

Indian Association for the Cultivation of Science
School of Chemical Sciences
2A & 2B Raja S.C Mullick Road
Kolkata, WB, 700032
India

Email: ocrkg@iacs.res.in / rajibgos@gmail.com
Phone: :+91-33-2473 4971/3372 (Ext-1401)
Fax: +91-33-2473 2805
Website: <http://iacs.res.in/athusers/index.php?navid=0&userid=IACS0053>

Rajib Kumar Goswami, PhD

Research Interest:

- Total Synthesis of Natural Products and Their relevant variants.
- Evaluation of Biomedical Applications of Natural Products and Their Synthetic Analogues.

Experiences:

Jun 2007 – September 2011

Postdoctoral Research

The Scripps Research Institute, California, USA

September 2011 – September 2016

Assistant Professor

Indian Association for the Cultivation of Science
Kolkata, India

September 2016 – February, 2020

Associate Professor

Indian Association for the Cultivation of Science
Kolkata, India

February 2020 – Date

Professor

Indian Association for the Cultivation of Science
Kolkata, India

Education:

<i>Ph.D. in Chemistry-2001 to 2007</i>	Indian Institute of Chemical Technology Hyderabad, Telangana, India (Degree was awarded by University of Kalyani in 2008)
<i>M.Sc. in Chemistry (Organic Specialization)-2001</i>	Rajabazar Science College, University of Calcutta Kolkata, West Bengal, India.

B.Sc. in Chemistry (Hons)- 1999	Krishnath College, University of Calcutta Berhampore, West Bengal, India.

Graduate and Postdoc Advisors:

Graduate: **Prof. Tushar K Chakraborty**, Indian Institute of Chemical Technology, India.

Postdoctoral: **Prof. Subhas C Sinha**, The Scripps Research Institute, USA.

Patent: Applied for Indian Patent in 2023 *"Autophagy Inducing Synthesized Cyclic Depsipeptides in Cancer Chemotherapy"* as the principal investigator.

Publications:

- *"Total Synthesis of Antibacterial Polyketide Natural Product Thailandamide Lactone"* Himangshu Sharma, Joyanta Mondal, Ananyo K. Ghosh, Ritesh Ranjan Pal and **Rajib Kumar Goswami***; *Chem. Sci.*, 2022, 13, 13403-13408.
- *"Late-Stage Functionalization: Total Synthesis of Beauveamide A & its Congeners and Their Anticancer Activities"* Sanu Saha, Sourya Shankar Auddy, Akash Chatterjee, Prosenjit Sen and **Rajib Kumar Goswami***; *Org. Lett.* 2022, 39, 7113-7117 (one of the most read/downloaded papers for the month September-October, 2022).
- *"Pestalotioprolide E targets thioredoxin reductase and exhibits defense against triple-negative breast cancer"* Ruma Sarkar, Debabrata Paul, Sayantan Pradhan, Anindita Bhattacharya, **Rajib Kumar Goswami*** and Prosenjit Sen*; (Communicated).
- *"Stereoselective Synthesis of Acyclic Skeleton of Boscartin A"* Dhiman Saha, Moinul Haque Sahana, Gour Hari Mandal and **Rajib Kumar Goswami***; *Synlett*, 2022, 33, 1943-1947.
- *"Total Synthesis of Strasseriolide A"* Moinul Haque Sahana, Dhiman Saha and **Rajib Kumar Goswami***; *J. Org. Chem.*, 2022, 17, 11805–11815 (one of the most read/downloaded papers for the month August-September, 2022).
- *"Synthesis of Key Skeleton of Phosphoeleganin"* Gour Hari Mandal, Dhiman Saha, Sourya Shankar Auddy and **Rajib Kumar Goswami***; *Synlett*, 2022, 33, A-E (Invited Article).
- *"Cananginone abrogates EMT in breast cancer cells through targeting Hedgehog signaling"* Chandra Bose, Ujjal Das, Tapan Kumar Kuilya, Joyanta Mondal, Jhuma Bhadra, Priyanjalee Banerjee, **Rajib Kumar Goswami** and Surajit Sinha*; *Chem. Biodiversity*, 2022, 19, e202100823.

