



## **CURRICULUM VITAE**

**DR. SHAMIM RAHMAN, M.Sc., Ph.D.**

Assistant Professor, Department of Zoology

Guwahati College, Guwahati (M), Assam

**Additional qualification:** PGD (Mass Comm.), B. Mus (Instru), Jr. Dip. (Fine Arts)

**Area of interest:** Ichthyology, Conservation Genomics and Science Communication

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### **EDUCATIONAL QUALIFICATIONS:**

<b>HIGHEST ACADEMIC DEGREE</b>	<b>YEAR</b>	<b>UNIVERSITY</b>	<b>TITLE OF THE THESIS</b>
Ph.D.	2017	Gauhati University	Development and characterisation of DNA barcodes in eel shaped fish species of Assam

<b>QUALIFIED ELIGIBILITY TEST</b>	<b>YEAR</b>	<b>SUBJECT</b>
State Eligibility Test (SET)	2015	Life Science

<b>NAME OF THE EXAMINATION</b>	<b>BOARD/UNIVERSITY</b>	<b>CLASS/REMARK</b>
M. Sc. ZOOLOGY	Gauhati University	1 <sup>ST</sup> Class and 2 <sup>nd</sup> position
B. Sc. ZOOLOGY	B.Borooah College (Gauhati University)	1 <sup>ST</sup> Class and Distinction
HIGHER SECONDARY	Assam Higher Secondary Education Council	1 <sup>ST</sup> Division
HSLC	Secondary Education Board of Assam	1 <sup>ST</sup> Division and 12 <sup>th</sup> rank

### **SCHOLARSHIPS:**

Junior Basic Scholarship: 2 <sup>nd</sup> position in sub-divisional open category
Middle School Scholarship: 6 <sup>th</sup> position in district open category

### **TEACHING/RESEARCH EXPERIENCE:**

- ❖ **CURRENT:** Assistant Professor in Zoology at Guwahati College, Guwahati, since March 2024

### **FORMERLY:**

- ❖ Assistant Professor in Zoology (HS, Undergraduate & Post-Graduate level): Devicharan Barua Girls' College, Jorhat. From March 2020 to February 2024
- ❖ Junior Research Fellow: Department of Biosciences & Bioengineering, IIT Guwahati

- ❖ Senior Research Fellow: Biotech Hub, Department of Zoology, North Gauhati College
- ❖ Scientific Assistant: Department of Zoology, Cotton University
- ❖ Faculty in Bioscience: IGNOU Cotton University study centre

**EX-GRATIA TEACHING SERVICES OFFERED:**

- HS, Undergraduate and Post-Graduate level Zoology course in the department of Zoology, Cotton University for the period of August, 2016 to March 2020.
- Post-Graduate level Seribiotechnology course in the department of Molecular Biology and Biotechnology, Cotton University for the period of August, 2017 to December, 2017.
- Post-Graduate level Zoo-archaeology course in the department of Archaeology, Cotton University for the period of August, 2016 to June, 2017.
- Undergraduate level of Zoology (Major) course in the department of Zoology, North Gauhati College for the period of June, 2012 to February, 2016.

**RESEARCH PROJECTS**

Post	Funding Agency	Duration	Topic	Status
Principal Investigator	DBT, Govt. of India	One year (extended for further 6 months)	To what extent benthic diversity indicates water quality of wetlands of Guwahati having different pollution load <a href="https://microcosmos.foldscope.com/?author=2605">https://microcosmos.foldscope.com/?author=2605</a>	Completed
Principal Investigator	Dusty Foot Foundation New Delhi	One year	Beyond the Platter: Framing Socio-cultural Intricacies of Fish in Assam	Ongoing

**PATENT:**

Akalesh Kumar Verma, Devajit Basumatari, Rezina Ahmed, **Shamim Rahman**, Rohit Kumar Singh and Karabi Kalita. 2023. Pearl Grafting Tool, Design number 397463-001 dated 14/12/23

