

Dr. Jayanta Nanda

Assistant Professor

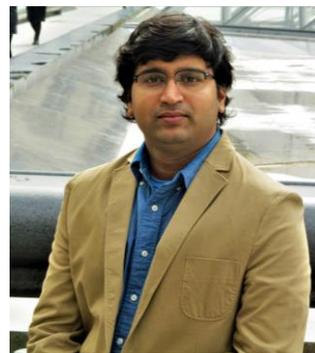
Department of Chemistry

University of North Bengal, West Bengal

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Google Scholar:- [Link](#)

Scopus :- [Link](#)



Personal Home Page: [Link](#)

Current Opening

- Motivated student with own CSIR, DST-INSPIRE or other national fellowship from Organic / Physical Chemistry background is encouraged to apply for PhD position.
- Candidates with appropriate backgrounds can apply for NPDF and D. S. Kothari Postdoctoral Fellowship.
- Interested students can send their updated CV to the following email addresses: jayanta@nbu.ac.in & drjayantananda16@gmail.com.

Research Interest

- a) Peptide-based self-replicating systems to link origins of life.
- b) Peptide-based system chemistry
- c) Peptide-based soft, bio-materials; Self-assembly directed molecular recognition.
- d) Emergent catalytic behaviour of peptide-fibrils

Student Guided/Guiding

PhD Students

1. Souvik Misra (Thesis Submitted)
2. Pijush Singh (Joining January, 2018)
3. Soumen Kuila (Joining January, 2022)
4. Sukantha Dey (Joining March, 2022)
5. Akash Shrivastava (Joining September, 2022)

M. Sc. Project Students

Guided-5

Guiding-3

List of Publications (Peer-reviewed Journal)

Published (Published-24) Total I. F.: 119.698* (*two articles yet to get impact factor), Average I. F. > 4.98, h index: 15, i10: 17, (Total Citation till May 2023: 1753; Average Citation/article > 73; Google Scholar)

(Nat. Commun.-1, Angew. Chem. Int. Ed.-2, Chem. Eur. J.- 4, J. Phys. Chem. B- 5, Soft Matter-4, ACS Appl. BioMater.-1, Chem. Commun.-3, Mater. Adv.-1, J. Mat. Chem.-1, Synlett-1, New J. Chem.-1)

[As an Assistant Professor]

24. *Probing Molecular Chirality on the Self-assembly and Gelation of Naphthalimide-conjugated Dipeptides*, Soumen Kuila, Ajeet Kumar Singh, Akash Shrivastava, Sukantha Dey, Tukai Singha, Lisa Roy, Biswarup Satpati and **Jayanta Nanda***, *J. Phys. Chem. B*, 2023 (accepted) (ISBN NO.- 1520-6106, IF: 3.446, Cited: 0) [Link](#) [Invited Article in the special issue of Early-Career and Emerging Researchers in Physical Chemistry Volume 2 Virtual Special Issue]
23. *Tuning of Supramolecular Helicity of Peptide-based Gel-nanofibers*, Souvik Misra, Pijush Singh, Ajeet Kumar Singh, Lisa Roy, Soumen Kuila, Sukantha Dey, Ajit K. Mahapatra, and **Jayanta Nanda***, *J. Phys. Chem. B*, 2022, 126, 10882–10892 (ISBN NO.- 1520-6106, IF: 3.446, Cited: 1) [Link](#)
22. *A practical and cost-effective approach to polysubstituted pyrimidine derivatives via DBU mediated redox isomerization of propargyl alcohol and subsequent N–C–N fragment condensation*, Rimpa De, Utsav Sengupta, Antony Savarimuthu, Souvik Misra, **Jayanta Nanda** and Mrinal K. Bera*, *New J. Chem.*, 2022, 46, 10603-10610 (ISSN 1369-9261, IF: 3.925, Cited: 0) [Link](#)
21. *Single amino-acid-based self-assembled biomaterials with potent antimicrobial activity*, Souvik Misra, Soumyajit Mukherjee, Anamika Ghosh, Pijush Singh, Sanjoy Mondal, Debes Ray, Gourab Bhattacharjee, Debabani Ganguly, Alok Ghosh, V. K. Aswal, Ajit K. Mahapatra, Biswarup Satpati, **Jayanta Nanda*** *Chem. -Eur. J.*, 2021, 27, 16744-16753 (ISBN NO.- 0947-6539, IF: 5.02, Cited: 6) [Link](#)
20. *Supramolecular antiparallel β -sheet formation by tetrapeptides based on amyloid sequence*, Souvik Misra, Pijush Singh, Rabindra Nath Mahata, Paula Brandão, Subhasish Roy, Ajit K. Mahapatra and **Jayanta Nanda*** *J. Phys. Chem. B.*, 2021, 125, 4274-4285 (ISBN NO.- 1520-6106, IF: 3.446, Cited: 05) [Link](#)
19. *Supramolecular assemblies of a 1,8-Naphthalimide conjugate and its aggregation-induced emission property*, Souvik Misra, Pijush Singh, Ankita Das, Paula Brandão, Pathik Sahoo, Nayim Sepay, Gourab Bhattacharjee, Pallab Datta, Ajit K. Mahapatra, Biswarup Satpati and **Jayanta Nanda*** *Materials Advances*, 2020, 1, 3532-3538 (ISSN NO.- 2633-5409, IF: NA, Cited: 5) [Link](#)