- “Total Synthesis and Stereochemical Assignment of Bipolamide A Acetate” Sourya Shankar Auddy, Sanu Saha and **Rajib Kumar Goswami***; *Org. Biomol. Chem.*, 2022, 20, 3348-3358.
- “Asymmetric Total Synthesis of Amphirionin-2” Dhiman Saha, Gour Hari Mandal and **Rajib Kumar Goswami***; *J. Org. Chem.* 2021, 86, 10006–10022.
- “Total Synthesis: the structural confirmation of natural product” Debobrata Paul, Ashis Kundu, Sanu Saha and **Rajib Kumar Goswami***; *Chem. Commun.*; 2021, 57, 3307-3322 (*Invited Feature Article*).
- “Intramolecular Heck Reaction in Total Synthesis of Natural Products: An Update.” Debobrata Paul, Subhendu Das, Sanu Saha, Himangshu Sharma and **Rajib Kumar Goswami***; *European Journal of Organic Chemistry*, 2021, 2057-2076..
- “Cyclodepsipeptide Alveolaride C: Total Synthesis and Stereochemical Assignment” Sanu Saha, Debobrata Paul and **Rajib Kumar Goswami***; *Chem. Sci.*, 2020, 11, 11259-11265. (*Highlighted in ChemistryViews.org and Published as literature coverage in Synform, 2021/03, A43–A45*).
- “Biselyngbyolides A & C: Total Synthesis and Their Anticancer Activities” Debobrata Paul, Moinul Haque Sahana, Pratiti Mandal, Partha Chakrabarti and **Rajib Kumar Goswami***; *Org. Biomol. Chem.*, 2020,18, 7151-7164.
- “Total synthesis of nafuredin B” Gour Hari Mandal, Dhiman Saha and **Rajib Kumar Goswami***; *Org. Biomol. Chem.*, 2020, 18, 2346-2359.
- “Total Synthesis and Stereochemical Assignment of Sunshinamide and Its Anticancer Activity” Joyanta Mondal, Ruma Sarkar, Prosenjit Sen* and **Rajib Kumar Goswami***; *Org. Lett.* 2020, 22, 1188-1192.
- “Total Synthesis and Stereochemical Assignment of Penicitide A” Dhiman Saha, Sandip Guchhait and **Rajib Kumar Goswami***; *Org. Lett.* 2020, 22, 745-749.
- “Studies towards the Synthesis of Macrotermycin C: Stereoselective Construction of Acyclic Skeleton of the Aglycon.” Sandip Guchhait and **Rajib Kumar Goswami***; *Org. Biomol. Chem.*, 2019, 17, 9502-9509.
- “Total Synthesis of Pestalotioprolide E and Structural Revision of Pestalotioprolide F” Debobrata Paul, Sanu Saha and **Rajib Kumar Goswami***; *Org. Lett.*, 2018, 20, 4606–4609.

