

# **Curriculum Vitae**

Sudipta Maiti

BITS-Pilani, Hyderabad Campus, INDIA

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## SUDIPTA MAITI

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### Current Appointment

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Senior Professor (Sep. 2024-), Dept. of Biological Sciences and Dept. of Physics, Birla Institute of Technology and Science Pilani (BITS-Pilani), Hyderabad, India

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### Previous Appointments

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- Senior Professor and Chair (2021-2024), Professor (2011-2020), Associate Professor (2006-2011), Reader (2002-2006), and Fellow (1998-2002), Dept. of Chemical Sciences, Tata Institute of Fundamental Research, Mumbai, India
- Post Doctoral Fellow (with Prof. Watt W. Webb), Cornell University, 1994 – 1998

### EDUCATION

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- University of Pennsylvania, Ph. D. (Biophysics), 1994
- University of Rochester, M.A. (Physics and Astronomy), 1989
- Indian Institute of Technology, Kanpur, India, Int. M. Sc. (Physics), 1987

### AWARDS AND HONOURS

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- Fellow, Indian Academy of Sciences (2018)
- Visiting Professorship, IIT Bombay, (2019-2022)
- Best Teacher Award, Tata Institute of Fundamental Research, 2017
- VM Kulkarni Endowment Lectureship, Institute of Chemical Technology, Mumbai, 2014
- Patent Award, TIFR Alumni Association, 2013
- Visiting Professor, Dept. of Chemistry, Univ. of Toronto, (Feb. 2010 – August 2010)
- Wellcome Trust (UK) Senior Overseas Research Fellowship (2001-2006)
- SICO National Instrumentation Award, National Academy of Sciences, India, 2001
- Honorable Mention Citation for Excellence in Teaching, University of Rochester, 1990
- State Top-20 Merit List Award and Natl. Scholarship, WB Board of Secondary Ed., 1980

### EXECUTIVE POSITIONS IN SCIENTIFIC BODIES

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- Chair-elect, Biological Fluorescence Subgroup, Biophysical Society ([biophysics.org](http://biophysics.org), USA, 2025-present)
- President, International Society on Optics Within Life Sciences ([www.owls-society.org](http://www.owls-society.org), Germany (2018- present)
- President, Indian Biophysical Society ([biophysicsindia.org](http://biophysicsindia.org), May 2023 – March 2025)
- Co-Founder and President, Fluorescence Society ([fluorescenceindia.org](http://fluorescenceindia.org), India, 2016-2023)

## EDITORIAL BOARD MEMBERSHIPS

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- Executive Editor, Journal of Physical Chemistry, American Chemical Society (2023- present)
- Senior Editor, Journal of Physical Chemistry B, American Chemical Society (2020- 2023)
- Editorial Board Member, Biophysical Journal (Journal of the Biophysical Society, Cell Press), (2021 – present)
- Associate Editor, Frontiers in Physiology and Biophysics (2020-present)
- Member, Editorial Board, Biophysical Chemistry, Elsevier (2020- present)
- Member, Editorial Board, ACS Chemical Neuroscience (2019- present)
- Member, Editorial Board, Methods and Applications of Fluorescence (2020-)
  
- Member, Editorial Board, Journal of Optics (a Springer Journal, 2012-present)
- Member, Editorial Board, Biomedical Physics and Engineering Express (IOP Publishing, 2016- present)

## ADVISORY COMMITTEE MEMBERSHIPS

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- Member, International Review Committee, Tata Memorial Hospital (2023)
- Member, Indian Academy of Sciences Ethics In Science Committee, (2022)
- Member, Scientific Advisory Committee, National Brain Research Center, (2012-2020)
- Member, Advisory Committee for Chemical Sciences, IIT Gandhinagar (2018- 2020)
- Coordinator, National Photonics Fellowship program, DeitY, Govt. of India ([www.photonicsindia.org](http://www.photonicsindia.org)) (2011-2014)

## INDUSTRY-ACADEMIA INTERACTIONS

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- Single Molecule FCS Spectrometer designed at TIFR, commercialized by M/S Holmarc, Kochi, India ([www.holmarc.com/fcs.php](http://www.holmarc.com/fcs.php))
- Advisor, Horiba Jobin Yvon (2018-19)
- Developed fluorescence approaches for assaying cancer drugs with M/S Curadev ([curadev.in](http://curadev.in)) (2017)
- Developed and tested line excitation multiphoton microscope designs, M/S Zeiss Microimaging (Germany), (2008-9)

## EXTRAMURAL FUNDING

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- “Microscopy Across Scales”, Grant from STFC, UK to a collaboration of DAE scientists (TIFR and TMC), India, PI from the Indian side (UKP 6,64,000, 2023-2026)
- “Amyloid disease mechanisms investigated in hiPSC cells”, Dept. of Biotechnology (2018-2021)
- VAJRA fellowship to host Prof. Gilbert Walker (Toronto), Dept. of Science and Technology, 2018
- Curadev Fellowship for Post-Doctoral Fellows, (2017)
- “Single Molecule Fluorescence Investigations on the mechanism of aggregation”, Dept. of Biotechnology, Govt. of India, (2011-2015)

- “Instituting the National Photonics Fellowship”, Dept. of Information Technology, Govt. of India (2010-2014)
- “Construction and multisite commissioning of multiple fluorescence correlation spectrometers”, Dept. of Information Technology, Govt. of India (2008-2011)
- “Multiphoton microscopy of Serotonergic neurons”, Wellcome Trust Senior Research Fellowship, Wellcome Trust, UK (2000-05)  
(in addition to major intramural funding from the Dept. of Atomic Energy obtained after periodic external evaluations, totaling about INR 100 million from 1998-present))

#### ADMINISTRATIVE ROLES

- Chairperson, Dept. of Chemical Sciences, TIFR (Nov. 2020 – May, 2024)
- Convener, Coordination Committee for Celebrating the Platinum Jubilee of TIFR (2019-2020)
- Founding Convener of the Technology Transfer and Resource Generation Committee, Tata Institute of Fundamental Research, (2017-2018)
- Convener, Human Resources Committee, TIFR (2015- 2017)
- Convener, Space Allocation Committee, TIFR (2012- 2015)
- Member, Chemistry Subject Board, and Physics Subject Board, TIFR(2009- 2015)
- Faculty-in-Charge, Advanced Microscopy Research Facility, TIFR (2008-2018)

#### STUDENTS SUPERVISED

Sl. No.	Name	Degree (year)	Next / current position	Award
1	Debsankar Saha Roy	Ph.D. (2025)	Post-Doctoral Fellow, Dept. of Cell Biology, Harvard University	Biophysical Society (US) travel Award (2024), EMBO Workshop Travel Award (20234), Indian Biophysical Society Best Poster Award, 2022: Sarojini Damodaran Fellowship, TIFR, 2022; Mihir Chowdhury Fellowship, Fluorescence Society, (2023)
2	Anoop Philip	Ph.D. (ongoing)	N/A	Indian Biophysical Society Best Poster Award (2024), Biophysical Society (USA) Travel Grant (2025)
5	Arpan Dey	Ph.D. (2024)	Post-doctoral Fellow, Cambridge Univ. (2024-present)	Best Poster Award TIFR TACC (2020); Mihir Chowdhury Fellowship (2021)

