

Tuhin Ghosh, Ph.D.

Assistant Professor in West Bengal Education Service
Department of Chemistry
Durgapur Government College
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Education and Qualifications:

August, 2019 – present

Assistant Professor (Level 12) in Chemistry, posted at Durgapur Government College

August, 2014 – August, 2019

Assistant Professor (Stage 2) in Chemistry, posted at ABN Seal College, Cooch Behar & Durgapur Government College

August, 2010 – August, 2014

Assistant Professor (Stage 1) in Chemistry, posted at ABN Seal College, Cooch Behar (DOJ- August 2, 2010)

Ph. D. October, 2007 – October, 2012

(PhD Advisor: Professor Bimalendu Ray)

Department of Chemistry, The University of Burdwan, West Bengal, India

M. Sc. August, 2005 – July, 2007

Department of Chemistry, The University of Burdwan, West Bengal, India

B. Sc. August, 2002 – July, 2005

Department of Chemistry, Hooghly Mohsin College, Chinsurah, West Bengal, India

Awards and Recognition:

- Outstanding Paper Presentation Award by Department of Science & Technology, Government of West Bengal in the 1st Regional Science & Technology Congress at Bankura Christian College, Bankura, 2016.
- Young Scientist Award by the Association of Carbohydrate Chemist & Technologist, India [ACCT (I)] in the XXIII Carbohydrate Conference at Bhavnagar University, Gujarat, 2009.
- Junior Research Fellowship (2007-2009) and Senior Research Fellowship (2009-2010) award by the Council for Scientific & Industrial Research (CSIR), New Delhi after qualifying for NET Examination in December, 2006.
- Life Time Member, Indian Science Congress Association.

Personal: Male; Married;

Nationality: Indian;

Date of Birth: 12 May, 1984

PUBLICATIONS

Peer-Reviewed Publications: 25

Book Chapters: 3

Conference Proceedings: ~25

Key publications (SCI indexed journals)