- “Studies toward the Synthesis of Strevertenes A and G: Stereoselective Construction of C₁-C₁₉ Segment of the Molecules” Tapan Kumar Kuilya, Subhendu Das, Dhiman Saha and **Rajib Kumar Goswami***; *Org. Biomol. Chem.*, 2018, 16, 7595-7608. (*Published as inside cover page*).
- “Total Synthesis of Cytospolide Q” Shamba Chatterjee, Gour Hari Mandal and **Rajib Kumar Goswami***; *ACS Omega*, 2018, 3, 7350–7357 (*Invited Article*).
- “Studies Directed toward the Stereoselective Synthesis of Cytospolide E” Shamba Chatterjee, Tapan Kumar Kuilya and **Rajib Kumar Goswami***; *ACS Omega*, 2018, 3, 1041–1059 (*Invited Article*).
- “Total Synthesis of Pestalotioprolide G and Putative Structure of Pestalotioprolide H”
 • Debobrata Paul, Sayantan Das, and **Rajib Kumar Goswami***; *J. Org. Chem.*, 2017, 82, 7437–7445.
- “Total Synthesis of Marine Natural Products Separacenes A and B” Subhendu Das and **Rajib Kumar Goswami***. *Org. Biomol. Chem.*, 2017, 15, 4842-4850.
- “SMI-Ribosome inactivating protein conjugates selectively inhibit tumor cell growth” Saumya Roy, Jun Y. Axup, Jane S. Forsyth, **Rajib K. Goswami**, Benjamin M. Hutchins, Krishna M. Bajuri, Stephanie A. Kazane, Vaughn V. Smider, Brunhilde H. Felding* and Subhash C. Sinha*; *Chem. Commun.*, 2017, 53, 4234-4237.
- “Stereoselective Total Synthesis of Carolacton” Tapan Kumar Kuilya and **Rajib Kumar Goswami***; *Org. Lett.*, 2017, 19, 2366–2369.
- “Total Synthesis of Reported Structure of Baulamycin A and Its Congeners” Sandip Guchhait, Shamba Chatterjee, Ravi Sankar Ampapathi* and **Rajib Kumar Goswami***; *J. Org. Chem.*, 2017, 82, 2414–2435. (*Subsequent work was published in Nature, 2017, 547, 436–440 by Agrawal et al.; Interview published in Chemical & Engineering News, 2017, Volume 95, Issue 31*).
- “Total Synthesis of Cananginone C and Structural Revision of Debilisone A” Tapan Kumar Kuilya and **Rajib Kumar Goswami***; *Org. Biomol. Chem.*, 2016, 14, 8789-8799.
- “Chemically Programmed Bispecific Antibodies in Diabody Format” Even Walseng, Christopher G. Nelson, Junpeng Qi, Alex R. Nanna, William R. Roush, **Rajib K. Goswami**, Subhash. C. Sinha, Terrence R. Burke, Jr. and Christoph Rader*; *J. Biological Chem.* 2016, 291, 19661-19673.
- “Stereoselective Total Synthesis of Bioactive Marine Natural Product Biselyngbyolide B”

Sayantan Das, Debobrata Paul and Rajib Kumar Goswami*; *Org. Lett.*, 2016, 18, 1908–1911.

- “Asymmetric Total Synthesis of Bioactive Natural Lipid Mycalol” Subhendu Das, Tapan Kumar Kuilya and Rajib Kumar Goswami*; *J. Org. Chem.* 2015, 80, 6467-6489.
- “Chemically Programmed Bispecific Antibody Targeting Legumain Protease and $\alpha\text{v}\beta 3$ Integrin Mediates Strong Antitumor Effects” Yuan Liu, Rajib K. Goswami, Cheng Liu, and Subhash C. Sinha*; *Molecular Pharmaceutics*. 2015, 12, 2544-2550.
- “Stereoselective Total Synthesis of Marine Cyclodepsipeptide Calcaripeptides A–C” Sayantan Das and Rajib Kumar Goswami*; *J. Org. Chem.* 2014, 79, 9778-9791.
- “Stereoselective Total Synthesis of Cytospolide P” Shamba Chatterjee, Sandip Guchhait and Rajib Kumar Goswami*; *J. Org. Chem.* 2014, 79, 7689-7695.
- “Stereoselective total synthesis of cananginones (D-I) using Ireland Claisen rearrangement as a key step” Tapan Kumar Kuilya, Shamba Chatterjee, Rajib Kumar Goswami*. *Tetrahedron*. 2014, 70, 2905-2918.
- “Stereoselective Total Synthesis of Iedomycins A and B and Revision of the NMR Spectroscopic Data of Iedomycin B” Sayantan Das and Rajib Kumar Goswami*; *J. Org. Chem.* 2013, 78, 7274-7280.
- “Synthesis and Evaluation of the Aldolase Antibody-Derived Chemical- Antibodies Targeting $\alpha 5\beta 1$ Integrin” Rajib Kumar Goswami, Yuan Liu, Cheng Liu, Richard A. Lerner *, Subhash C. Sinha*; *Molecular Pharmaceutics*. 2013, 10, 538-543.
- “Chemically Programmed Antibodies Targeting Multiple Alpha (α) Integrins and Their Effects on Tumor-Related Functions in Vitro” Rajib Kumar Goswami, Krishna M Bajjuri, Jane S. Forsyth, Sanjib Das, Zheng-Zheng Huang, Brunhilde Felding-Habermann, Subhash C Sinha*; *Bioconjugate Chem.* 2011, 22, 1535-1544.
- “Multiple catalytic aldolase antibodies suitable for chemical programming” Rajib Kumar Goswami, Zheng-Zheng Huang, Jane S. Forsyth, Bruhilde Felding Habermann, Subhash C. Sinha*; *Bioorganic and Medicinal Chemistry Lett.* 2009, 19, 3821-3824.
- “Efficient chemical approaches to bispecific antibodies of high valency” Julia I. Gavriluk, Ulrich Wuellner, Syed Salahuddin, Rajib Kumar Goswami, Subhash C. Sinha, Carlos F. Barbas III*. *Bioorganic and Medicinal Chemistry Lett.* 2009, 19, 3716-3720.