3	Vicky Visvakarma	Ph.D. (2023)	Post-doctoral Fellow at Univ. of Wisconsin, Madison, USA	Indian Biophysical Society Best Poster Award, 2019
4	Ankur Gupta	Ph.D. (2022)	Post-doctoral fellow, Univ. of Copenhagen, Denmark (2023-)	Kanazawa University Fellowship for Bio-AFM Summer School, Japan, 2018; Mihir Chowdhury Fellowship, Fluorescence Society, 2020
6	Anirban Das	Ph.D. (2021)	Post-doctoral Fellow, Columbia Univ., USA (2021-)	Future Research Talent Award, Australian National University, Canberra, Australia
7	Simli Dey	Ph.D. (2020)	Post-doctoral Fellow, Institut Curie, Paris, France (2020-)	Best Poster Award, Asian Photochemistry Conference, 2016, Singapore; Medhavini Hosur Best Poster Award, TIFR-TACC, 2019
8	Barun Maity	Ph.D. (2019)	Associate Professor, Saha Institute of Nuclear Physics (2025-)	Biophysical Society Travel Award, 2018; Sarojini Damodaran Travel Fellowship, 2017
9	Bappaditya Chandra	Ph.D. (2017)	Assistant Professor, North Dakota State Univ. (USA) (2025-) Post-doctoral fellow, St. Jude's (Memphis, USA, 2018-2024)	Neoma Boadway Fellowship, 2020; TIFR Best Thesis Award, 2018
10	Anand Kant Das	Ph. D. (2016),	Scientific Officer , New York University (2020-)	European Union Euraxess Science Communication Prize (2015)
11	Debanjan Bhowmik	Ph.D. (2015)	Scientist (C), RGCB, Thiruvananthapuram (2021-present) Post-doctoral Fellow, Stanford University, USA (up to 2021)	Fellowship for collaborative graduate research, Weizmann University (Israel) (2014) Visiting research fellowship, Univ. of Toronto (2012)
12	Bidyut Sarkar	Ph.D. (2014)	Assistant Professor, Shiv Nadar Univ., National Capital Region, India (2024-present)	Wellcome Trust Intermediate Fellowship (2024)

			Post-doctoral Fellow, RIKEN, Japan (up to 2024)	
13	Suman Nag	Ph.D. (2012)	Co-Founder, Kynomix Ltd. , California, USA (current), Post-doctoral Fellow, Stanford University (previous position)	Record unavailable
14	Arkarup Bandyopadhyay	M.Sc. by Research (2010)	Assistant Professor, Cold Spring Harbor Laboratories, USA	Record unavailable
15	Senthil Arumugam	M.Sc. by Research (2008)	Group Leader, Monash Univeristy, Australia	Record unavailable
16	Kanchan Garai	Ph.D. (2007)	Associate Professor, TIFR Hyderabad	Record unavailable
17	Sanjeev Kumar Kaushalya	Ph.D. (2008),	Scientist, Cold Spring Harbor Laboratories, USA	Record unavailable
18	Bankanidhi Sahoo	Ph.D. (2008),	Scientist, Dr. Reddy's Pharmaceutical Company, Hyderabad, India	Record unavailable
19	Radha Desai	M.Sc.(2006),	Senior Scientist, Pfizer, Inc. (UK)	Record unavailable
20	Jayaprakash Balaji	Ph.D. (2005)	Associate Professor, IISc, Bangalore	Record unavailable
21	Parijat Sengupta	Ph.D. (2004)	Research Associate Professor, Univ. of Illinois at Chicago, USA	Record unavailable

- 1) “Probing molecular biophysics by building novel scientific instruments”, Indian Academy of Sciences Mid-Year Meeting, Bengaluru (July 5, 2025)
- 2) “Label-free Fluorescence Imaging and Sensing with Multiphoton Microscopy”, CEFIPRA Ido-French Meeting, Mahindra University, Hyderabad (April 12, 2025)
- 3) “Functional perturbations of the membrane using small amphiphiles”, Mahabaleshwar Seminar (Feb. 28, 2025)
- 4) “Critical properties of the lipid bilayer probed by fluorescence correlation spectroscopy and its variants”, Keynote Talk, SPIE Photonics West “BIOS’ meeting, (San Francisco, USA, Jan. 27, 2025)
- 5) “The lipid membrane as a receptor for neurotransmitter signalling”, Keynote Talk, German Biophysical Society Meeting, Leipzig, Germany, 22-25 September, 2024
- 6) “‘QSLIP’ determines the state of folding of individual amyloid oligomers in a lipid membrane”, Biophysical Society Annual Meeting, Philadelphia, USA, Feb. 9-14, 2024
- 7) “Our brain in sickness and in health: focusing on the lipid membrane”, Rutherford Appleton Labs, Harwell, UK, Feb. 5, 2024
- 8) “Extra-receptor signaling: how the lipid bilayer transduces neurotransmitter signals”, ‘BIOS’, SPIE Photonics West, San Francisco, USA, Jan. 27-31, 2024
- 9) “Molecular Biophysics of Diseases: From Single Molecules to Human Neurons”, PicoQuant Single Molecule Workshop, Berlin, Germany, Sep. 2023
- 10) “Single-molecule photonic techniques aid drug design”, OPTICA (Optical Society of America) SENSORS meeting, Munich, August 1-4, 2023
- 11) “Membrane curvature sensing by amyloid oligomers”, EBSA Satellite Meeting, Stockholm, Sweden, July 29-31, 2023
- 12) “Neurotransmitters can Signal by Modulating Membrane Mechanics”, ICO 25 / OWLS 16 Conference, Dresden, Sep. 5-9, 2022
- 13) “Intermediates of protein folding and aggregation as targets for intervention”, Univ. of Trento, Italy, Aug. 30, 2022
- 14) “A molecular imprint of intracellular Amyloid- $\beta$ -ApoE interaction correlates with its toxicity”, Pathomechanisms of Amyloid Diseases, Catania, Italy, August 25-27, 2022
- 15) “Serotonin can signal via the lipid membrane”, Watt Webb Memorial Symposium, Cornell University, Ithaca, New York, Aug. 8, 2022
- 16) “Real time imaging of the detection volume of a confocal microscope”, SPIE PHOTONICS WEST 2020, San Francisco, USA, Feb. 2020
- 17) “Receptor-independent membrane mediated pathways of serotonin action”, Okinawa Institute of Science and Technology, Japan, (Dec. 2019)
- 18) “In search of the elusive toxic oligomer in Amyloid diseases”, RIKEN, Tokyo, Japan (Dec. 2019)
- 19) “The single molecule photobleaching technique : Beware! Corrections may be required”, International Single Molecule Workshop, Shanghai, China, (Nov. 2019)
- 20) “The “which oligomer” question in amyloid toxicity”, ICGEB, New Delhi, India (Sep. 2019)
- 21) ““Which oligomer and why : getting to the heart of amyloid toxicity”, IIT Bombay – Free Univ. Berlin Symposium, Mumbai (August 2019)
- 22) “Chemical Neurotransmission: What if we remove the receptors?”, BioPhysics Pashchim Meeting, ACTREC, Mumbai (July 2019)