1. Adhikari, D.; Ghosh, T. "Structural insight and *in vitro* free radical scavenging capacity of arabinogalactan polysaccharides from the peels of *Punica granatum*" *Asian Journal of Chemistry* **2021**, 33(4), 873-880. (Impact factor: 0.54)
2. Ghosh, T.; Mukherjee, S.; Adhikari, D. "Evaluation of acute toxicity studies on Copper-induced oxidative stress in *Lathyrus Sativus* L., (variety Ratan) germinating seeds: A Biomarker based risk assessment" *Journal of Advanced Scientific Research* **2020**, 11(4), 243-254.
3. Adhikari, D.; Ghosh, T. "Chemical profiling of polysaccharides present in peels of *Citrus limetta* and bio-assay based screening of *in vitro* antioxidant activities" *Asian Journal of Chemistry* **2020**, 32(9), 2308-2314. (Impact factor: 0.54)
4. Acharjee, N.; Ghosh, T. "Structure analysis of sulfated polysaccharides extracted from *Scinaia interrupta*: experimental and density functional theory studies" *Asian Journal of Chemistry* **2020**, 32(7), 1589-1596. (Impact factor: 0.54)
5. Basak, U.; Ghosh, R.; Ghosh, T.; Majumdar, S.; Pakhira, M.; Ghosh, T.; Chatterjee, D. P. "Synthesis of 'living' poly(2-dimethylaminoethyl methacrylate) and stimuli responsive/multifunctional block copolymers effective in fabrication of CdS 'smart' 'Q-Particles'". *Polymer* **2018**, 155, 27-41. (Impact factor: 4.430)
6. Adhikari, D.; Mukherjee, S.; Ghosh, T.; Roy, D. "Biotic and Abiotic Stressors In Plant Molecular Breeding vis-à-vis Sustainable Molecular Farming Strategies For Food Security: Threats, Opportunities and Challenges Ahead in Indian Perspectives" *International Journal of Advance Research and Innovative ideas in Education* **2016**, 2, 609-617. (Impact factor: 4.06)
7. Ghosh, T.; Basu, A.; Adhikari, D.; Roy, D.; Pal, A. K. "Antioxidant activity and structural features of *Cinnamomum zeylanicum*". *3 Biotech* **2015**, 5, 939-947. (Impact factor: 3.203). (Citations: 19)
8. Mukherjee, S.; Roy, D.; Adhikari, D.; Ghosh, T. "Impairment of haematological profile of *Channa punctatus* exposed to sodium arsenite". *Int. J. Appl. Biol. Pharm.* **2015**, 6(2), 223 – 229. (Impact Factor – 0.99)
9. Bandyopadhyay, S. S.; Navid, M. H.; Ghosh, T.; Schnitzler, P.; Ray, B. "Structural features and *in vitro* antiviral activities of sulfated polysaccharides from *Sphacelaria indica*". *Phytochemistry* **2011**, 72, 276-283. (Impact Factor – 4.072) (Citations: 56)
10. Ghosh, T.; Auerochs, S.; Saha, S.; Ray, B.; Marschall, M. "Anti-cytomegalovirus activity of sulfated glucans generated from a commercial preparation of rice bran". *Antivir. Chem. Chemother.* **2010**, 21, 85-95. (Impact Factor – 2.386) (Citations: 17)
11. Chattopadhyay, N.; Ghosh, T.; Sinha, S.; Chattopadhyay, K.; Karmakar, P.; Ray, B. "Polysaccharides from *Turbinaria conoides*: Structural features and antioxidant capacity". *Food Chem.* **2010**, 118, 823-829. (Impact Factor – 7.514) (Citations: 172)
12. Sinha, S.; Astani, A.; Ghosh, T.; Schnitzler, P.; Ray, B. "Polysaccharides from *Sargassum tenerrimum*: Structural features, chemical modification and anti-viral activity". *Phytochemistry* **2010**, 71, 235-242. (Impact Factor – 4.072) (Citations: 157)
13. Karmakar, P.; Pujol, C. A.; Damonte, E. B.; Ghosh, T.; Ray, B. "Polysaccharides from *Padina tetrastromatica*: Structural features, chemical modification and antiviral activity". *Carbohydr. Polym.* **2010**, 80, 514-521. (Impact Factor – 9.381) (Citations: 55)
14. Mandal, P.; Pujol, C. A.; Damonte, E. B.; Ghosh, T.; Ray, B. "Xylans from *Scinaia hatei*: Structural features, sulfation and anti-HSV activity". *Int. J. Biol. Macromol.* **2010**, 46, 173-178. (Impact Factor – 6.953) (Citations: 46)

15. Ghosh, T.; Chattopadhyay, K.; Marschall, M.; Karmakar, P.; Mandal, P.; Ray, B. "Focus on antivirally active sulfated polysaccharides: from structure-activity analysis to clinical evaluation". *Glycobiology* **2009**, 19(1), 2-15. (*Impact Factor – 4.942*) (*Citations: 375*)
16. Ghosh, T.; Pujol, C. A.; Damonte, E. B.; Sinha, S.; Ray, B. "Sulfated xylomannans from the red seaweed *Sebdenia polydactyla*: structural features, chemical modification and antiviral activity". *Antivir. Chem. Chemother.* **2009**, 19, 235-242. (*Impact Factor – 2.386*) (*Citations: 61*)
17. Karmakar, P.; Ghosh, T.; Sinha, S.; Saha, S.; Mandal, P.; Ghosal, P. K.; Ray, B. "Polysaccharides from the brown seaweed *Padina tetrastromatica*: Characterization of a sulfated fucan". *Carbohydr. Polym.* **2009**, 78, 416–421. (*Impact Factor – 9.381*) (*Citations: 62*)
18. Chattopadhyay, K.; Ghosh, T.; Pujol, C. A.; Carlucci, M. J.; Damonte, E. B.; Ray, B. "Polysaccharides from *Gracilaria corticata*: Sulfation, chemical characterization and anti-HSV activities". *Int. J. Biol. Macromol.* **2008**, 43, 346–351. (*Impact Factor – 6.953*) (*Citations: 63*)
19. Basu, A.; Saha, D.; Saha, R.; Nandi, R.; Ghosh, S. K.; Ghosh, T.; Saha, B. "A review of sources, toxicity and remediation technologies for removing arsenic from drinking water". *Res. Chem. Intermediat.* **2014**, 40(2), 447-485. (*Impact Factor – 2.262*) (*Citations: 177*)
20. Basu, A.; Ghosh, S. K.; Saha, R.; Ghosh, A.; Ghosh, T.; Mukherjee, K.; Bhattacharya, S. S.; Saha, B. "Kinetic studies of glutamic acid oxidation by hexavalent chromium in presence of surfactants". *Tenside Surf. Det.* **2012**, 49, 481-487. (*Impact Factor – 1.02*) (*Citations: 12*)
21. Basu, A.; Ghosh, S. K.; Saha, R.; Nandi, R.; Ghosh, T.; Saha, B. "Effect of Some Non Functional Surfactants and Electrolytes on the Hexavalent Chromium Reduction by Glycerol: A Mechanistic Study". *Tenside Surf. Det.* **2011**, 48, 453-458. (*Impact Factor – 1.02*) (*Citations: 14*)