18. *Self-assembling behaviour of a modified aromatic amino acid in competitive aqueous medium*, Pijush Singh, Souvik Misra, Nayim Sepay, Sanjoy Mandal, Debes Ray, V. K. Aswal, **Jayanta Nanda***, *Soft Matter*, 2020, 16, 6599-6607 (ISBN NO.- 1744-6848, IF: 4.046, Cited: 9) [Link](#)
17. *DBU mediated rearrangement of secondary propargyl alcohols: A practical route chalcone derivatives*, Rimpa De, Antony Savarimuthu, Tamal Ballav, Pijush Singh, **Jayanta Nanda**, Senthil Kumaran Rajendran, Avantika Hasija, Deepak Chopra and Mrinal K. Bera*, *Synlett*, 2020, 31, 1587-1592 (ISBN NO.- 0936-5214, IF: 2.206, Cited: 6) [Link](#)
16. *Supramolecular Hydrogel from an Oxidized By product of Tyrosine*, Pijush Singh, Souvik Misra, Ankita Das, Subhasish Roy, Pallab Datta, Gourab Bhattacharjee, Biswarup Satpati and **Jayanta Nanda***, *ACS Applied Biomaterials*, 2019, 2, 4881-4891 (ISSN No.- 2576-6422, IF: NA, Cited: 14) [Link](#)

[As a PhD and Postdoctoral Fellow]

15. *Emergence of Native Peptide Sequences in Replication Networks*, **Jayanta Nanda**[‡], Boris Rubinov[‡], Denis Ivnitcki, Rakesh Mukherjee, Elina Shtelman, Yair Motro, Yifat Miller, Nathaniel Wagner, Rivka Cohen-Luria, and Gonen Ashkenasy*, [[‡] indicating equal contribution], *Nature Communication*, 2017, 8, 434. (ISBN No.- 2041-1723, IF: 17.69, Cited: 57) [Link](#)
14. *The Strong Influence of Structure Polymorphism on the Conductivity of Peptide Fibrils*, Denis Ivnitcki, Amit Moran, Ohad Silberbush, Yoav Raz, **Jayanta Nanda**, Rivika Luria, Yifat Miller, Gonen Ashkenasy* and Nurit Ashkenasy*, *Angew. Chem. Int. Ed.*, 2016, 55, 9988-9992 (ISBN NO.-1433-7851, IF: 16.823, Cited: 47) [Link](#)
13. *Emergent Catalytic Behavior of Self-Assembled Low Molecular Weight Peptides*, Marta Tena-Solsona, **Jayanta Nanda**, Santiago Díaz-Oltra, Agata Chotera, Gonen Ashkenasy* and Beatriu Escuder*, *Chem.-Eur. J.*, 2016, 22, 6687-6692 (ISBN NO.- 0947-6539, IF: 5.02, Cited: 113) [Link](#)
12. *Peptide based hydrogels for cancer drug release: Modulation of stiffness, drug release and proteolytic stability of hydrogels by incorporating D-amino acid residue(s)* Kingshuk Basu, Abhishek Baral, Shibaji Basak, Ashkan Dehsorkhi, **Jayanta Nanda**, Debmalya Bhunia, Surajit Ghosh, Valeria Castelletto, Ian W. Hamley and Arindam Banerjee*, *Chem. Commun.*, 2016, 52, 5045-5048 (ISBN NO.- 1359-7345, IF: 6.065, Cited: 105) [Link](#)
11. *Multi-stimuli responsive self-healing metallo-hydrogels: tuning of the gel recovery property*, Shibaji Basak, **Jayanta Nanda** and Arindam Banerjee*, *Chem. Commun.*, 2014, 50, 2356-2359. (ISBN NO.- 1359-7345, IF: 6.065, Cited: 176) [Link](#)
10. *A Gel Based Novel Trihybrid System Containing Nanofibers, Nanosheets and Nanoparticles: Modulation of Rheological Property and catalysis*, **Jayanta Nanda**, Abhijit Biswas, Bimalendu