- 23) “New Biophotonic Tools for Understanding Brain Diseases”, Symposium on Optics and Photonics (SOAP 2019), IISc Bangalore, Bengaluru (June, 2019)
- 24) “Understanding Intrinsically Disordered Proteins with New Biophysical Tools”, Seminar, Dept. of Chemistry, IIT Bombay (May, 2019)
- 25) “Understanding Intrinsically Disordered Proteins: New Biophysical Tools Rise to the Challenge”, Pennsylvania State University, USA (April, 2019)
- 26) “The Critical Question: Which Oligomer is Toxic?”, Indian Biophysical Society Annual Meeting, IISER Kolkata (March 2019)
- 27) “Understanding Intrinsically Disordered Proteins”, Departmental Colloquium, IISc Bangalore, (Feb. 2019)
- 28) “Ordered and Disordered Segments of Amyloid- $\beta$  Drive Sequential Steps of the Toxic Pathway”, Australian Society for Biophysics Annual Meeting, Melbourne, Australia (Dec. 2018)

#### CONTRIBUTIONS TO TEACHING

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- 1) Introduction to Biophysics, BITS-Pilani Hyderabad, (Spring semester, 2025)
- 2) Biophysics and Biochemistry, Graduate Course, TIFR (formulated the syllabus and taught multiple times)
- 3) Mathematical Methods for Chemists, Graduate Course, TIFR (taught multiple times)
- 4) Optical Spectroscopy, Graduate Course, TIFR, and Senior Undergraduate course, Center for Basic Sciences (formulated the syllabus and taught multiple times)
- 5) Confocal and Multiphoton Microscopy, Bangalore Microscopy Course (Annual Workshop, taught multiple times)

#### SCIENCE POPULARIZATION PROGRAMMES (Partial List)

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- 1) “Joys and Confusions of Being a Scientist at the ‘Interface’”, Young Investigators’ Meeting, IndiaBioscience, Mahabalipuram, India, Feb. 2020
- 2) “Killer Proteins”, Science Academies Outreach Lecture, RBC College, Naihati, Oct. 2018
- 3) “The quest for infinite resolution”, Chai and Why, Mumbai, 2018
- 4) “Laughter, Ridicule, and the Nobel Prize: The Gods Can Be Wrong”, Mumbai Local (A community Arts Initiative by Junoon), Mumbai, April 2016

#### COLLABORATIONS (EXTRAMURAL, as PI)

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- 1) Marisa Martin Fernandez, Central Laser Facility, STFC, Harwell, UK
- 2) Micheal Schlierf, TU Dresden, Germany
- 3) Senthil Arumugam, Monash University, Australia
- 4) Deepak Nair, IISc, Bangalore
- 5) Biju Vishwanath, NIMHANS, Bangalore
- 6) R. Mahalakshmi, IISER Bhopal
- 7) Mai Suan Li, IFPAN, Poland
- 8) John Carver, Australian National University, Canberra, Australia
- 9) Gilbert Walker, Univ. of Toronto, Canada
- 10) Jaydeep Basu, IISc, Bangalore
- 11) Daniel Huster, Univ. of Leipzig, Germany
- 12) Sucheta Dandekar, KEM Hospital, Mumbai
- 13) Rajaram Swaminathan, IIT Guwahati
- 14) Elisha Haas, Bar-Ilan Univ., Israel
- 15) Joseph Irudayaraj, Purdue Univ., USA
- 16) Neelanjana Sengupta, NCL Pune
- 17) Anuradha Lohia, Presidency University, Kolkata
- 18) Venus Singh Mithu, GND Univ., Amritsar
- 19) Mary J. Eaton, Univ. of Miami, USA
- 20) David J. E. Callaway, New York Univ., USA

#### PATENTS

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*Fluorescence Correlation Microscope with Real Time Alignment Readout*, S. Maiti, S. K. Kaushalya, K. Garai, and J. Balaji, United States Patent number US 7,705,987 B2, April 27, 2010

#### BOOKS

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*An Introduction to Fluorescence Correlation Spectroscopy* (Biophysical Society-IOP Series), by Thorsten Wohland, Sudipta Maiti, Radek Machán , 2021, Institute of Physics Publishing

1. Contrary Effects of Cholesterol on Single-Component and Synaptic Vesicle Mimicking Lipid Bilayers, Ankur Chaudhary, Parth Sarathi Nayak, Debsankar Saha Roy, Ankur Gupta, Sudipta Maiti\*, J. Phys. Chem. Letters, (2025), Just accepted (<https://doi.org/10.1021/acs.jpcllett.5c03435>)
2. Anoop Philip, Mayank Gupta, Shankha Banerjee, Arpan Dey, Debsankar Saha Roy, Aditya Shrivastava, Debasis Das, Sri Rama Koti Ainavarapu and Sudipta Maiti\*, Protein Silencing with Self-Peptides, (2025), The Journal of Physical Chemistry B, Vol 129, pp 2215-2225, <https://pubs.acs.org/doi/10.1021/acs.jpccb.4c08265>
3. Oskar Engberg, Debsankar Saha Roy, Pawel Krupa, Shankha Banerjee, Ankur Chaudhary, Albert A. Smith, Mai Suan Li, Sudipta Maiti\* and Daniel Huster\*, Molecules in the Serotonin-Melatonin Synthesis Pathway Have Distinct Interactions with Lipid Membranes, (2025), The Journal of Physical Chemistry B, Vol 129, pp 2687-2700, <https://pubs.acs.org/doi/10.1021/acs.jpccb.4c08750>
4. Debsankar Saha Roy, Ankit Singh, Vidita A. Vaidya, Daniel Huster, Kaustubh R. Mote\*, Sudipta Maiti\*, Effects of a Serotonergic Psychedelic on the Lipid Bilayer, ACS Chemical Neuroscience, (2024), Vol 15, pp 4066-4074, <https://pubs.acs.org/doi/10.1021/acschemneuro.4c00484>
5. Arpan Dey, Abhishek Patil, Senthil Arumugam, and Sudipta Maiti\*, Single-Molecule Maps of Membrane Insertion by Amyloid- $\beta$  Oligomers Predict Their Toxicity, J. Phys. Chem. Lett., (2024) 15, 6292–6298, <https://pubs.acs.org/doi/10.1021/acs.jpcllett.4c01048>
6. D. Saha Roy, A. Gupta, V. Vishvakarma, P. Krupa, M. S. Li, and Sudipta Maiti\*, Serotonin Promotes Vesicular Association and Fusion by Modifying Lipid Bilayers, The Journal of Physical Chemistry. B, (2024), 128(20):4975-4985, doi: 10.1021/acs.jpccb.4c00115
7. Daniel Huster\*, Sudipta Maiti, Andreas Herrmann, Phospholipid Membranes as Chemically and Functionally Tunable Materials, Adv. Materials, (2024), <https://doi.org/10.1002/adma.202312898>
8. Megha Maheshwari, Aastha Singla, Anoop Rawat, Toshali Banerjee, Sthitapranjya Pati, Sneha Shah, Sudipta Maiti, Vidita A. Vaidya\*, Chronic chemogenetic activation of hippocampal progenitors enhances adult neurogenesis and modulates anxiety-like behavior and fear extinction learning, IBRO Neuroscience Reports, (2024) Volume 16, Pages 168-181 <https://doi.org/10.1016/j.ibneur.2024.01.002>
9. Arpan Dey, Aditi Verma, Uchit Bhaskar, Bidyut Sarkar, Mamata Kallianpur, Vicky Vishvakarma, Anand Kant Das, Kanchan Garai, Odity Mukherjee, Kunihiko Ishii, Tahei Tahara, and Sudipta Maiti\*, A Toxicogenic Interaction between Intracellular Amyloid- $\beta$  and Apolipoprotein-E, ACS Chem. Neurosci. (2024), 15, 6, 1265–1275, doi: 10.1021/acschemneuro.4c00048
10. Debsankar Saha Roy, Marta Gozzi, Oskar Engberg, Juliane Adler, Daniel Huster\*, and Sudipta Maiti\*, Membrane-Mediated Allosteric Action of Serotonin on a Noncognate G-Protein-Coupled Receptor, J. Phys. Chem. Lett. (2024), 15, 6, 1711–1718, doi: 10.1021/acs.jpcllett.3c02340
11. Simran Arora, Debsankar Saha Roy, Sudipta Maiti, and Sri Rama Koti Ainavarapu\*, Phase Separation and Aggregation of a Globular Folded Protein Small Ubiquitin-like Modifier 1 (SUMO1), J. Phys. Chem. Lett. (2023), 14, 40, 9060–9068, doi: 10.1021/acs.jpcllett.3c02092
12. Gupta, Ankur; Krupa, Pawel; Engberg, Oskar; Krupa, Magdalena; Chaudhary, Ankur; Li, Mai Suan; Huster, Daniel; Maiti, Sudipta\*, "The unusual robustness of neurotransmitter vesicle