**AWARDS:**

- The American Society for Microbiology awarded for Best Interjection at the Virtual Workshop on Art of Science Communication on 20<sup>th</sup> April, 2015.
- ICAR-CIFA awarded for second best poster entitled ‘Tagging of lesser known ichthyofauna *Pangio pangia* (Hamilton, 1822) with a hook of DNA barcoding’ at the ‘1<sup>st</sup> Northeast aqua professional meet cum national workshop on recent developments in aquaculture’ on 6<sup>th</sup> March, 2018.
- Assam Don Bosco University awarded Jury’s award for presenting poster entitled Threats to fish diversity of Brahmaputra river basin (Assam, India) owing to

anthropogenic and climatic variability at International seminar on climate change: impact and resilience on 28 February, 2023.

**COMPUTER PROFICIENCY:**

- Biostatistics: SigmaPlot, PAST, SPSS
- Certification in Basic computer application, C-Language, DTP
- Bioinformatics: BIOEDIT, MEGA, dnaSP, NETWORK, DAMBE, Phylip, bdPRO.

**ACTIVITIES**

**ORIENTATION PROGRAMME/ REFRESHER COURSE/ FDP ATTENDED**

<b>Name of the course/programme attended</b>	<b>Organizing/ Sponsoring institute</b>
Orientation programme	HRDC, Mizoram University
Refresher course	Science Academies
FDP on Teaching-Learning	N. N. Saikia College
FDP on Micro Teaching	D. C. B. Girls' College
FDP on Academic Research Writing	TLC, Ramanujan College, Delhi University
FDP on Psychological Skills for Teaching and Learning	TLC, Ramanujan College, Delhi University

**TRAINING COURSES PARTICIPATED**

<b>Name of the course/programme attended</b>	<b>Organizing/ Sponsoring institute</b>
Darwin Scholarship Programme	Field Studies Council, United Kingdom
DNA Cloning, Sequencing and Sequence Analysis	North-East Hill University, Shillong
Quality Improvement Programme on Tools for the Bioresources Conservation	IIT Guwahati
Bioinformatics & Techniques of Molecular Biology	Cotton College, Guwahati
DNA Barcoding and Genomic diversity of Bioresources	Assam University. Silchar, India
Training on GCMS, LCMS & HPLC	Guwahati Biotech Park, Guwahati
Genome Annotation	IIT Guwahati
Structural Bioinformatics	Dibrugarh University, Dibrugarh
Molecular Phylogeny and Evolution	Mizoram University. Aizawl
Fisheries and Biodiversity Needs	Gauhati University. Guwahati
Advanced biostatistical training	Northpole Institute of Professional Training, Guwahati
Application of Bioinformatics in Wildlife Research	Gauhati University, Guwahati
Basic Techniques in Bioinformatics	IIT Guwahati
Hands on training on Mammalian cell culture techniques for toxicity studies	IIT Guwahati
Skill Development Programme on Biotechnological Applications in Aquaculture	ICAR-Central Institute of Fisheries Education (Kolkata Centre)

Conference cum workshop on Host-Microbe interactions	IASST, Guwahati
Clinical applications of molecular cytogenetics	CDFD, Hyderabad
Springer Nature Author workshop	Gauhati University, Guwahati
Practical course on DNA taxonomy and Phylogeny	Sathyabama (deemed to be) University
Computational approaches for understanding Biomolecular interactions	BIF, College of Veterinary Sc. Guwahati
Filmmaking as tool for science communication	IISER, Pune
International workshop on Ichthyotaxonomy	University of kerala & KUFOS
Fundamentals of Film Direction Photography and Light Painting	FTII, Pune