- “Studies directed towards the total synthesis of botcinic acid, the revised structure botcinolide : synthesis of the highly substituted tetrahydropyran moiety” Tushar K Chakraborty*, **Rajib Kumar Goswami**. *Tetrahedron Lett.* 2007, 48, 6463-6465.
- “Studies directed towards the total synthesis of lycoperdinosides: stereoselective construction of the C₁-C₉ and C₁₀-C₂₁ segments of the molecules” Tushar K Chakraborty*, **Rajib Kumar Goswami**, Midde Sreekanth. *Tetrahedron Lett.* 2007, 48, 4075-4078.
- “Studies directed towards the synthesis of 2-epi-botcinolides: synthesis of nonalactone ring of 2-epibotcinolide” Tushar K Chakraborty*, **Rajib Kumar Goswami**; *Tetrahedron Lett.* 2006, 47, 4917-4919. Corrigendum to “Studies directed towards the synthesis of 2-epi-botcinolides: synthesis of nonalactone ring of 2-epibotcinolide.” *Tetrahedron Lett.* 2006, 47, 9373.
- “Total synthesis of (3R,4S,5S,9S)-3,5,9-trihydroxy-4-methyl undecanoic acid δ -Lactone” Tushar K Chakraborty*, **Rajib Kumar Goswami**; *Tetrahedron Lett.* 2004, 45, 7637-7639.

Awards and Fellowships:

2023	Bronze Medal-Chemical Research Society of India
2021	SERB-STAR Fellowship Award, DST, India
2007	Post-Doctoral Fellowship, The Scripps Research Institute, USA.
2003	Senior Research Fellowship, CSIR, India.
2000	Junior Research Fellowship, CSIR, India.
2000	GATE, Indian Institute of Technology, India.
1998	D. N. Roy Memorial Award, West Bengal, India.

Invited Lectures:

- 162nd Birth Anniversary Celebration of Acharya P C Ray by the Indian Chemical Society, Rajabazar Science College, Kolkata, India, August 2, 2023.
- 31st CRSI symposium, Department of Chemistry, NIT-Rourkela, Orissa, India, July 6-8, 2023.
- Dept. of Chemical Sciences, Indian Institutes of Science Education and Research-Kolkata, India, June 12, 2023.
- National Organic Symposium Trust Meeting-Hotel Rama International, Aurangabad, India, February 17-20, 2023.
- Department of Chemistry, North-Eastern Hill University, Shillong, India, November 14, 2022.
- Krishnath Day Special Lecture, Krishnath College, Berhampore, West Bengal, India, April 26, 2022.