- membranes against serotonin-induced perturbations", *The Journal of Physical Chemistry B* 127 (9), 1947-1955 (2023) (*cover article*)
13. Ankur Gupta, Mamata Kallianpur, Debsankar Saha Roy, Oskar Engberg, Hirak Chakrabarty, Daniel Huster, Sudipta Maiti\*, Different membrane order measurement techniques are not mutually consistent, *Biophys. J.*, 2022, doi.org/10.1016/j.bpj.2022.08.029
  14. Vicky Vishvakarma and Sudipta Maiti\*, Measuring the Size and Spontaneous Fluctuations of Amyloid Aggregates with Fluorescence Correlation Spectroscopy, *Methods in Molecular Biology*, 2022, doi.org/10.1007/978-1-0716-2529-3\_4
  15. Arpan Dey and Sudipta Maiti\*, Determining the Stoichiometry of Amyloid Oligomers by Single-Molecule Photobleaching, *Methods in Molecular Biology*, 2022, DOI:10.1007/978-1-0716-2529-3\_5
  16. Vicky Vishvakarma, Oskar Engberg, Daniel Huster, and Sudipta Maiti\*, The effect of cholesterol on highly curved membranes measured by nanosecond Fluorescence Correlation Spectroscopy, *Methods and Applications in Fluorescence*, 2022, doi.org/10.1088/2050-6120/ac87ea
  17. Barun Kumar Maity, Debsankar Saha Roy and Sudipta Maiti\*, Real time imaging of the excitation volume of a multiphoton microscope, *Journal of Optics*, 2022, doi.org/10.1088/2040-8986/ac69f5
  18. Guzel Musabirova, Oskar Engberg, Ankur Gupta, Debsankar Saha Roy, Sudipta Maiti and Daniel Huster\*, Serotonergic drugs modulate the phase behavior of complex lipid bilayers, *Biochimie*, 2022, <https://doi.org/10.1016/j.biochi.2022.04.006>
  19. Arpan Dey, Sudipta Maiti\*, Single molecule photobleaching reveals the piecewise arrangement of monomers in IAPP oligomers, *Proc. SPIE 11967, Single Molecule Spectroscopy and Superresolution Imaging*; 2022, <https://doi.org/10.1117/12.2612694> (*Conference Proceedings*)
  20. Ankur Gupta<sup>^</sup>, Simli Dey<sup>^</sup>, Debanjan Bhowmik, and Sudipta Maiti\*, Coexisting Ordered and Disordered Membrane Phases Have Distinct Modes of Interaction with Disease-Associated Oligomers, *J. Phys. Chem. B*, 2022, 126, 1016–1023
  21. Jacob Fritsch, Alexander Korn, Dayana Surendran, Martin Krueger, Holger A. Scheidt, Kaustubh R. Mote, Perunthiruthy K. Madhu, Sudipta Maiti and Daniel Huster, Probing the Influence of Single-Site Mutations in the Central Cross- $\beta$  Region of Amyloid  $\beta$  (1–40) Peptides, *Biomolecules*, 2021, 11, 1848
  22. Arpan Dey, Vicky Vishvakarma, Anirban Das, Mamata Kallianpur, Simli Dey, Roshni Joseph and Sudipta Maiti\*, Single Molecule Measurements of the Accessibility of Molecular Surfaces, *Front. Mol. Biosci.*, 01 December 2021 | <https://doi.org/10.3389/fmolb.2021.745313>,
  23. Anirban Das, Alexander Korn, Adam Carroll, John A. Carver, and Sudipta Maiti, Application of the Double-Mutant Cycle Strategy to Protein Aggregation Reveals Transient Interactions in Amyloid- $\beta$  Oligomers, *J. Phys. Chem. B*, 2021, 125, 45, 12426–12435
  24. Anirban Das, Anju Yadav, Mona Gupta, Purushotham R, Vishram L. Terse, Vicky Vishvakarma, Sameer Singh, Tathagata Nandi, Arkadeep Banerjee, Kalyaneswar Mandal, Shachi Gosavi, Ranabir Das, Sri Rama Koti Ainavarapu,\* and Sudipta Maiti\*, Rational Design of Protein-Specific Folding Modifiers, *J. Am. Chem. Soc.* 2021, 143, 44, 18766–18776
  25. Anirban Das<sup>^</sup>, Vicky Vishvakarma<sup>^</sup>, Arpan Dey, Simli Dey, Ankur Gupta, Mitradip Das, Krishna Kant Vishwakarma, Debsankar Saha Roy, Swati Yadav, Shubham Kesarwani, Ravindra Venkatramani, and Sudipta Maiti, Biophysical properties of the isolated spike protein binding helix of human ACE2, *Biophysical J*, 2021, 120, 1–8
  26. Simli Dey, Dayana Surendran, Oskar Enberg, Ankur Gupta, Sashaina E. Fanibunda, Anirban Das, Barun Kumar Maity, Arpan Dey, Vicky Vishvakarma, Mamata Kallianpur, Holger A. Scheidt, Gilbert Walker, Vidita A. Vaidya, Daniel Huster, and Sudipta Maiti, Altered