### WEBINAR PARTICIPATED

Name of the course/programme attended	Organizing/ Sponsoring institute
Biorisk assessment and management	Panjab University, Chandigarh
DNA taxonomy and phylogeny	Sathyabama Institute of Science & Technology, Chennai
Biodiversity informatics and documentation through Citizen Science on the India Biodiversity Portal	St.Xavier's College for Women, Aluva
The do's and don'ts in scientific publishing	Biologia Life Science, Ahmednagar
Freshwater invertebrates	Biologia Life Science, Ahmednagar
Fish diversity in NE India and cumulative aquaculture approach: alternative livelihood opportunities of rural Assam in pandemic era.	B. N. College, Dhubri
Scientific image and graphic editing workshop using INKSCAPE and GIMP	Biologia Life Science, Ahmednagar
Transforming Indian higher Education: NEP	Bahona college & Majuli College

### ORAL PRESENTATION AT CONFERENCE/ SYMPOSIUM/ SEMINAR

Title/Subject of presentation	Title/Subject of conference/ workshop/ symposium	Organizing institute
Tagging of two lesser known fish species of Assam	Young Ecologists' Talk and Interact (YETI)	Amity University, Noida
How healthy nature's kidneys are!	Symposium on omics technology and biodiversity	IIT, Guwahati
Taxonomic review of lesser known rice paddy eel <i>Pisodonophis boro</i> complementing with DNA barcode	National seminar on science and technology for human welfare	IASST, Guwahati

DNA barcoding reveals mislabelling of threatened ichthyofauna <i>Pillaia indica</i> Yazdani, 1972	National seminar on recent advances in zoological research and integrative biology	Cotton College, Guwahati
Story of lesser known fishes with a hook of DNA barcode	Cotton University Research Outreach Meeting (CUROM)	Cotton College State University, Guwahati
Generation of DNA barcodes in threatened eel <i>Anguilla bengalensis</i> in complimentary to conventional taxonomy	Bioprospecting of gene pool: trends and prospects in North East India	D. K. College, Mirza
Study on threats to Amchang wildlife sanct.	55 <sup>th</sup> annual technical session of Assam Science Society	Gauhati University, Guwahati
Comparative taxonomy of two <i>Botia</i> spp. of Assam utilizing DNA barcoding in congruence with morphological markers	National seminar on recent advances in Bio-sciences	Zoological Society of Assam & Pragjyotish College
Congruence of Foldscope and DNA barcoding in taxonomic review of lesser known rice paddy eel <i>Pisodonophis boro</i>	National conference on Microcosmos	Dr. B. R. Ambedkar Institute of Technology, Port Blair

#### POSTER PRESENTATION AT CONFERENCE/ SYMPOSIUM/ SEMINAR

<b>Title/Subject of presentation</b>	<b>Title/Subject of conference/ workshop/ symposium</b>	<b>Organizing institute</b>
Urban biodiversity: a case study in Guwahati city with reference to newly declared Amchang and Deepor Beel sanctuary	15 <sup>th</sup> ADNAT Convention on Genomics and Biodiversity	CCMB, Hyderabad
DNA Barcoding in Lesserknown Threatened Ichthyofauna to Augment Conservation Effort	Student Conference on Conservation Science (SCCS)	IISc, Bangalore
Ganga river basin biodiversity conservation and management	National students' conference on river basin planning	IIT, Kanpur
DNA barcoding in threatened Assamese Kingfish, <i>Cyprinion semplotum</i> (McClelland, 1839)	Emerging trends in Biotechnology	JNU, New Delhi
Tagging of lesser known ichthyofauna <i>Pangio pangia</i> (Hamilton, 1822) with a hook of DNA bar	1 <sup>st</sup> NE aqua professional meet cum national workshop on recent developments in aquaculture	ICAR-CIFA
Morphological review of <i>Leiodon cutcutia</i> (Hamilton, 1822) from	National conference on green, sustainable and evolving	Cotton University/ Assam Science

River Brahmaputra	sciences	Society
Water chemistry and benthic diversity in two city wetlands of Guwahati	National conference on green, sustainable and evolving sciences	Cotton University/ Assam Science Society
Threats to fish diversity of Brahmaputra river basin (Assam, India) owing to anthropogenic and climatic variability	International seminar on Climate change: Impact and resilience	Assam Don Bosco University
Estimation of GC content and Nucleotide Substitution on DNA barcodes delineating Anguilliform fishes of Assam	International conference on Challenges and prospects of bioresource conservation in Eastern Himalaya	Gauhati University