- Adhikari and Arindam Banerjee*, *Angew. Chem. Int. Ed.*, 2013, 52, 5041-5045. (ISBN NO. -1433-7851, IF: 16.823, Cited: 136) [Link](#)
9. *Single Amino Acid Based Thixotropic Hydrogel Formation And pH-Dependent Morphological Change of Gel Nanofibers*, Jayanta Nanda, Abhijit Biswas and Arindam Banerjee*, *Soft Matter*, 2013, 9, 4198-4208. (ISBN NO.- 1744-6848, IF: 4.046, Cited: 149) [Link](#)
 8. *Assembly of Naphthalenediimide Conjugated Peptides: Aggregation Induced Changes in Fluorescence*, Shibaji Basak, Jayanta Nanda and Arindam Banerjee*, *Chem. Commun.*, 2013, 49, 6891-6893. (ISBN NO.- 1359-7345, IF: 6.065, Cited: 51) [Link](#)
(Top Ten Most-Read Article in March, 2013) [Link](#)
 7. *β -Amino acid containing proteolytically stable dipeptide based hydrogels: encapsulation and sustained release of some important biomolecules at physiological pH and temperature*, Jayanta Nanda and Arindam Banerjee*, *Soft Matter*, 2012, 8, 3380-3386. (ISBN NO.- 1744-6848, IF: 4.046, Cited: 102) [Link](#)
 6. *Formation of hybrid hydrogels consisting of tripeptide and different silver nanoparticle capped ligands: modulation of the mechanical strength of gel phase materials*, Jayanta Nanda, Bimalendu Adhikari, Shibaji Basak and Arindam Banerjee*, *J. Phys. Chem. B.*, 2012, 116, 12235-12244. (ISBN NO.- 1520-6106, IF: 3.446, Cited: 61) [Link](#)
 5. *A new aromatic amino acid based organogel for oil spill recovery*, Shibaji Basak, Jayanta Nanda and Arindam Banerjee*, *J. Mater. Chem.*, 2012, 22, 11658-11664. (ISBN NO.- 0959-9428, IF: 6.626{Last impact factor}, Cited: 243) [Link](#)
 4. *Pyrene-Containing Peptide-Based Fluorescent Organogels: Inclusion of Graphene into the Organogel*, Bimalendu Adhikari[†], Jayanta Nanda[†] and Arindam Banerjee*, [[†]indicating equal contribution], *Chem.-Eur. J.*, 2011, 17, 11488-11496. (ISBN NO.- 0947-6539, IF: 5.02, Cited: 162) [Link](#)
 3. *Multicomponent Hydrogels from Enantiomeric Amino Acid Derivatives: Helical Nanofibers, Handedness and Self-Sorting*, Bimalendu Adhikari, Jayanta Nanda and Arindam Banerjee*, *Soft Matter*, 2011, 7, 8913-8922. (ISBN NO.- 1744-6848, IF: 4.046, Cited: 130) [Link](#) ; (Top Ten Most-Read Article in August, 2011) [Link](#)
 2. *Organogels from Different Self-Assembling New Dendritic Peptides: Morphology, Rheology, and Structural Investigations*, Goutam Palui, Ashesh Garai, Jayanta Nanda, Arun Kumar Nandi* and Arindam Banerjee*, *J. Phys. Chem. B.*, 2010, 114, 1249-1256. (ISBN NO.- 1520-6106, IF: 3.446, Cited: 54) [Link](#)
 1. *Fabrication of Luminescent CdS Nanoparticles on Short-Peptide-Based Hydrogel Nanofibers: Tuning of Optoelectronic Properties*, Goutam Palui, Jayanta Nanda, Sudipta Ray, and Arindam Banerjee*, *Chem.-Eur. J.*, 2009, 15, 6902-6909. (ISBN NO.- 0947-6539, IF: 5.02, Cited: 94) [Link](#)

Teaching Experiences

- ✓ **Assistant Professor** [February, 2020-Present]
Department of Chemistry, University of North Bengal, Siliguri, West Bengal
- ✓ **Assistant Professor** [01.08.2020-09.02.2021]
Department of Chemistry, Kalimpong College (under University of North Bengal), Kalimpong, West Bengal
- ✓ **DST-INSPIRE Faculty** [April, 2017- July, 2020]
Department of Chemistry, Indian Institute of Engineering Science & Technology (IEST), Shibpur