- Membrane Mechanics Provides a Receptor-Independent Pathway for Serotonin Action, Chem. Eur. J., 2021, 27, 1–10 (*selected as cover article*)
27. Simli Dey, Anirban Das, Arpan Dey and Sudipta Maiti, Membrane affinity of individual toxic protein oligomers determined at the single-molecule level, Phys.Chem.Chem.Phys., 2020, 22, 14613
  28. Holger A. Scheidt, Anirban Das, Alexander Korn, Martin Krueger, Sudipta Maiti and Daniel Huster, Structural characteristics of oligomers formed by pyroglutamate-modified amyloid b peptides studied by solid-state NMR, Phys Chem Chem Phys, 2020, DOI: 10.1039/d0cp02307h
  29. Anirban Das, Ankur Gupta, Yuning Hong, John A Carver, Sudipta Maiti, “A Spectroscopic Marker for Structural Transitions Associated with Amyloid- $\beta$  Aggregation”, Biochemistry, (2020), <https://doi.org/10.1021/acs.biochem.0c00113>
  30. SimliDey, Anirban Das, SudiptaMaiti, Correction of Systematic Bias in Single Molecule Photobleaching Measurements, Biophysical Journal, Volume 118 (2020) Pages 1101-1108
  31. Sthitapranjya Pati, Sonali S. Salvi, Mamata Kallianpur, Bhupesh Vaidya, Antara Banerjee, Sudipta Maiti, James P. Clement and Vidita A. Vaidya, Chemogenetic activation of excitatory neurons alters hippocampal neurotransmission in a dose-dependent manner, eNeuro (2019) ENEURO.0124-19.2019
  32. Barun Kumar Maity, Anand Kant Das, Simli Dey, Ullhas Kaarathi Moorthi, Amandeep Kaur, Arpan Dey, Dayana Surendran, Rucha Pandit, Mamata Kallianpur, Bappaditya Chandra, Muralidharan Chandrakesan, Senthil Arumugam, and Sudipta Maiti, Ordered and Disordered Segments of Amyloid beta Drive Sequential Steps of the Toxic Pathway, ACS Chemical Neuroscience, (2019) 10, 2498-2509
  33. Barun Kumar Maity, Sudipta Maiti, Label-free imaging of neurotransmitters in live brain tissue by multi-photon ultraviolet microscopy, Neuronal Signaling (2018) 2NS20180132
  34. Barun Kumar Maity, Anirban Das, Sayan Dutta, Sudipta Maiti, Construction of a Line-Confocal Raman Microscope for Sensitive Molecules, Proc. Natl. Acad. Sci., India, Sect. A Phys. Sci, 2018, <https://doi.org/10.1007/s40010-018-0517-3>
  35. Simli Dey, Pavlo Bielytskyi Daniel Grasing, Anirban Das, Rajasree Kundu, Jorg Matysik, Sudipta Maiti, P. K. Madhu, Precise in situ photo-induced pH modulation during NMR spectrometry, Chemical Physics Letters, 706 (2018), 665-668
  36. Barun Kumar Maity, Vicky Vishvakarma, Dayana Surendran, Anoop Rawat, Anirban Das, Shreya Pramanik, Najmul Arfin, and Sudipta Maiti, Spontaneous Fluctuations Can Guide Drug Design Strategies for Structurally Disordered Proteins, Biochemistry, 2018, DOI: 10.1021/acs.biochem.8b00504
  37. Simli Dey, and Sudipta Maiti, Single-molecule photobleaching: Instrumentation and applications, J. Biosci., 2018, DOI: 10.1007/s12038-018-9770-5
  38. Alexander Korn, Dayana Surendran, Martin Krueger, Sudipta Maiti and Daniel Huster, Ring structure modifications of phenylalanine 19 increase fibrillation kinetics and reduce toxicity of amyloid- $\beta$  (1–40), Chem. Commun., 2018, <http://pubs.rsc.org/en/content/articlepdf/2018/cc/c8cc01733f>
  39. Bappaditya Chandra, Barun Kumar Maity, Anirban Das and Sudipta Maiti, Fluorescence quenching by lipid encased nanoparticles shows that amyloid- $\beta$  has a preferred orientation in the membrane, Chem. Commun., 2018, 54, 7750-7753  
*Selected as inside cover article.*
  40. Anoop Rawat, Barun Kumar Maity, Bappaditya Chandra, and Sudipta Maiti, Aggregation-induced conformation changes dictate islet amyloid polypeptide (IAPP) membrane affinity, BBA Biomembrane, Volume 1860, 2018, Pages 1734-1740

41. Kallol Bera, Anand Kant Das, Ananya Rakshit, Bidyut Sarkar, Anoop Rawat, Barun Kumar Maity, and Sudipta Maiti, Fluorogenic Detection of Monoamine Neurotransmitters in Live Cells, ACS Chemical Neuroscience, 2018, 9, 469-474, *Selected as cover article*.
42. Alexander Korn, Steffane McLennan, Juliane Adler, Martin Krueger, Dayana Surendran, Sudipta Maiti, and Daniel Huster, Amyloid  $\beta$  (1–40) Toxicity Depends on the Molecular Contact between Phenylalanine 19 and Leucine 34, ACS Chemical Neuroscience, 2018, 9, 790-799
43. Rawat A, Maity BK, Chandra B, Maiti S., Aggregation-induced conformation changes dictate islet amyloid polypeptide (IAPP) membrane affinity, 2018. Biochim Biophys Acta. Vol. 1860, Pages 1734-1740
44. Anand Kant Das, Barun Kumar Maity, Dayana Surendran, Umakanta Tripathy, and Sudipta Maiti, Label-free Ratiometric Imaging of Serotonin in Live Cells, 2017. ACS Chem. Neurosci. 8, 11, 2369-2373
45. Bappaditya Chandra, Debanjan Bhowmik, Barun Kumar Maity, Kaustubh R. Mote, Debabrata Dhara, Ravindra Venkatramani, Sudipta Maiti, P.K.Madhu. Major Reaction Coordinates Linking Transient Amyloid- $\beta$  Oligomers to Fibrils Measured at the Atomic Level, 2017. Biophysical Journal, 113(4):805-816
46. Bappaditya Chandra, Venus Singh Mithu, Debanjan Bhowmik, Anand Kant Das, Bankanidhi Sahoo, Sudipta Maiti and Perunthiruthy K. Madhu, 2017. Curcumin dictates divergent fates for the central salt-bridges in Amyloid- $\beta$  40 and Amyloid- $\beta$  42, Biophysical J, 2017, 112, 1597-1608
47. Bappaditya Chandra; Alexander Korn; Barun Kumar Maity; Juliane Adler; Anoop Rawat; Martin Krueger; Daniel Huster; Sudipta Maiti, 2017. Stereoisomers Probe Steric Zippers in Amyloid- $\beta$ , 2017. Journal of Physical Chemistry B, 2017, 121, 1835-1842
48. Bappaditya Chandra; Swagata Halder; Juliane Adler; Alexander Korn; Daniel Huster; Sudipta Maiti, 2017. Emerging structural details of transient Amyloid- $\beta$  oligomers suggest designs for effective small molecule modulators, Chemical Physics Letter, 2017, 675, 51-55.
49. Manojkumar Jadhao; Chayan Das; Anoop Rawat; Himank Kumar; Ritika Joshi; Sudipta Maiti; Sujit Kumar Ghosh, 2017. Development of multifunctional heterocyclic Schiff base as a potential metal chelator: a comprehensive spectroscopic approach towards drug discovery, Journal of Biological Inorganic Chemistry, 2017, Volume 22, Issue 1, pp 47–59
50. Juliane Adler; Monika Baumann; Bruno Voigt; Holger Scheidt; Debanjan Bhowmik; Tilmann Haupt; Bernd Abel; Perunthiruthy K. Madhu; Jochen Balbach; Sudipta Maiti; Daniel Huster, 2016. “A Detailed Analysis of the Morphology of Fibrils of Selectively Mutated Amyloid beta (1-40)”, ChemPhysChem, doi. 10.1002/cphc.201600413
51. Chandrakesan M, Bhowmik D, Sarkar B, Abhyankar R, Singh H, Kallianpur M, Dandekar SP, Madhu PK, Maiti S, Mithu VS, 2015. Steric crowding of the turn region alters the tertiary fold of amyloid- $\beta$ 18-35 and makes it soluble. J. Biol. Chem. 290(50):30099-30107.
52. Rawat, A. and Maiti, S., 2015. Single molecule tools for probing protein aggregation. Proc. Natl. Acad. Sci., India, Sect. A Phys. Sci. 85(4):519-525.
53. Debanjan Bhowmik, Kaustubh R. Mote, Christina M. MacLaughlin, Nupur Biswas, Bappaditya Chandra, Jaydeep K. Basu, Gilbert C. Walker, Perunthiruthy K. Madhu, and Sudipta Maiti, “Cell-Membrane-Mimicking Lipid-Coated Nanoparticles Confer Raman Enhancement to Membrane Proteins and Reveal Membrane-Attached Amyloid- $\beta$  Conformation”, ACS Nano, DOI: 10.1021/acsnano.5b03175
54. Anand Kant Das#, Anoop Rawat#, Debanjan Bhowmik, Rucha Pandit, Daniel Huster and Sudipta Maiti, “An early folding contact between Phe19 and Leu34 is critical for amyloid beta