Other publications:

1. Mukherjee, S.; Roy, D.; Ghosh, T.; Adhikari, D. Biochemical Attributes in Malarial Infection. *B N Seal Journal of Science* **2015**, VII (I): 106- 114. ISSN: 0975-5624.
2. Ghosh, T.; Sain, S.; Adhikari, D.; Roy, D.; Mukherjee, S. Screening of antioxidant capacity of selected plant extracts. *B N Seal Journal of Science* **2015**, VII (I): 47-60. ISSN: 0975-5624.
3. Mukherjee, S.; Roy, D.; Ghosh, T.; Adhikari, D. Characterization of biochemical profile of Hepatitis B patient. *B N Seal Journal of Science* **2014**, VI (I): 118- 125. ISSN: 0975-5624.
4. Goswami, S.; Mukherjee, A.; Saha, S.; Ghosh, T.; Roy, D.; Ghosh, T.; Adhikari D.; Mukherjee, S. Cellular and metabolic response of haemocyte of *lobothenelus sp* invaded with wound. *B N Seal Journal of Science* **2013**, V (I): 100- 114. ISSN: 0975-5624.

Book Chapters

1. Ghosh, T.; Adhikari, D. ROS-mediated genome alterations at cellular microenvironment during cancer metastasis: A curtain raiser In: Handbook of Oxidative Stress and Cancer" edited by Sajal Chakraborti, Sushanta Roy Chowdhury and Bimal K. Ray **2021**, pp. 1-13, published by Springer Nature.
2. Adhikari, D.; Mukherjee, S.; Ghosh, T. Climate Changes vis-a-vis Environmental Actions and Forest Management with special reference to Sunderban biosphere: Measurements to protect Bio-resources From Socio-Political and Biological Perspective to meet a Better Future In: Cross-Cutting Research in Social Sciences **2019**, 286-304, published by UGC-Human Resource Development Centre, University of Calcutta.
3. Chattopadhyay, K.; Ghosh, T.; Karmakar, P.; Mandal, P.; Ghosh, P.; Ray, B. Ethnopharmacological Uses, Chemical Constituents and Biological Activities of Sesame: A Review. In: Recent Progress in Medicinal Plants **2009**, 23, 91-113, Studium Press LLC, USA.

Paper Presentation in Seminar / Conference / Symposium / Science Congress:

1. Paper presented (Poster) in the two day International Seminar on Advancements in Chemical Sciences: Issues and Challenges on **Feb 4-5, 2020** organized by the Asansol Bidhan Chandra College, Department of Chemistry in collaboration with Indian Chemical Society.
2. Paper presented (Oral) in the 4th Regional Science & Technology Congress (Western Region), 2019 jointly organized by The University of Burdwan & Department of Science & Technology & Biotechnology, Government of West Bengal during **Dec 9-10, 2019** at The University of Burdwan.
3. Paper presented (Poster) in the one day National Seminar on “Modern Era of Biosciences: Lab to Land” commemorating Golden Jubilee Celebration jointly organized by Department of Conservation Biology & Zoology, Durgapur Government College on **Dec 5, 2019** at Durgapur Government College.
4. Paper presented (Poster) in the young scientists’ conference as a part of “India International Science Festival – 2019” on Frontier areas of Research theme during **Nov 5-8, 2019** at Biswabangla Convention Centre, Newtown, Kolkata
5. Paper presented (Poster) in the Symposium on Polymer Science organized by Society for Polymer Science (SPS), India during **July 5-6, 2019** at Indian Institute of Science Education & Research, Kolkata (IISER-K).
6. Paper presented (Oral) in the Department of Higher Education, Science & Technology and Biotechnology, Government of West Bengal organized 24th West Bengal State Science & Technology Congress, 2017 on **Feb 28, 2017** at Science City, Kolkata.
7. Paper presented (Poster) in the International symposium on facets of chemistry in biology (FOCB-II) on **Jan 12, 2017** organized by the Department of Chemistry, St. Xavier’s College (Autonomous), Kolkata.
8. Paper presented (Oral) in the DST, Government of West Bengal & Bankura Christian College jointly organized 1st Regional Science & Technology Congress, Bardhaman Division during **Nov 7-8, 2016** at Bankura Christian College and **awarded Outstanding Paper award for best paper.**
9. Paper presented (Poster) in the UGC Sponsored National Symposium “Enthralling Facets of Molecular Manifestation in Chemical Sciences” during **Sept 15-16, 2016** at Bidhannagar College, Kolkata.
10. Paper presented (Poster) in the One Day National Seminar on Recent advances in life science in the light of chemistry on **Sept 9, 2016** organized by Department of Chemistry, Bethune College, Kolkata in collaboration with Royal Society of Chemistry (Eastern India Section).
11. Paper presented (Poster) in the 3rd National Seminar on Recent Trends in Applied Sciences and Humanities during **Feb 19-20, 2016** at Department of Applied Sciences and Humanities, Durgapur Institute of Applied Sciences Technology and Management (DIATM).
12. Paper presented (Poster) in the National Seminar on Design, Synthesis, Interactions, Chemical and Biochemical Activities of Different Functional Molecules on Feb **4-6, 2016** at Department of Chemistry, The University of Burdwan.
13. Paper presented (Poster) in the National Seminar on Chemistry for Better Tomorrow – Disarmament and Peaceful Uses in Chemistry on **Dec 15, 2015** at Sidho Kanho Birsha University, Purulia.
14. Paper presented (Poster) in the State Level One day Seminar on Recent Trends in Chemical Sciences on **July 16, 2015** at Bankura Sammilani College.
15. Paper presented (Oral) in the National Seminar on Advanced Spectroscopy, Theoretical Chemistry, Synthesis, Reactivity and Structural Evaluation on **Feb 19-21, 2015** at The University of Burdwan.
16. Paper presentation (Poster) in the National Seminar on Recent Trends in Applied Sciences and Humanities and its impact on Engineering Field on **Nov 5-6, 2014** at Durgapur Institute of Applied Sciences Technology and Management (DIATM).
17. Paper presentation (Poster) in the National Seminar on Recent Trends in Applied Sciences and Humanities

on Oct 30-31, 2013 at Durgapur Institute of Applied Sciences Technology and Management (DIATM).

18. Paper presentation (Oral) in the National Seminar on Recent Advances in life sciences application on **Dec 8-9, 2012** organized by PG Department of Zoology, ABN Seal College, Cooch Behar in collaboration with Department of Agricultural Entomology, UBKV, Pundibari, Cooch Behar.
19. Paper presentation (Poster) in the National Symposium on Carbohydrates at the interface of chemistry and biology on **Nov 23-25, 2011** jointly organized by CSIR-Indian Institute of Chemical Biology (IICB), Kolkata and NIPER, Kolkata in collaboration with ACTT (I).
20. Presented Paper (Oral) on “Chemical and anti-HSV properties of a sulfated xylomannan generated from *Sebdenia polydactyla*” in the XXIII rd Carbohydrate Conference held on **Jan 22-24, 2009** organized by Bhavnagar University, Gujarat. [**Selected as the best oral presentation and awarded Young Scientist 2009 award by ACCT (I)**]
21. Presented Paper (Poster) on “Anti-viral activity of sulfated compounds isolated from natural sources” in the XXIIIrd Carbohydrate Conference held on **Jan 22-24, 2009** organized by Bhavnagar University, Gujarat.
22. Presented Paper (Poster) on “Actividad Antiviral Contra el Virus dengue de distintas clases de polisacaridos sulfatados obtenidos a partir de algas marinas” in the Revista Argentina de Microbiologia, **2008**.
23. Presented Paper (Poster) on “Anti-cytomegaloviral activity of sulfated compounds isolated from natural sources” in the 33rd International Herpesvirus Workshop, Estoril, Portugal, **2008**.
24. Presented Paper (Poster) on “Structural features of hemicellulosic polysaccharides from flax seed cake” in the UGC sponsored National Seminar in **April, 2008** organized by the Department of Chemistry, The University of Burdwan.
25. Presented Paper (Poster) on “Flax (*Linum usitatissimum*) Seed cake: A Potential Source of High Molecular Weight Xyloglucan?” in the XXIIInd Carbohydrate Conference held on **Dec 19-21, 2007** organized by NIPER Mohali, Chandigarh.

