

# Curriculum Vitae

## Dr. Tanmoy Kar

Assistant Professor  
Department of Chemistry  
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### Current Position

Assistant Professor (29.06.2017), Department of Chemistry, Vivekananda Mission Mahavidyalaya, Chaitanyapur, Purba Medinipur



### Scientific Area

Supramolecular Chemistry, Surface and Colloidal Chemistry, Soft nano-composites

### Research Experience and Education

- July 2017-  
Till date                      *Assistant Professor*, Department of Chemistry, Vivekananda Mission Mahavidyalaya
- December 2014-  
June 2017                      *Research Officer at HPCL*, Bangalore.
- September 2008-  
June 2013                      *Doctoral research* in the area of “Supramolecular Chemistry” under guidance of Prof. Prasanta Kr Das, Department of Biological Chemistry, Indian Association for the Cultivation of Science, Jadavpur, Kolkata –700032, India. Thesis title: “BIOCHEMICAL APPLICATIONS OF NOVEL SELF ASSEMBLE FUNCTIONAL SOFT MATERIALS”.
- December 2007                      Awarded *Doctoral Research Fellowship* (qualified Joint *CSIR-UGC* National Eligibility Test (NET) examination) from the **Council of Scientific and Industrial Research, India** held on 23.12.2007.
- June 2008                      Received *M. Sc.* (Master of Science) Degree in Chemistry (Specialization in Organic) with First Class from Jadavpur University, India.
- July 2006                      Received *B. Sc.* (Honors) Degree in Chemistry with First Class from Jadavpur University, India.
- July 2003                      Passed *Higher Secondary Examination* (12<sup>th</sup> standard) with First Class from West Bengal Council for Higher Secondary Education, India.
- May 2001                      Passed *Madhyamik Examination* (10<sup>th</sup> standard) with First Class from West Bengal Board of Secondary Education, India.

### Awards

1. Awarded **Dr. D. S. Kothari Fellowship** (UGC) for post-doctoral research 2014-15.

2. Awarded **Doctoral Research Fellowship (CSIR-UGC (NET))** held on 23.12.2007.
3. Qualified **GATE** 2007 and 2008.
4. Awarded **University Medal** for standing **1<sup>st</sup>** at the **M. Sc. examination in Chemistry** 2008.
5. Awarded Prof. Bidyut Kamal Bhattacharya Memorial **Silver Medal for securing highest mark in organic chemistry** at the M. Sc. examination in chemistry 2008.

### **Publications**

1. **Tanmoy Kar\***, Nitai Patra. “Pyrene-based fluorescent supramolecular hydrogel: scaffold for nanoparticle synthesis” *Journal of Physical Organic Chemistry* **2019**, DOI.org/10.1002/poc.4026.
2. **Tanmoy Kar**, Subrata Mukherjee, Prasanta Kumar Das. “Organogelation through self-assembly of low-molecular-mass amphiphilic peptide” *New J. Chem.*, **2014**, 38, 1158-1167.
3. **Tanmoy Kar**, Subhra Kanti Mandal, Prasanta Kumar Das. “Influence of Pristine SWNT in Supramolecular Hydrogelation: Scaffold for Superior peroxidase activity of cytochrome c” *Chem. Commun.* **2012**, 48, 8389-8391.
4. **Tanmoy Kar**, Subhra Kanti Mandal, Prasanta Kumar Das. “Organogel-Hydrogel Transformation by Simple Removal and Inclusion of Boc-Protection” *Chem. Eur. J.* **2011**, 17, 14952-14961.
5. **Tanmoy Kar**, Sounak Dutta, Prasanta Kumar Das. “pH-Triggered Conversion of Soft Nanocomposites: in situ Synthesized AuNP-Hydrogel to AuNP-Organogel” *Soft Matter* **2010**, 6, 4777-4787.
6. **Tanmoy Kar**, Sisir Debnath, Dibyendu Das, Anshupriya Shome, Prasanta Kumar Das. “Organogelation and Hydrogelation of Low-Molecular-Weight Amphiphilic Dipeptides: pH-Responsiveness in Phase Selective Gelation and Dye Removal” *Langmuir* **2009**, 25, 8639-8648.
7. Sounak Dutta, **Tanmoy Kar**, Sayanti Brahmachari, Prasanta Kumar Das. “pH-responsive Reversible Dispersion of Biocompatible SWNT/Graphene-Amphiphile Hybrids” *J. Mater. Chem.* **2012**, 22, 6623-6631.
8. Subhra Kanti Mandal, **Tanmoy Kar**, Dibyendu Das, Prasanta Kumar Das. “The Striking Influence of SWNT-COOH on Self-Assembled Gelation” *Chem. Commun.* **2012**, 48, 1814-1816.
9. Dibyendu Das, **Tanmoy Kar**, Prasanta Kumar Das. “Gel-Nanocomposites: Materials with Promising Applications” *Soft Matter* **2012**, 8, 2348-2365 (Invited Review Article).
10. Anshupriya Shome, **Tanmoy Kar**, Prasanta Kumar Das. “Spontaneous Formation of Biocompatible Vesicles in Aqueous Mixtures of Amino Acid-Based Cationic Surfactants and SDS/SDBS” *ChemPhysChem*, **2011**, 11, 369-378.
11. Sounak Dutta, Anshupriya Shome, **Tanmoy Kar**, Prasanta Kumar Das. “Counterion-Induced Modulation in the Antimicrobial Activity and Biocompatibility of Amphiphilic Hydrogelators: Influence of in-situ-Synthesized Ag-Nanoparticle on the Bactericidal Property” *Langmuir* **2011**, 27, 5000-5008.