- oligomer toxicity”, ACS Chemical Neuroscience, DOI: 10.1021/acschemneuro.5b00074, # equal contribution
55. Anand Kant Das, Rucha Pandit and Sudipta Maiti, “Effect of amyloids on the vesicular machinery: implications for somatic neurotransmission”, *Phil. Trans.R.Soc. B*, 2015, 370, 20140187370
  56. Debanjan Bhowmik, Anand Kant Das and Sudipta Maiti  
Rapid, cell-free assay for membrane-active forms of Amyloid- $\beta$ , *Langmuir*, 2015, 31, 4049–4053.
  57. Bidyut Sarkar, Venus Singh Mithu, Bappaditya Chandra, Arghya Mandal, Muralidharan Chandrakesan, Debanjan Bhowmik, P.K. Madhu\* and Sudipta Maiti\*, *Structure of Transient Amyloid- $\beta$  Oligomers Differs From Less-toxic Fibrils in Regions Known to Harbor Familial Alzheimer’s Mutations*, *Angew. Chem. Int. Ed. Engl.* 2014, doi: [10.1002/anie.201401874](https://doi.org/10.1002/anie.201401874)  
*This paper is termed "Very Important Paper" (VIP, top 5%) by Angewandte Chemie.*
  58. Bidyut Sarkar, Arkarup Banerjee, Anand Kant Das, Suman Nag, Sanjeev Kumar Kaushalya, Umakanta Tripathy, Mohammad Shameem, Shubha Shukla and Sudipta Maiti, *Label-free dopamine imaging in live rat brain slices*.  
*ACS Chem. Neurosci.* 2014, doi: [10.1021/cn5000138](https://doi.org/10.1021/cn5000138)
  59. Venus Singh Mithu, Bidyut Sarkar, Debanjan Bhowmik, Anand Kant Das, Muralidharan Chandrakesan, Sudipta Maiti\* and P. K. Madhu\*.  
*Curcumin alters the salt-bridge containing turn region in amyloid beta 1-42 aggregates*, *J. Biol. Chem.* 2014, doi: [10.1074/jbc.M113.519447](https://doi.org/10.1074/jbc.M113.519447).
  60. Debanjan Bhowmik, Christina M. MacLaughlin, Muralidharan Chandrakesan, Prashanth Ramesh, Ravindra Venkatramani, Gilbert C. Walker and Sudipta Maiti  
*pH changes the aggregation property of amyloid-beta without altering the monomeric conformation*, *Phys. Chem. Chem. Phys.* 2014, 16, 885-889.
  61. Suman Nag, Bidyut Sarkar, Muralidharan Chandrakesan, Rajiv Abhyankar, Debanjan Bhowmik, Mamata Kombrabail, Sucheta Dandekar, Eitan Lerner, Elisha Haas and Sudipta Maiti, *A folding transition underlies the emergence of membrane affinity in amyloid-beta*, *Phys. Chem. Chem. Phys.* 2013, 15, 19129-19133.
  62. Debabrata Maity, Bidyut Sarkar, Sudipta Maiti and T. Govindaraju  
*A highly selective reaction-based two-photon probe for copper(I) in aqueous media*, *ChemPlusChem.* 2013, 78, 8, 785-788.
  63. Bidyut Sarkar, Anand K. Das and Sudipta Maiti  
*Thermodynamically stable amyloid beta monomers have much lower membrane affinity than the small oligomers*. *Front. Physiol.* 2013, 4 (84), 1-11.
  64. Deepak Manna, Jaspreet Grewal, Bidyut Sarkar, Sudipta Maiti and Anuradha Lohia, *Poly-unsaturated fatty acids induce polarized F-actin sub-membranous aggregates and kills Entamoeba histolytica*, *Cytoskeleton.* 2013, 70 (5), 260-268.
  65. Muralidharan Chandrakesan, Bidyut Sarkar, Venus Singh Mithu, Rajiv Abhyankar, Debanjan Bhowmik, Suman Nag, Bankanidhi Sahoo, Riddhi Shah, Sushma Gurav, Raja Banerjee, Sucheta Dandekar, Jaya C. Jose, Neelanjana Sengupta, Perunthiruthy K. Madhu and Sudipta Maiti, *The basic structural motif and major biophysical properties of Amyloid beta are encoded in the fragment 18-35*, *Chem. Phys.* 2013, 422, 80-87
  66. S. Pirotta, X. G. Xu, A. Delfan, S. Mysore, S. Maiti, G. Dacarro, M. Patrini, M. Galli, G. Guizzetti, D. Bajoni, J. E. Sipe, G. C. Walker and M. Liscidini  
*Surface-Enhanced Raman Scattering in Purely Dielectric Structures via Bloch Surface Waves*, *J. Chem. Phys. C.* 2013, 117, 6821-6825