Courses taught

	B.Sc. Honours	B.Sc. Program	M.Sc.
Semester-I	<ul style="list-style-type: none"> • BSCHCEMC102: (CC-2) Unit-I: Classification & Nomenclature 	BSCPCEMC201: (CC-4) Organic Qualitative Practical	<ul style="list-style-type: none"> • Organic General-I: Unit-2: Application of uv-vis & Infrared spectroscopy Combined spectral applications • Organic General Practical
Semester-II	<ul style="list-style-type: none"> • BSCHCEMC203: (CC-4) Unit-II: Elimination reaction and • Organic Chemistry-II Lab 		<ul style="list-style-type: none"> • Organic General-II: Synthetic polymers and biopolymers
Semester-III	<ul style="list-style-type: none"> • BSCHCEMC303: (CC-6) Unit-I: Molecular rearrangements and named reaction • Organic Chemistry-III Lab 		<ul style="list-style-type: none"> • Advanced Organic General: Green Chemistry: concepts, practise and aspects in current synthetic chemistry • Organic Major-I: Chemistry of Heterocyclic compounds: synthesis, properties and reactions • Organic Major Practical-I
Semester-IV	<ul style="list-style-type: none"> • BSCHCEMC403: (CC-9) Unit-I: Heterocyclic Chemistry 		<ul style="list-style-type: none"> • Organic Major-II: Organic Photochemistry II

	<ul style="list-style-type: none"> • BSCHCEMSEC401 (SEC) Preparation and Use of Cosmetics & Perfumes • Organic Chemistry-IV Lab 		<ul style="list-style-type: none"> • Organic Major-III: Chemistry of steroidal hormones • Organic Major Practical-II • Organic Term Paper Project
Semester-V	<ul style="list-style-type: none"> • BSCHCEMC501: (CC-11) Unit-III: NMR Spectroscopy • Organic Chemistry-V Lab 		Not Applicable
Semester-VI	<ul style="list-style-type: none"> • BSCHCEMDSE602: (DSE) Unit-III: Stereo-chemical Aspects of a few Organic Reactions. 		

Research support availed from external sources

Grant agency	Title of the project and Reference Number	Duration	Amount sanctioned (in Rs.)
UGC New Delhi	Structural elucidation of polysaccharides from selected natural resources of North Bengal and study of biological activities of their chemically modified form [Minor Research Project No. F.PSW-70/12-13(ERO), Dated 5 th Feb, 2013]	2 years (From 20/04/2013 to 19/04/2015)	Rs. 1,98,000/-

Dissertation Advising (M. Sc. Thesis work for six months duration):