### COORDINATED WORKSHOP/ SEMINARS:

- Acted as Convener at the workshop entitled ‘5 days training programme for students entitled “How healthy nature’s kidneys are? Let’s diagnose with Foldscope’ on 16-20 July, 2018 at Cotton University, Guwahati.
- Acted as Convener at the workshop entitled ‘Ichthyotaxonomy with the aid of Foldscope’ on 21-22 August, 2019 at Cotton University, Guwahati.
- Acted as Convener at the e-poster competition entitled ‘Biodiversity in the backyard’ at Devicharan Barua Girls’ College, Jorhat. <https://biodiversitydcb.blogspot.com/> 5 June, 2020.
- Acted as Coordinator at the webinar on ‘The Weed Macaques of India: Uniquely Adaptable, but Ultimately Threatened?’ by Prof. Anindya Sinha. 24 September, 2020.
- Acted as Coordinator at the *Matshya Adda* (an interactive session on fish and fisheries) on 2<sup>nd</sup> February, 2024 at D.C.B. Girls’ College, Jorhat.

### Other Activities

- Participation in the DBT sponsored National Symposium on Trends and Prospects of Biomedical Science and Biomedical Engineering.
- Participated in the 19<sup>th</sup> All India Congress of Zoology
- Participated in the National Child Science Congress
- Participated in the Workshop on Basics of Microscopy by IITG-Biotech HUB
- Participated in the Northeastern regional conference on Promotion and Protection of Traditional Health Care Remedy held at Gauhati University.
- Participated in the Cotton University campus bird count 2016 and 2017.
- Conducted campus bird count under eBird initiatives at DCB Girls’ College 2020-23.
- Participated in the symposium on Potential of edible insects in North East India at Gauhati University.
- Presented ‘Urban Biodiversity Management of Guwahati City: The Gateway to North East India- Utpal Bora, **Shamim Rahman** and Parimal Chandra Bhattacharya’ at the Urban Wildlife Management and Planning Conference, Austin, Texas: 2011. (Presented by Utpal Bora)