67. Bidyut Sarkar, Anand K. Das, Senthil Arumugam, Sanjeev K. Kaushalya, Arkarup Bandyopadhyay, Jayaprakash Balaji and Sudipta Maiti  
*The dynamics of somatic exocytosis in monoaminergic neurons*, [Front. Physiol.\(2012\) vol. 3\(414\), 1-13.](#)
68. Rajiv Abhyankar; Banakanidhi Sahoo; Niraj K. Singh; Linda M. Meijer; Bidyut Sarkar; Anand K. Das; Suman Nag; Muralidharan Chandrakesan; Debanjan Bhowmik; Sucheta Dandekar; Sudipta Maiti, *Amyloid diagnostics: probing protein aggregation and conformation with ultrasensitive fluorescence detection*, SPIE Proceedings Vol. 8233 (2012) 82330B (*Conference Proceedings*)
69. Nag S., Bidyut Sarkar, Arkarup Bandyopadhyay, Bankanidhi Sahoo, Varun K. A. Sreenivasan, Mamata Kombrabail, C Muralidharan, and Sudipta Maiti. The nature of the amyloid-beta monomer and the monomer-oligomer equilibrium. *J.Biol.Chem.* (2011) 286: 13827-13833
70. Venus Singh Mithu, Bidyut Sarkar, Debanjan Bhowmik, Muralidharan Chandrakesan, Sudipta Maiti, Perunthiruthy K. Madhu, Zn<sup>++</sup> Binding Disrupts the Asp<sup>23</sup>-Lys<sup>28</sup> Salt Bridge without Altering the Hairpin-Shaped Cross- $\beta$  Structure of A $\beta$ <sub>42</sub> Amyloid Aggregates. *Biophysical Journal*, 101(2011) pp. 2825 - 2832
71. Singh, N. K.; Chacko, J. V.; Sreenivasan, V. K.; Nag, S.; Maiti, S. "Ultracompact alignment-free single molecule fluorescence device with a foldable light path", *J Biomed Opt*, 16 (2011) 025004. [Highlighted in the Virtual Journal of Biophysical Research]
72. Suman Nag, Jiji Chen, J. Irudayaraj, and S. Maiti, "Direct measurement of the attachment and assembly of small amyloid- $\beta$  oligomers on live cell membranes at physiological concentrations", *Biophys. J.* 99 (2010) 1969
73. Nag, S.; Bandyopadhyay, A.; Maiti, S. *Spatial pH Jump Measures Chemical Kinetics in a Steady-State System. The Journal of Physical Chemistry A* 2009, 113, 5269-5272
74. Kumar M, Kaushalya SK, Gressens P, Maiti S, Mani S. *Optimized derivation and functional characterization of 5-HT neurons from human embryonic stem cells. Stem Cells Dev* 18(4) (2009) 615-628
75. Kaushalya SK, Desai R, Arumugam S, Ghosh H, Balaji J, Maiti S. *Three-photon microscopy shows that somatic release can be a quantitatively significant component of serotonergic neurotransmission in the mammalian brain. J Neurosci. Res.* 2008 Nov 15;86(15):3469-80
76. N. Kumar, B. Sahoo, K. A. S. Varun, S. Maiti and S. Maiti, *Effect of loop length variation on quadruplex-Watson Crick duplex competition*, *Nucl. Acids Res.*, 2008. 36(13): p. 4433-4442.
77. B. Sahoo, J. Balaji, S. Nag, S. K. Kaushalya and S. Maiti, *Protein aggregation probed by two-photon fluorescence correlation spectroscopy of native tryptophan*, *The Journal of Chemical Physics*, 2008. 129(7): p. 075103-5.
78. Nag S., Balaji J., Madhu P.K., Maiti S., *Intermolecular association provides specific optical and NMR signatures for serotonin at intravesicular concentrations*, *Biophys J.* (2008), **94**(10):4145-53.
79. Kaushalya S.K., Nag S., Ghosh H., Arumugam S., Maiti S, *A high-resolution large area serotonin map of a live rat brain section*, *Neuroreport*. 2008, **19**(7):717-21.
80. K. Garai, B. Sahoo, P. Sengupta, and S. Maiti, *Quasi-homogeneous nucleation of amyloid beta yields numerical bounds for the critical radius, the surface tension and the free energy barrier for nucleus formation*, *J. Chem. Phys.* (2008) **128**: 045102-7

81. Basu B., Desai R., Balaji J., Chaerkady R., Sriram V., Maiti S., Panicker M.M., *Serotonin in pre-implantation mouse embryos is localized to the mitochondria and can modulate mitochondrial potential.* *Reproduction* (2008) **135**(5):657-69.
82. K. Garai, B. Sahoo, S. K. Kaushalya, R. Desai, and S. Maiti, *Zinc lowers amyloid  $\beta$  toxicity by selectively precipitating aggregation intermediates*, *Biochemistry*, (2007), **46**(37): 10655-63
83. S.K. Kaushalya, Suman Nag, J. Balaji, S. Maiti, *Serotonin: multiphoton imaging and relevant spectral data*, *Proc. SPIE*, (2008) **6860**: 68601 – 68608 (*conference proceedings*)
84. Bankanidhi Sahoo, Mithun Goswami, Suman Nag, and Sudipta Maiti, *Spontaneous formation of a protein corona prevents the loss of quantum dot fluorescence in physiological buffers*, *Chem. Phys. Lett.*, (2007), **445**:217-220
85. K. Garai, Ruchi Sureka, and S. Maiti, *Detecting Amyloid- $\beta$  aggregation with fiber based fluorescence correlation spectroscopy*, *Biophys. J.* (2007), **92**(7), L55-7
86. S. K. Kaushalya and S. Maiti, *Quantitative imaging of serotonin autofluorescence with multiphoton microscopy*, in *Serotonin Receptors in neurobiology*, *Frontiers in Neuroscience* series, A. Chattopadhyay ed., CRC Press (2007), 1-18
87. K. Garai, M. Muralidhar and S. Maiti, *A Fiber Optic Fluorescence Correlation Spectrometer*, *Applied Optics*, (2006), **45**(28), 7538-7542
88. K. Garai, P. Sengupta, B. Sahoo and S. Maiti, *Selective destabilization of soluble amyloid  $\beta$  oligomers by divalent metal ions*, *Biochemical and Biophysical Research Communications*, **345**(1)(2006)210-215
89. Balaji, J., Desai, R., Kaushalya, S. K., Eaton, M. J., and Maiti, S., *Quantitative measurement of serotonin synthesis and sequestration in individual live neuronal cells*, *J Neurochem.* **95**(5) (2005) 1217
90. Kaushalya, S. K., Balaji, J., Garai, K., and Maiti, S., *Fluorescence correlation microscopy with real-time alignment readout*, *Appl Opt.* **44**(16) (2005) 3262-5.
91. Balaji, J. and Maiti, S., *Quantitative measurement of the resolution and sensitivity of confocal microscopes using line-scanning fluorescence correlation spectroscopy*, *Microsc Res Tech.* **66**(4) (2005) 198-202
92. K. Garai and S. Maiti, *Multiphoton excited fluorescence as a probe of biological systems*, *IANCAS Bull.*, **III (4)** (2004) 327-334
93. Srinivas Krishnagopal, Vinit Kumar, Sudipta Maiti, S. S. Prabhu and S. K. Sarkar, *Free Electron Lasers*, (2004), *Current Science*, **87**, 1066
94. Balaji, J., C. S. Reddy, S. K. Kaushalya, and S. Maiti, *Microfluorometric detection of catecholamines with multiphoton excited fluorescence.* *Appl. Opt.*, **43**(12) (2004) 2412-7
95. Balaji J, Desai R, and Maiti, S., *Live cell ultraviolet microscopy: a comparison between two- and three-photon excitation.* *Microsc. Res. Tech.*, 2004. **63**(1): p. 67-71
96. Sengupta P, K. Garai, B. Sahoo, D. J. E. Callaway, and S. Maiti, *The amyloid beta peptide (A $\beta$ (1-40)) is thermodynamically soluble at physiological concentrations.* *Biochemistry*, 2003. **42**(35): p. 10506 – 10513
97. Balaji J, K. Garai, S. Chakrabarty, and S. Maiti, *Axial resolution limit of a fiber-optic fluorescence probe.* *Appl Opt*, 2003. **42**(19): p. 3780 - 3784