- Advances In Chemical Research, Department of Chemistry, Manipur University, India, April 22-23, 2022.
- Organic Chemistry Symposium, Department of Chemistry, Indian Institute of Technology-Kanpur, India, April 2-3, 2022.
- Annual Symposium, School of Chemical Sciences, IACS-Kolkata, India, March 10-11, 2022.
- Recent Trends in Chemical Sciences – Organic & Bio-Chemistry, Dept. of Chemistry, Indian Institute of Technology-Kharagpur and the Dept. of Chemical Sciences, Indian Institutes of Science Education and Research-Kolkata, India, December 23, 2021.
- Department of Organic Chemistry, Indian Institute of Science, Bangalore, India, November 12, 2021.
- Department of Chemistry, North-Eastern Hill University, Shillong, India, November 1, 2021.
- Department of Chemistry, Presidency University-Kolkata, India, February 29, 2020.
- Department of Chemistry, Tsinghua University, Beijing, China, May 25, 2019.
- School of Chemistry and Chemical Engineering, Shaanxi University, Xi'an, China, May 20, 2019.
- Department of Chemistry, Indian Institute of Technology-Guwahati, India, April 24, 2019.
- Department of Chemistry, Indian Institute of Technology-Kharagpur, India, April 22, 2019.
- International Conference on Chemical & Biological Sciences in Drug Discovery; Department of Chemistry, Berhampur University, Berhampur, India, March 8-10, 2019.
- Department of Chemistry, University of Calcutta-Kolkata, India, December 20, 2018.
- National Organic Symposium Trust Meeting-Hotel Grand Hyatt, Goa, India, September 6-9, 2018.
- National Conference in Chirality-Maharaja Sayajirao University of Baroda, Vadodara, India, November 11, 2015.
- Royal Society of Chemistry, West India Chapter-Maharaja Sayajirao University of Baroda, Vadodara, India, November 10, 2015.
- National Organic Symposium Trust Meeting-Hotel Le Meridien, Jaipur, India, October 27-30, 2015.
- Kaleidoscope: A Discussion Meeting in Chemistry-Goa, India, May 2, 2015.
- Royal Society of Chemistry, Eastern India Chapter-Indian Association for the Cultivation of Science, Kolkata, India-April 8, 2015.
- Department of Organic Chemistry, National Chemical Laboratory-Pune, India, March 14, 2011.
- Department of Chemistry, Indian Institutes of Science Education and Research-Mohali, India, March 11, 2011.
- Department of Chemistry, Indian Institute of Technology-Kharagpur, India, March 9, 2011.
- Department of Organic Chemistry, Indian Institute of Chemical Biology-Kolkata, India, March 8, 2011.

- Department of Organic Chemistry, Indian Institute of Science-Bangalore, India, March 7, 2011.
- School of Chemistry, Hyderabad Central University, Hyderabad, India, March 4, 2011.
- Department of Chemistry, Indian Institute of Technology-Madras, India, March 3, 2011.

Thesis and Project Supervisor:

Ph.D Students Supervised:

- 1) Dr. Sayantan Das (2011-2016), Post-Doctoral Fellow, Tel Aviv University, Israel; Currently Scientist in Indian Oil Corporation Ltd.
- 2) Dr. Tapan kumar Kuliya (2012-2017), Post-Doctoral Fellow, Wayne State University, USA followed by Scientist in Syngenta Bio-Sciences Pvt. Ltd, Goa, and currently Scientist- TCG Lifesciences Private Ltd. (Chembiotek), Kolkata.
- 3) Dr. Shamba Chatterjee (2012-2017), Post-Doctoral Fellow, University of Mississippi, USA.
- 4) Dr. Subhendu Das (2013-2019), Research Investigator-Discovery Chemistry in Syngene International Ltd, Bangalore and currently Scientist-TCG Lifesciences Private Ltd. (Chembiotek), Kolkata.
- 5) Dr. Sandip Guchhait (2014-2019), Post-Doctoral Fellow, Technion University, Israel, and currently Scientist- TCG Lifesciences Private Ltd. (Chembiotek), Kolkata.
- 6) Dr. Debobrata Paul (2014-2021), Post-Doctoral Fellow at University of Kansas, USA.
- 7) Dr. Gour Hari Mandal (2015-2021), Post-Doctoral Fellow at University of Kansas, USA.
- 8) Dr. Dhiman Saha (2016-2022), Post-Doctoral Fellow at Dartmouth College, New Hampshire, USA.

PhD Students Ongoing:

(1). Mr. Joyanta Mondal, CSIR (2016-date, *submitted prethesis*); (2) Mr. Sanu Saha, UGC (2017-date, *submitted thesis*); (3). Mr. Himangshu Sharma, CSIR (2018-date); (4). Mr. Sourya Shankar Auddy, CSIR (2018-date); (5). Mr. Moinul Haque Sahana, CSIR (2019-date); (6). Mr. Nasif Ali, DST-Inspire (2021-date); (7) Mr. Subrata Mandi, UGC (2022-date); (8) Mr. Sandip Kr Mondal, UGC (2022-date); (9) Mr. Sujan Paul, CSIR (2023-date).

Post-Doctoral Fellow:

Dr. Ashis Kundu (2017-2020); Currently Research Scientist in Jubilant Biosys Ltd, India.

M.Sc 1-year Project Students:

(1). Mr. Jayanta Dey (2018-2019); (2). Mr. Mayuk Sarkar (2019-2020); (3). Mr. Swapnamoy Ganguly (2022-2023); (4). Mr. Maheswar Tantubay (2022-2023).

