sylhet, Bangladesh
Jul 2007	Industrial Training on Manufacturing of Cement	Chatak Cement Industry	Sylhet, Bangladesh
Aug 2005	Industrial Training on Manufacturing of Glass	Usmania Glass Sheet Factory	Chittagong, Bangladesh
Aug 2005	Industrial Training on Manufacturing of T.S.P fertilizer	T.S.P Complex	Chittagong, Bangladesh
Mar 2004	Industrial Training on Ceramic Industry	Peoples Ceramic Industry	Tongi, Bangladesh
Mar 2004	Industrial Training on Municipal Drinking Water Treatment Process	Godnyl Water Treatment Plant	Narayanganj, Bangladesh

## **VOLUNTEER ACTIVITIES/MEMBERSHIPS**

Consultant from BASF for “Partnership for Cleaner Textile” program in Bangladesh implemented by IFC (2015–2016), Member - National Council of Tagore Music Enthusiast (2011–2014), Joint Editor- Publication team, Dept. of App.Chemistry & Chem.Engg. (2007–2008), Member - Dhaka University Photographic Society (2005–2009)

## **POSTER/SEMINAR PRESENTATIONS**

1. BASF Asia Pacific conference 2013– got Certificate of Merit
2. BASF Asia Pacific conference 2015– got Certificate of Merit
3. BASF Asia Pacific conference 2017– got Distinguished Certificate of Merit for one presentation and got Certificate of Merit for second presentation
4. BASF South Asia Leadership Conference 2013 – awarded 2nd position in poster presentation
5. BASF South Asia Leadership Conference 2015 – awarded 2nd position in poster presentation
6. Presentation in conference of sustainable use of Plastic Additives in Bangladesh 2013.
7. Presentation in IFC (International Finance Corporation) led Advisory Partnership for Cleaner Textile (PaCT) conference 2017 on sustainable water management
8. Presentation in seminar on sustainable use of plastics for Appliance Industries of Bangladesh 2016
9. Presentation in seminar on sustainable use of organic and inorganic pigments in the Plastic Industries of Bangladesh 2015
10. Presentation on sustainable water solutions in the GIZ lead Sustainable Water Management seminar in Bangladesh 2015
11. Poster presentation in the conference of Coating Industries in Bangladesh 2018.
12. Poster presentation in the conference of Plastic Industries of Bangladesh in 2019.