98. Sengupta, P. and S. Maiti, "Localized optical probing of biomolecules: Fluorescence correlation spectroscopy and multi-photon microscopy", *Proc. Indian Nat. Sci. Acad. A*, 2003. **69**:p. 1-13
99. Sengupta, P., K. Garai, J. Balaji, N. Periasamy and S. Maiti, *Measuring size distribution in highly heterogeneous systems with fluorescence correlation spectroscopy*. Biophysical Journal, 2003. **84**(3): p. 1977 – 1984
100. Sengupta, P., J. Balaji, and S. Maiti, *Measuring diffusion in cell membranes by fluorescence correlation spectroscopy*. Methods, 2002. **27**: p. 374–387
101. Sengupta, P., Balaji, J., Mukherjee, S., Philip, R., Ravindra Kumar, G. and S. Maiti, *Determination of the absolute two-photon absorption cross section of tryptophan*. Proceedings of SPIE, 2001. **4262**: p. 336
102. Balaji, J., Sengupta, P., and Maiti, S., *Probing diffusion and photochemical properties through localized photobleaching*. Proceedings of SPIE, 2001. **4262**: p. 329 (*conference proceedings*)
103. P. Sengupta, J. Balaji, S. Banerjee, R. Philip, G. Ravindra Kumar and S. Maiti, "Sensitive measurement of two-photon absorption cross sections", *J. Chem. Phys.*, **112** (2000) 9201-9205
104. P. Schuille, U. Haupts, S. Maiti, and W. W. Webb, "Molecular Dynamics in Living Cells Observed by Fluorescence Correlation Spectroscopy with One- and Two-photon Excitation", *Biophys. J.* **77** (1999) 2251-2265
105. R. M. Williams, J. B. Shear, W. R. Zipfel, S. Maiti, and W. W. Webb, "Mucosal Mast Cell Secretion Processes Imaged Using Three-Photon Microscopy of 5-Hydroxytryptamine Autofluorescence", *Biophys. J.* **76** (1999) 1835-1846
106. U. Haupts, S. Maiti, P. Schuille, and W. W. Webb, "Dynamics of fluorescent fluctuations in green fluorescent protein observed by fluorescence correlation spectroscopy", *Proc. Natl. Acad. Sci. USA*, **95** (1998) 13573-13578.
107. S. Maiti, U. Haupts and W. W. Webb, "Fluorescence correlation spectroscopy: Diagnostics for sparse molecules", *Proc. Natl. Acad. Sci. USA*, **94** (1997) 11753-11757
108. S. Maiti, Jason B. Shear, W. R. Zipfel, R. M. Williams, and Watt W. Webb, "Measuring serotonin distribution in live cells with three-photon excitation", *Science* **275** (1997) 530
109. R. Diller, S. Maiti, G. C. Walker, B. R. Cowen, R. Pippenger, R. A. Bogomolni, and R. M. Hochstrasser, "Femtosecond time resolved infrared laser study of bacteriorhodopsin", *Chem. Phys. Lett.* **241** (1995) 109
110. S. Maiti, G. C. Walker, B. R. Cowen, R. Pippenger, C. C. Moser, P. L. Dutton, and R. M. Hochstrasser, "Femtosecond coherent transient infrared spectroscopy of reaction centers from *Rhodobacter sphaeroides*", *Proc. Natl. Acad. Sci. USA* **91** (1994) 10360
111. G. C. Walker, S. Maiti, B. R. Cowen, C. C. Moser, P. L. Dutton, and R. M. Hochstrasser, "Time Resolution of Infrared Electronic Transitions in the Photosynthetic Reaction Center", *J. Phys. Chem.* **88** (1994), 5778
112. S. Maiti, B. R. Cowen, R. Diller, M. Iannone, C. C. Moser, P. L. Dutton, and R. M. Hochstrasser, "Picosecond Infrared Studies of the Dynamics of the Photosynthetic Reaction Center", *Proc. Natl. Acad. Sci. USA*, **90** (1993) 5247
113. R. M. Hochstrasser, B. R. Cowen, P. L. Dutton, C. Galli, S. Lecours, S. Maiti, C. C. Moser, D. Raftery, M. Therien, G. C. Walker and K. Wynne, "Vibrational Dynamics in Condensed Phases and Proteins", in International Conference on Time-Resolved Vibrational Spectroscopy VI, *Springer Proc. Physics*, A. Lau, F. Siebert, W. Werncke, eds. (Springer, Berlin), 1993
114. B. R. Cowen, T. Lian, G. C. Walker, S. Maiti, C. C. Moser, B. R. Locke, P. L. Dutton, and R. M. Hochstrasser, "Femtosecond Infrared Probes of Biomolecules", in Recent Advances in Photosciences, M. Yoon and P. -S. Song eds., *Proceedings of International Symposium on*

- Photochemistry, Photobiology and Photomedicine*, Chungnam National University, Taejon, Korea, 1993
115. R. M. Hochstrasser, R. Diller, S. Maiti, T. Lian, B. Locke, C. C. Moser, P. L. Dutton, B. R. Cowen, and G. C. Walker, "Ultrafast Infrared Spectroscopy of Protein Dynamics", in *Ultrafast Phenomena VIII*, eds. J. -L. Martin, A. Migus, G. Mourou, and A. H. Zewail, Springer Series in Chemical Physics (Springer-Verlag), (1993) 55
116. G. C. Walker, B. R. Cowen, S. Maiti, C. C. Moser, P. L. Dutton, and R. M. Hochstrasser, "Femtosecond Infrared Spectroscopy of Biological Molecules", *4th International Conference on Laser Applications in Life Sciences*, SPIE (1992) 1921 (*conference proceedings*)
117. R. Diller, M. Iannone, B. R. Cowen, S. Maiti, J. Owrutski, M. Li, M. Sarisky, Y. R. Kim, B. Locke, T. Lian and R. M. Hochstrasser, "Ultrafast Infrared Spectroscopic Studies of Protein Dynamics", in *Time Resolved Vibrational Spectroscopy V*, ed. H. Takahashi (Springer-Verlag), 1992
118. R. Diller, M. Iannone, B. R. Cowen, S. Maiti, R. A. Bogomolni, and R. M. Hochstrasser, "Picosecond Dynamics of Bacteriorhodopsin Probed by Time-Resolved Infrared Spectroscopy", *Biochemistry* **31** (1992) 5567
119. J. C. Owrutsky, R. Diller, M. Iannone, B. R. Cowen, S. Maiti, M. Li, M. Sarisky, Y. R. Kim, B. Locke, T. Lian, and R. M. Hochstrasser, "Ultrafast Infrared Spectroscopy of Molecules in Condensed Phases", *SPIE* **1599** (1991) 52 (*conference proceedings*)
120. M. Iannone, B. R. Cowen, R. Diller, S. Maiti, and R. M. Hochstrasser, "High Repetition Rate Infrared Pump, Infrared Probe Spectrometer", *Applied Optics*, **30** (1991) 5247
121. R. Diller, M. Iannone, B. R. Cowen, S. Maiti, R. Bogomolni, and R. M. Hochstrasser, "Ultrafast Infrared Study of Bacteriorhodopsin", in *Spectroscopy of Biological Molecules*, eds. R. E. Hester, and R. B. Girling, *Proc. of the Fourth European Conference* (York, England) 1991 (*conference proceedings*)
122. P. Wu, S. Maiti and R. S. Knox, in "Davydov's Soliton Revisited : Self-Trapping of Vibrational Energy in Protein", *NATO Advanced Research Workshop on Self-Trapping of Vibrational Energy in Protein*, ed. P. L. Christiansen and A. C. Scott, (Plenum Press, New York), 1990 (*conference proceedings*)