Postdoctoral Experiences

- ✓ **Postdoctoral Fellow**
Advisor: **Prof. Wilhelm Huck**, Department of Physical-Organic Chemistry, Radboud University, Nijmegen, The Netherlands ([Link](#))
- ✓ **PBC Postdoctoral Fellow**, *Outstanding Postdoctoral Research Fellow from India and China for Israeli University*
Advisor: **Prof. Gonen Ashkenasy**, Department of Chemistry, Ben Gurion University of Negev, Israel ([Link](#))

Education

- ✓ **Ph.D.** [2012]
Advisor: **Prof. Arindam Banerjee**, Department of Biological Chemistry, Indian Association for the Cultivation of Science, Kolkata, India ([Link](#))
- ✓ **M. Sc.** in Organic Chemistry [2005-2007]
Department of Chemistry, University of Calcutta (Rajabazar Science College) with 1st class.
- ✓ **B. Sc.** in Chemistry [2002-2005]
Department of Chemistry, Ramakrishna Mission Residential College, Narendrapur, University of Calcutta with 1st class.

Research Project Awarded

No.	Authority	Duration	Status
1.	DST-INSPIRE	5 years (April,2017 - 2022)	Complete
2.	SERB-SRG	2 years (December 2021-2023)	Ongoing

Professional Affiliation

1. Lifetime Member of Indian Peptide Society since 2016.
2. Member of the Royal Society of Chemistry (**MRSC**) since 2016.
3. Life Member of 'The Society for Polymer Science, India' since 2017.

Professional Responsibilities

1. Remote Reviewer for a European Research Council (ERC) 2015 advance grant proposal.
2. Reviewer for international journals like '*Scientific Reports*', '*Chem. Eur. J.*', '*ACS Applied Biomaterials*', '*New Biotechnology*', '*Colloids and Surfaces A: Physicochemical and Engineering Aspects*', '*ChemistrySelect*' and '*Advance Materials Letters*'.

Awards and Fellowships

1. Awarded **DST-INSPIRE Faculty** Award in Chemical Science by DST, India held on July, 2016.
2. Awarded **PBC Postdoctoral Fellowship** by Council of Higher Education, Govt. of Israel *as an Outstanding Postdoctoral Researcher from China and India* (Best Postdoctoral Fellowship in Israel) for three years 2013-2016 at Ben Gurion University, Israel.
3. Awarded **Doctoral Research Fellowship (NET)** in December 2006 and June, 2007 by Council of Scientific and Industrial Research (CSIR), Govt. India. (Ranked among top 20 %).
4. Awarded **GATE** fellowship in 2007 by MHRD, Govt. of India. (All India rank 52)
5. Awarded 500.0 Euro **Young Researcher Travel Grant** to attend *COST Action CM 1304 Meeting 'SYSCEM 2014'* in Spain, 2014.
6. Awarded 1000.0 USD **Travel Grant** by **Ben Gurion University** to attend *Nanopeptide 2015: International Meeting on Peptide & Protein based Materials and Technologies* held at University of Strathclyde, Glasgow, UK, March 2-4, 2015.
7. Awarded 1000.0 USD **Travel Grant** by **Ben Gurion University** to attend *International Symposia on Advancing the Chemical Sciences (ISACS18) on Challenges in Organic Materials and Supramolecular Chemistry* held at Indian Institute of Science (IISc), Bangalore, India, November 19-21, 2015.

Invited Lecture / Oral Presentation at Meetings / Conferences

- **Jayanta Nanda**, **Peptide replication in the context of Origins of life**, 7th *Indian Peptide Society Symposium* held at BITS-Pilani, Hyderabad Campus, Hyderabad, February 28 to March 01, 2019.
- **Jayanta Nanda**, **Synthetic Self-replicating Systems in the context of Origins of Life**, Department of Chemistry, Indian Institute of Engineering Science and Technology, Howrah, India, 30th May, 2017.
- **Jayanta Nanda**, Boris Rubinov, Denis Ivnitcki, Gonen Ashkenasy, **Spontaneous Evolution of β -Sheet Self-Replicating Peptides**, 29th *annual meeting of The Israel Society for Astrobiology and the Origin of Life (ILASOL)*, Ben Gurion University, Beer Sheva, Israel, April 17, 2016.
- **Jayanta Nanda**, Boris Rubinov, Denis Ivnitcki, Gonen Ashkenasy, **Self-replicating and Orthogonally Functional Amphiphilic β -Sheet Peptides**, *COST Action CM-1304 Meeting 'SYSCEM 2014'* in Spain, 2014.