Name of student & Registration No.	Title of the term paper	Duration
Sri. Soudam Sain 053230 of 2010-2011	Anti-oxidant capacity of selected plant extracts	January - June, 2015
Smt. Nabaneeta Roy 063634 of 2011-2012	Screening of anti-oxidant capacity of strawberry fruit and senna leaf extract	January - June, 2016
Smt. Angana Pan 105110001 of 2015-2016	Benefits, structural features & screening of anti-oxidant capacity of water extract from <i>Oroxylum indicum</i>	January - June, 2017
Smt. Dipanwita Maity 105110002 of 2015-2016	Medicinal use & structural features of water extract from <i>Glycyrrhiza glabra</i>	January - June, 2017
Smt. Riya Mukherjee 105110009 of 2015-2016	Synthesis and characterization of graphene oxide grafted polysaccharide from natural sources and its application	January - June, 2017
Smt. Suchismita Nag 105110550 of 2016-2017	Arsenic Toxicity: A focus on sources and remediation technologies	January - June, 2018
Sri. Sk. Abdul Hafiz 105173320007 of 2017-2018	Synthesis of carboxymethyl cellulose-polysaccharide conjugates from <i>Citrus limetta</i> and study of its application	January - June, 2019
Smt. Papiya Garai KNU18001230 of 2018-2019	Structural elucidation and theoretical analysis of polysaccharides in poultry feed	January - June, 2020
Sri. Arnab Dasgupta KNU19005051 of 2019-2020	A comprehensive review on self associated amphiphilic polysaccharides as drug delivery systems	January - June, 2021

Delivered Invited lectures or presentation for conferences/symposia:

Sl. No.	Title of the lecture	Seminar /Conference	Organized by
1	How to develop and upload e-content in four quadrants?	Workshop on e-content: Development & uploading of the four quadrants	IQAC, Durgapur Government College (14.03.2019)
2	West Bengal Health Scheme	Workshop on Modalities & Practices of IFMS & Income Tax: User end responsibilities	Department of Commerce, Durgapur Government College (27.04.2016 & 28.02.2016)
3	Go Green : Save the campus	Special Camp Seminar	NSS Unit, Durgapur Government College (24.02.2016)
4	Applications and uses of polymers	Science for Sustainable development One day seminar catalysed & supported by DHESTBT, Govt. of West Bengal	Kaijuli Hem Chandra High (H.S.) School, Mahammad Baazar, Birbhum (22.12.2017)

Training Courses, Teaching-Learning–Evaluation Technology Programmes participated:

Sl. No.	Programme	Duration	Organized by
1	UGC Sponsored 88 th Orientation Programme	28 DAYS (31-10-2012 to 27-11-2012)	Academic Staff College, The University of Burdwan
2	UGC Sponsored 1 st Summer School in Science	21 DAYS (05-09-2013 to 25-09-2013)	Academic Staff College, The University of Burdwan
3	TEQUIP-II Sponsored Short term training programme on Instrumental Application and Chemical analysis for Environmental samples	7 DAYS (24-11-2014 to 30-11-2014)	Department of Chemistry, National Institute of Technology Durgapur
4	UGC Sponsored Short term course on Environmental Science	7 DAYS (24-05-2016 to 30-05-2016)	Human Resource Development Centre, The University of Burdwan
5	UGC Sponsored Interdisciplinary Refresher Course on “Disaster Management”	21 DAYS (20-10-2016 to 11-11-2016)	Human Resource Development Centre, Jadavpur University
6	UGC Sponsored Workshop on “MOOCs, e-content development and open educational resources”	7 DAYS (30-10-2018 to 05-11-2018)	Human Resource Development Centre, The University of Burdwan
7	UGC Sponsored Short term course on “Accreditation of NAAC and Choice based credit system”	7 DAYS (11-02-2020 to 17-02-2020)	Human Resource Development Centre, The University of Burdwan
8	One week online International Multidisciplinary Faculty Development Program on ‘Advanced Pedagogy and Research Methodology’	7 DAYS (06-06-2020 to 12-06-2020)	Internal Quality Assurance Cell (IQAC) under CPE Scheme approved by UGC, Ranvir Rananjay Post Graduate College, Amethi, Uttar Pradesh
9	Seven days Online National Workshop on ‘Research Methodology and ICT Tools for teaching and learning’	7 DAYS (24-06-2020 to 30-06-2020)	Department of Sociology, Maharaj Balwant Singh P.G. College, Gangapur, Varanasi, Uttar Pradesh
10	UGC Sponsored Online Multidisciplinary Refresher Course on ‘Research Methodology: Tools and Techniques’	14 DAYS (07-07-2020 to 20-07-2020)	Human Resource Development Centre, Mizoram University