## PUBLICATIONS:

- **Shamim Rahman.** Study on Threats to Amchang Wildlife Sanctuary, Journal of Assam Science Society, 52(1), 5-9. 2011.
- **Shamim Rahman,**Sumanjit Kakati,Jitendra Kumar Choudhury,Prabhat Chandra Sarma, Ellora Barua and Amalesh Dutta. Ornamental Ichthyofaunal Diversity of North Guwahati, Assam, India, Journal of Agriculture and Veterinary Science, 7(4), 10-13.
- Debashish Talukdar, Devajit Basumatari and **Shamim Rahman.** Monitoring Nature's Kidneys with the aid of Macrobenthic Assessment: A case study in the city Wetlands of Guwahati, India. Pollution. 8(1), 45-56. 2022.
- **Shamim Rahman,** Amit Kumar, Amalesh Dutta and Mohan C. Kalita. DNA barcoding and molecular phylogenetics of Anguilliform fishes of Assam, India. Journal of Bioresources. 10(1), 7-13. 2023.
- **Shamim Rahman,** Ellora Barua, Jitendra Kumar Choudhury, Amalesh Dutta and Mohan Chandra Kalita. Generation of DNA barcodes in Indian mottled eel (*Anguilla bengalensis*): A threatened ichthyofauna of Assam, India. International Journal of Agriculture, Environment & Biotechnology, 8(3), 511-519. 2015.
- **Shamim Rahman,** Amalesh Dutta, Debashish Talukdar and Mohan C. Kalita. Congruence of Foldscope and DNA barcoding in taxonomic review of lesser known rice-paddy eel *Pisodonophis boro*. Journal of emerging technologies and innovative research. 6, 852-856. 2019.
- **Shamim Rahman** and Ellora Barua. Fish diversity and habitat parameters in Silguri wetland of North Guwahati, Assam, India. Zoon, 13, 16-22. 2015.
- **Shamim Rahman.** Biotechnology in Fish Biology and Fishery Science, Zoon, 10(49).2011
- Utpal Bora and **Shamim Rahman.** Floral and Faunal Diversity of Lower Ganga, Report to Ministry of Environment and Forest, Govt. of India. 2012. [http://gangapedia.iitk.ac.in/sites/default/files/3.05\\_ENB\\_LG-A.pdf](http://gangapedia.iitk.ac.in/sites/default/files/3.05_ENB_LG-A.pdf)
- Short Communication: **Shamim Rahman,** Jitendra Kumar Choudhury, Amalesh Dutta and Mohan Chandra Kalita. Eel Ichthyofauna of Assam in Folklore Therapeutic Practices International Journal of Interdisciplinary and Multidisciplinary Studies, 1(5), 273-276. 2014.
- **Shamim Rahman.** Restriction Endonuclease: An Introduction to the Molecular Scissor of Genetic Engineering, Popular article, Zoon. Vol. 5(16).2007.
- **Shamim Rahman.** Cancer Therapy: Fish Oil in the Incomplete Chronicle, Souvenir-Short term course on cancer biology. Popular article, Pp. 57. 2011.
- **Shamim Rahman.** Our defense mechanism: the immunity, Popular article, Bijnan Jeuti, vol. 46 (5), 8-11. 2012.
- **Shamim Rahman.** Food & Feeding of Fish. Popular article, Bijnan Jeuti. Vol. 46 (6), 5-7. 2013.
- 2014. **Shamim Rahman.** Molecular Markers for Biodiversity Conservation, Popular article, Zoon. Vol.12, 16-19. 2014.
- **Shamim Rahman.** DNA Barcoding. Popular article, Bijnan Jeuti. Vol. 48 (6), 38-19. 2014.

- **Shamim Rahman** and Mohan C. kalita. Aquaculture Biotechnology: A glimpse. Popular article. North east Bioline. 3, 40-42. 2017.
- **Shamim Rahman**. Fish diversity. Popular article, Bijnan Jeuti. 48(3), 40-41. 2013
- **Shamim Rahman** and Mohan C. kalita. Conservation of indigenous fish diversity and biotechnology. Popular article. BioSparsh. 1, 22-23. 2018.
- **Shamim Rahman**. Assamese Kingfish on the verge of extinction. Popular article. Bijnan Jeuti (ISSN: 2319-3085). 53 (3), 35-36. 2018

#### **BOOK CHAPTERS:**

- **Shamim Rahman** and Amalesh Dutta. Traditionally used fishing gears of Assam in **Spectrum of Northeast India** (ISBN: 81-888-00-4), 1, 20-34. 2016.
- **Shamim Rahman**. Diagnosis of nature's kidney with the aid of Foldscope in **Foldscope and its application** (ISBN: 978-93-85835-68-1), 225-230. National Press Associates, New Delhi. 2019.
- **Shamim Rahman**. Citizen's outlook on online teaching and rebooting post Covid-19 higher education studies in **Covid-19 and its impact on education** (ISBN: 978-93-92513-51-0), 31-47. New Delhi Publishers, New Delhi. 2022.
- **Shamim Rahman** & Priyanka Kakati. Fish in traditional fabric of Assam in **Traditional knowledge and contemporary thinking in Assam**. New Delhi. 2023.