Short Term Project Students: Short Term Project Students:

(1). Mr. Arpan Pal-NIT Rourkela, 2012; (2). Mr. SK Safikul Islam-Ramkrishna Mission Vidyamandira, Belur Math, West Bengal, 2012; (3). Ms. Soma Roy-Jadavpur University, West

Bengal, 2012; (4). Mr. Subhasis Paul-IIT, Delhi, 2012; (5). Mr. Bijaideep Dutta-IIT Madras, 2013; (6). Mr. Chiranjit Mukherjee-Ramakrishna Mission Residential College, Narendrapur, West Bengal, 2013; (7). Mr. Dibyendu Chakraborty-Ramakrishna Mission Residential College, Narendrapur, West Bengal, 2013; (8). Mr. Bikash Maiti-RKMVC College, Rahara, West Bengal, 2013; (9). Mr. Subrata De-Visvabharati University, West Bengal, 2013; (10). Mr. Aishik Bhattacharya-Ramakrishna Mission Residential College, Narendrapur, West Bengal, 2013; (11). Ms Sayantani Goswami-Amity University, Uttar Pradesh, 2014; (12). Ms Rajarsree Kundu-Presidency University, Kolkata, West Bengal, 2015; (13). Mr. Sayan Banerjee-Jadavpur University, Kolkata, West Bengal, 2016; (14). Ms. Kausani Ghatak-Jadavpur University, Kolkata, West Bengal, 2016; (15). Ms. Depanjana Choudhury-St. Xavier's College, Mumbai, 2016; (16). Mr. Rudraneel Roy Chowdhury-Jadavpur University, Kolkata, West Bengal, 2016; (17). Mr. Tanmoy Mandal-Barasat State University, Barasat, West Bengal, 2016; (18). Ms. Krishna Biswas-Central University of Karnataka, Kalaburagi, Karnataka, 2016; (19). Mr. Debojyoti Bag-Central University of Karnataka, Kalaburagi, Karnataka, 2016; (20). Ms. Binita Patra-Behala College, Kolkata, West Bengal, 2017; (21). Ms. Susmita Hazra-Behala College, Kolkata, West Bengal, 2017; (22). Mr. Biki Ghosh-Ramakrishna Mission Residential College, Narendrapur, West Bengal, 2017; (23). Ms. Ruchira Basu-IIT Madras, 2017; (24). Mr. Asim Bisoi-IISER, Bhopal, 2017; (25). Mr. Arpan Halder-Raja Bazar Science College, University of Calcutta, 2018; (26). Ms. Priyanka Saha-Raja Bazar Science College, University of Calcutta, West Bengal, 2018; (27). Ms. Nabishna Bhunia-Behala College, Kolkata, West Bengal, 2018; (28). Mr. Sudipto Mondal-Ramakrishna Mission Residential College, Narendrapur, West Bengal, 2018; (29). Mr. Dasari Srinivas- Kakatiya University, Warangal, Telangana, 2018; (30). Mr. Kanhaiya Kumar Bhagat-St Xavier's College, Kolkata, West Bengal, 2018; (31). Mr. Subhrajyoti Ghosh-Ramakrishna Mission Residential College, Narendrapur, West Bengal, 2019; (32). Ms. Shivani Chandel-NIPER Kolkata, 2019; (33). Mr. Soumyadeep Saha- Indian Institute of Science Education and Research, Berhampur, Odisha, 2019; (34). Mr. Swapnamoy Ganguly- Indian Association for the Cultivation of Science, Kolkata, 2021; (35). Ms. Snehanka Bose-West Bengal State University, West Bengal, 2022.; (36). Ms. Tiasa Das - Pondicherry University, Pondicherry, 2023; (37). Ms. Ms. Ankita Sikder - West Bengal State University, 2023; (38). Ms. Ms. Arkamitra Roy - IIT-Kanpur, 2023. (39). Ms. Mr. Soumojit Kundu - IIT-Kanpur, 2023.