Poster Presentation at National and International Conferences

1. **Jayanta Nanda**, **Tuning the Supramolecular Helicity of Aromatic Functional Group Conjugated Short-Peptide-Based Gel Nanofibers**, *EMERGING DIMENSIONS IN CHEMICAL SCIENCES (EDCS-23)* held at Department of Chemistry, Kalyani University, Kalyani, West Bengal, March 28-29, 2023. (National). [One of ACS Best Poster Award sponsored by ACS Omega]
2. **Jayanta Nanda**, **Peptide replication in the context of Origins of life**, *7th Indian Peptide Society Symposium* held at BITS-Pilani, Hyderabad Campus, Hyderabad, February 28 to March 01, 2019. (National).
3. **Jayanta Nanda**, **Emergence of Native Peptide Sequences in Prebiotic Replication Networks**, *International Conference on Chemistry for Human Development (ICCHD-2018) on the occasion of Birth centenary of Prof. Asima Chatterjee* held at Heritage Institute of Technology, Kolkata (HITK), January 08-10, 2018. (International)
4. **Jayanta Nanda**, **Emergence of Native Peptide Sequences in Prebiotic Replication Networks**, *National Symposium on Recent Advances in Chemistry and Industry-2017 on the occasion of 156th Birthday of Acharya Prafulla Chandra Roy* held at Indian Institute of Engineering Science and Technology, Shibpur, Howrah, India, August 02-03, 2017. (National)
5. **Jayanta Nanda**, Boris Rubinov, Denis Ivnitcki, Gonen Ashkenasy, **Self-replicating Amphiphilic β -Sheet Peptides**, *International Symposia on Advancing the Chemical Sciences (ISACS18) on Challenges in Organic Materials and Supramolecular Chemistry* held at Indian Institute of Science (IISc), Bangalore, India, November 19-21, 2015. (International)
6. **Jayanta Nanda**, Yulia Tsifansky-Zarchin, Boris Rubinov, Gonen Ashkenasy, **Orthogonally Functional, Self-replicating Amphiphilic beta-Sheet Peptides**, *Nanopeptide 2015: International Meeting on Peptide & Protein based Materials and Technologies* held at University of Strathclyde, Glasgow, UK, March 2-4, 2015. (International)
7. **Boris Rubinov**, **Jayanta Nanda**, Nathaniel Wagner, Gonen Ashkenasy, **Design and Characterization of the Simplest beta-Sheet Peptide Replicator**, *Functional Peptide and Protein Nanostructures Research Workshop of the Israel Science Foundation* held at Tzuba Hotel, Kibbutz Tzuba, Israel, May 25-28, 2014. (International)
8. **Jayanta Nanda** and Arindam Banerjee, **Peptide based fluorescent Organogels**, *Indo-US Conference on Self-Assembled Fibrillar Gels* by Indo-US Science and Technology Forum held at Mascot Hotel, Trivandrum, January 5-8, 2011. (International)
9. Jayanta Nanda, Bimalendu Adhikari and Arindam Banerjee, **Short-peptide based hydrogels and their various applications**, *Symposium on Peptide Science* by Indian Peptide Society held at Bose Institute, Kolkata, January 14, 2010. (National)
10. **Jayanta Nanda**, Bimalendu Adhikari, Jishu Naskar and Arindam Banerjee, **Short-peptide based hydrogels and their various applications**, *International Symposium on Organic Chemistry: Trends in*

21st Century by Department of Organic Chemistry, Indian Association for the Cultivation of Science, Kolkata, December 10-12, 2009. (International)

Conferences Attended

1. **28th annual meeting of The Israel Society for Astrobiology and the Origin of Life (ILASOL)**, Ben Gurion University, Beer Sheva, Israel, March 29, 2015.
2. **IKI (Ilse Katz Institute) Day 2014 Conference**, Ben Gurion University, Beer Sheva, Israel, May 29, 2014.
3. **Mini-symposium on Dynamic Chemical Systems**, Ben Gurion University, Beer Sheva, Israel, May 22, 2014.
4. **27th annual meeting of The Israel Society for Astrobiology and the Origin of Life (ILASOL)**, Weizmann Institute of Science, Israel, December 1, 2013.
5. **International Symposium on Chemistry and Complexity**, Indian Association for the Cultivation of Science, Kolkata, India, December 6-8, 2011.
6. **A One-day UGC-Sponsored National Symposium on Current Trends in Chemical Research**, Department of chemistry, Ramakrishna Mission Residential College, Narendrapur, India, June 24, 2011.
7. **International Symposium on Frontiers of Functional Materials**, Department of Chemistry, University of Calcutta, Kolkata, India, January 6–7, 2009

(Updated on 1st June, 2023)