12. Sounak Dutta, **Tanmoy Kar**, Deep Mandal, Prasanta Kumar Das. "Structure and Properties of Cholesterol Based Hydrogelators with Varying Hydrophilic Terminals: Biocompatibility and Development of Antibacterial Soft Nanocomposites" *Langmuir* **2013**, 29, 316-327.
13. Subhra Kanti Mandal, **Tanmoy Kar**, Prasanta Kumar Das. "Pristine Carbon Nanotube Included Supramolecular Hydrogel with Tunable Viscoelastic Properties" *Chem. Eur. J.* **2013**, 19, 12486-12496.
14. Deep Mandal, **Tanmoy Kar**, Prasanta Kumar Das. "Pyrene Based Fluorescent Ambidextrous Gelator: Scaffold for Mechanically Robust SWNT-Gel Nanocomposites" *Chem. Eur. J.* **2014**, 20, 1349-1358.
15. Subrata Mukherjee, **Tanmoy Kar**, Prasanta Kumar Das. "Pyrene Based Fluorescent supramolecular hydrogel: Scaffold for energy transfer" *Chem. Asian J.* **2014**, 9, 2798-2805.
16. **Tanmoy Kar**, Bhaskar pramanik, Raman Ravishankar, Siva Kesava Raju chinthalapati, Peddy Venkata Chalapathi Rao, Nettem Venkateswarlu Choudary. "Low molecular weight gels: potential in remediation of crude oil spillage and recovery" *RSC Advances* **2016**, 6 (58), 53415-53420.
17. Animesh Pan, **Tanmoy Kar**, Animesh Rakshit, SatyaPriya Moulik. "Enthalpy–Entropy Compensation (EEC) Effect: Decisive Role of Free Energy" *The Journal of Physical Chemistry B* **2016**, 120 (40), 10531-10539.

#### **Patent**

Raman Ravishankar, Siva Kesava Raju chinthalapati, **Tanmoy Kar**, Bhaskar pramanik, Peddy Venkata Chalapathi Rao, Nettem Venkateswarlu Choudary. "Molecular Gelators for Containing Oil Spillage".

1. EP3098232A1

2. WO/2016/193990A1

3. IN 2098/MUM/2015, Grant Number 306015, Granted on 21.01.2019

4. US2018/0066014, Grant Number 10343144, Granted on 09.07.2019

Raman Ravishankar, Siva Kesava Raju chinthalapati, **Tanmoy Kar**, Bhaskar pramanik, Peddy Venkata Chalapathi Rao, Nettem Venkateswarlu Choudary. "Molecular Gelators and Uses Thereof".

5. WO/2017/138013

6. US2018/0346780 A1

7. IN 201621005085 A

8. EP 3414258 A1

#### **Book Chapter**

1. **Tanmoy Kar**, Prasanta Kumar Das. *Chapter 8: "Molecular Gels as Template for Nanostructured Materials" to the book entitle "FUNCTIONAL MOLECULAR GELS"*, published by The *Royal Society of Chemistry*, **2013**, Vol. 1, pp 255-303.

## **Oral presentation**

**1. Tanmoy Kar and Prasant Kumar Das.** “Soft materials of Amphiphilic Gelators: Diversity and Applications” Oral Presentation at “ **National Conference on Trends in Surface Science and Related Areas (TSSRA-2012)**” organized by Indian Society for Surface Science and Technology held at Scottish Church College, Kolkata on July 25, **2012**, Lecture 3.

**2. Tanmoy Kar and Satya P. Moulik.** “Physicochemistry of the Self Aggregation of a Newly Synthesized Imidazolium Based Amphiphile” Oral Presentation at “**17<sup>th</sup> National Conference on Surfactants, Emulsions and Biocolloids (NATCOSEB XVII)**” organized by SOS Chemistry, Pt. Ravishankar Shukla University, Raipur, Chattisgarh during November 04-06, **2015**.

## **Membership**

**1.** Life member of “*Indian Society for Surface Science and Technology*”.