#### **NEWS PAPER ARTICLES:**

- Assam without a State fish. The Assam Tribune. On editorial page. 2<sup>nd</sup> March, 2020.
- Assam without fish. Dainik Agradoot. 7<sup>th</sup> July, 2022

#### **OPEN EDUCATIONAL RESOURCES:**

- Overview of cell. 17 April, 2020  
<https://www.youtube.com/watch?v=XJPIXhgHO84&list=PLX41nlrGBqEWNW7uMo-sjuOkI2QYXJTfd>
- Structural depiction of mitochondria. 6 May, 2020  
<https://www.youtube.com/watch?v=Bf9o1p-NFgk&list=PLX41nlrGBqEWNW7uMo-sjuOkI2QYXJTfd&index=9>
- Structure of Purines, Pyrimidines, Nucleosides & Nucleotides. 22 July, 2020  
[https://www.youtube.com/watch?v=sNm7GqVZuI8&list=PLX41nlrGBqEW0\\_3zIndqL5FMzXh2U60eY&index=11](https://www.youtube.com/watch?v=sNm7GqVZuI8&list=PLX41nlrGBqEW0_3zIndqL5FMzXh2U60eY&index=11)

#### **INVITED LECTURES:**

<b>Title of the presentation</b>	<b>Organising institution</b>
Animal Cell Culture	Asian Institute of Management & Technology
DNA Barcoding in fish	B. Borooah College
DNA Barcoding	Handique Girls' College
Fish in traditional therapeutics and as	Lakhimpur College of Veterinary Science

potential component in biomedical research	
Fish and we: Social, cultural and economic context	Assam Science Society <a href="https://www.youtube.com/watch?v=U6E1qtA8xfk">https://www.youtube.com/watch?v=U6E1qtA8xfk</a>
Wetland and lower strata biota	IIT Guwahati & Cotton University
Life perspectives through the prism of Biology	IIT Super 60, YTC, ITDA Srikakulam, Andhra Pradesh
Fishing with a hook of DNA barcoding	Royal Global University

#### OUTREACH SERVICES RENDERED:

- Organising member of outreach programmes at North Guwahati Girls' School (21/11/12), Changsari Valika Vidyalaya (29/11/13) A.K.D Boys' School (28/03/2015) and for popularisation of science under the aegis of Biotech Hub, North Gauhati College .
- Demonstrated Molecular Biology techniques on invitation at the Institutional Biotech Hub of Gauhati University on 22-28 May, 2017.
- Voluntary contribution as resource person on invitation at Children Science Congress on 26-30 December, 2017.
- Conducted Quiz Competition on invitation at the Assam State Zoo cum Botanical Garden on the occasion of 64<sup>th</sup> Wildlife Week on 1<sup>st</sup> October, 2018.
- Conducted outreach programme on Assembly and Utilization of Foldscope at Assam Railway Higher Secondary School on 25 September, 2018, Bengali Higher Secondary School on 29 October, 2018 and North Gauhati College on 5 March, 2019.
- Students under supervision bagged best short film award for 'Biodiversity of a metro' at International symposium on biodiversity and biobanking on 27 January, 2018.  
<https://www.youtube.com/watch?v=UZxV6L8Xeso>
- Prepared 12 page calendar on Ornamental fishes of Assam for ASTEC, DST, Govt. of Assam on request. 2022.
- Assisted the Department of Forest, Govt. of Assam for preparation of report on Aquatic Ecology. May 2020.
- Acted as External Evaluator for selection of Research Personal at State Government Department. 2023.

#### PROJECT GUIDANCE (till June, 2023):

Level of guidance	No. of students
Undergraduate	17
Post Graduate	09

#### CO CURRICULAR ACTIVITIES:

- B. Music in Tabla: Bhatkhande Sangeet Vidyapith, Lucknow
- Junior Diploma in fine arts: All India council of Music and culture, Kolkata
- National level award winner in debate by Ministry of culture, Govt. of India
- University best debater, 2008-09; 2009-10

**MEMBERSHIPS:**

- Life member: **Assam Science Society**
- Life member: **Zoological Society of Assam**
- Former Joint Secretary: **Red Ribbon Club, North Gauhati College**
- Former member, Editorial Board: **Luit to Thames** (bilingual magazine edited by Dr. Karuna Sagar Das, U.K.)
- Former Secretary: **Science Forum, D. C. B. Girls' College**
- Life member: **Assam Xahitya Xabha**

*Shamim Rahman*

(Dr. Shamim Rahman)