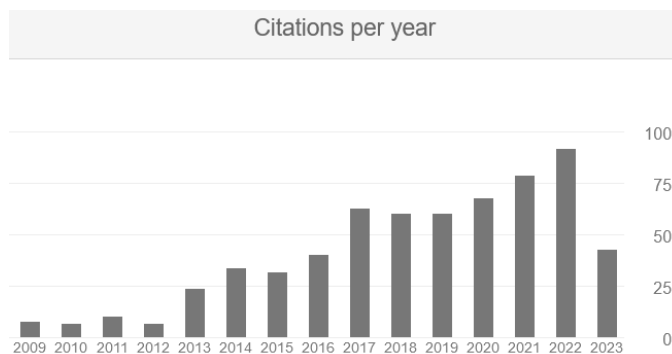
Extramural Projects:

Title	Funding Agency	Duration	Co-investigator
<i>Stereoselective Total Synthesis of Biologically Active Macrocyclic Lactone Aculeximycin.</i>	BRNS	2012-2015	Nil
<i>Stereoselective Total Synthesis of Biologically Active Oxo Polyene Macrolides Strevertene A-G and Their Analogues.</i>	DST (Fast Track)	2012-2015	Nil

<i>Total Synthesis of Biologically Active Nonanolides – Cytospolides and Decytospolides.</i>	CSIR	2013-2016	Nil
<i>Stereoselective Total Synthesis of Cyclic Ether Containing Macrolactins by Chiral Pool Approach.</i>	DST (Green Chemistry)	2013-2016	Nil
<i>Total Synthesis of Marine Macrocyclic Lactone Biselyngbyaside and Its Variants and Their Biological Activities.</i>	SERB	2016-2019	Dr. Partha Chakraborti, IICB
<i>Total synthesis of biologically potent cyclodepsipeptide natural products nannocystins and their relevant analogues.</i>	CSIR	2017-2020	Nil
<i>Total Synthesis of Macrocyclic Polyketide Natural Products with Conjugated olefins and Their Relevant Analogues and Evaluation of Their Anticancer Activities.</i>	SERB	2020-2023	Dr. Prosenjit Sen, IACS
<i>Total Synthesis of Marine Macrocyclic Natural Products and Exploration of Their Anticancer Relevance with Structural Variations.</i>	SERB-STAR	2021-2024	Nil

Citation Index:

The work done by Prof. Goswami at IACS is very well cited. The work published is cited by others in reputed organic chemistry journals including Nature, books as well as in different thesis.



Impact of the Contributions in the Field Concerned:

Prof. Goswami's marvelous contributions in the area of enantioselective total synthesis of novel natural products of **therapeutic significance**. His original work has opened avenues in multistep organic synthesis, especially the structural corrections of novel organic molecules (mycalol, baulamycin A, debilison A, penicitide A, alveolaride C, bipolaramide A and many more), which have profound impacts to the practitioners engaged in the basic research of chemical synthesis of bioactive natural products. His laboratory successfully developed synthetic routes of 38 marine and terrestrial natural products till the date having promising bioactivities. His recent finding of new simplified variants of anticancer natural products biselyngbyolide B (macrolide), beauveamide A (cyclodepsipeptide), bacilotetrin C (cyclodepsipeptide), and sunshinamide (bicyclic cyclodepsipeptide bearing disulfide linkage), as well as finding the mode of anticancer activity of pestalotioprolide E (macrolide), and cananginone E (γ -lactone) are impactful. Apart from anticancer research, his laboratory developed routes of promising antibacterial (thailandamides) and antimalarial (strasseriolide A) natural products and their analogues to evaluate their impact in microbial domain. In overall, the scientific work of Prof. Goswami's laboratory added great value to the basic organic chemistry as well as pharmaceutical research.

Synergistic Activities:

Reviewer for Journals: JACS, ACS Catalysis, Chemical Sciences, Organic Letter, The Journal of Organic Chemistry, ACS Omega, Tetrahedron, Tetrahedron Letters, Journal of Molecular Structure, Bioorganic and Medicinal Chemistry Letter, Organic & Biomolecular Chemistry, European Journal of Organic Chemistry, RSC Advances, New Journal of chemistry, Marine Drug, Studies in Natural Products Chemistry (Bioactive Natural Products).

Reviewer for Proposals: Evaluating of research proposals funded by Science and Engineering Research Board (SERB) under the umbrella of Department of Science and Technology (DST) and Council of Science and Industrial Research (CSIR), India.