

# CHAYAN KANTI NANDI

ASSISTANT PROFESSOR  
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## PRESENT ADDRESS

SCHOOL OF BASIC SCIENCES  
DISCIPLINE CHEMISTRY  
INDIAN INSTITUTE OF  
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## PERMANENT ADDRESS

SARANGAPUR,  
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INDIA-722177

**NATIONALITY: INDIAN**

**STATUS: MARRIED**

**DATE OF BIRTH: 21.09.1977**

## EDUCATIONAL QUALIFICATIONS:

Degree	Department / Name of the Institution	Year	Percentage
PhD (Physical Chemistry)	Indian Institute of Technology Kanpur, India	2007	
M.Sc. (Physical Chemistry)	Department of Chemistry, University of Burdwan, West Bengal, India	1998-2000	78.12% (University Rank : 2 <sup>nd</sup> position)
B.Sc. (Physical Chemistry)	Department of Chemistry, Bankura Christian College, University of Burdwan, West Bengal, India	1995-1998	65.62% (Gold medal: Bankura Christian College)

## **Professional Recognition, awards, fellowships received**

1. 2007-2008: **Alexander Von Humboldt Fellow**: Geothe University, Frankfurt am Main Germany
2. 2003-2005: **Senior Research Fellowship** from Council of Scientific Research, CSIR, India.
3. 2001-2003: Junior Research Fellowship from Council of Scientific Research, CSIR, India.
4. 2001 & 2002: Qualified all India **Nation eligibility Test** India (CSIR)
5. 2001: Qualified all India **Graduate Aptitude Test for Engineering** India (GATE).
6. 1998: **Gold Medal** award for the best student in Chemistry (Bankura Christian College)

## Current research Funding

“DNA aptamer conjugated gold nanoparticles for targeting cancer cells”: Department of Science and Technology (DST): Rs 23,00,000/-

## LIST OF SIGNIFICANT PUBLICATIONS

### ❖ In referred international and national journal

1. **Nandi C. K.**, Hayden M., and Yang H. (2010): Cation selective conformational transition in thrombin binding aptamer: A Förster Resonance Energy Transfer approach (manuscript under preparation).
2. **Nandi C. K.**, Barth H-D., and Brutschy B. (2010): Liquid bead laser desorption combined with supersonic jet expansion: A new technique to study molecule in gas phase (manuscript under preparation).
3. Nandi, C. K., Chakraborty, A. (2011): “Extensive vibronic mode mixing in acenaphthene molecule” (manuscript under preparation)
4. Nandi, C. K., Chakraborty, A. (2011): “Vibrational energy transfer in benzoic acid 3-fluorobenzoic acid mixed dimer” (manuscript under preparation)
5. **Nandi C. K.**, Parui P. P., Schmidt T. L., Heckel, A. and Brutschy B., (2008): Binding of hairpin polyamides to DNA studied by fluorescence correlation spectroscopy for DNA nanoarchitectures. *Anal. Bioanal. Chem.* 390, 1595-1603.
6. **Nandi C. K.**, Parui P. P., Brutschy, B., Scheffer U., and Göbel M. (2008): Fluorescence Correlation Spectroscopy at single molecule level on the Tat-TAR complex and its inhibitors. *Biopolymers* 89, 17-25
7. Schmidt T. L., **Nandi C. K.**, Rasched G., Parui P. P., Brutschy B., Famulok M., and Heckel A. (2007): Polyamide struts for DNA architectures. *Angew. Chem. Int. Ed.* 46, 4382-4384.
8. **Nandi C. K.**, and Chakraborty T. (2005): Conformational effects and level mixing in a doubly hydrogen-bonded 1:1 dimer of acetic acid and 3-fluorobenzoic acid. *J. Indian Inst. Sci.* 85, 367-379.
9. **Nandi C. K.**, Samanta, A. K., and Chakraborty T. (2005): Identification of isomeric dimers of *o*-fluorobenzoic acid using laser-induced fluorescence spectroscopy. *Chem. Phys. Lett.* 416, 261-267
10. **Nandi C. K.**, Hazra, M. K., and Chakraborty T. (2005): Vibrational coupling in carboxylic acid dimers. *J. Chem. Phys.* 123, 124310-1 - 124310-7.
11. Chervenkov S., Wang, P.Q., Braun J. E., Georgiev S., Neusser H. J., **Nandi C. K.**, and Chakraborty T. (2005): High-resolution Ultraviolet Spectroscopy of p-fluorostyrene water: evidence for a  $\sigma$ -type hydrogen-bonded dimer. *J. Chem. Phys.* 122, 244312-1 – 244312-7.

12. Pradhan B., Singh B. P., **Nandi C. K.**, Chakraborty T., and Kundu T. (2005): Origin of methyl torsional barrier in 1-Methyl 2-(1H)-Pyridone. *J. Chem. Phys.* 122, 204323-1 - 204323-9.
13. **Nandi C. K.**, Hazra M. K., and Chakraborty T. (2004): Hydrogen bond mediated rotor-ring coupling in acetic acid-benzoic acid mixed dimer. *J. Chem. Phys.* 121, 7562-7564.
14. **Nandi C. K.**, Hazra M. K., and Chakraborty T. (2004): Conformational effects on vibronic spectra and excited state dynamics of 3- fluorobenzoic acid dimer. *J. Chem. Phys.* 121, 5261-5271.
15. **Nandi C. K.**, and Chakraborty T. (2004): Hydrogen bond-induced vibronic mode mixing in benzoic acid dimer: A laser- induced fluorescence study. *J. Chem. Phys.* 120, 8521-8527.
16. Das A., **Nandi C. K.**, and Chakraborty T. (2003): Structure and electronic spectroscopy of naphthalene-acenaphthene van der Waals dimer: Hole burning, dispersed fluorescence, and quantum chemistry calculation. *J. Chem. Phys.* 118, 9589-9595.
17. Das A., Mahato K. K., **Nandi C. K.**, Chakraborty T., Gadre S. R., and Gokhale N. A. (2002): Exciplex emission from the mixed dimer of naphthalene and 2-cyanonaphthalene in a supersonic jet. *Phys.Chem.Chem.Phys.* 4, 2162-2168.

#### ❖ **CONFERNCES AND SYMPOSIA**

1. **Nandi, C. K (2011):** “Cation selective conformation in theombin binding aptamer”. **8<sup>th</sup> spectroscopy and Dynamics of molecules and clusters, 2011” conference.** Uttarakhand, India February 18<sup>th</sup> -20<sup>th</sup> 2011.
2. Chakraborty T., and **Nandi, C. K.** (2004): “Hydrogen bond mediated vibronic mode mixing and electronic energy transfer in benzoic acid dimmers”. **59<sup>th</sup> Ohio State University International Symposium on Molecular spectroscopy 2004**, Ohio State University, Columbus, USA. June 21-24. p39 (WG 11). Identifier: <http://hdl.handle.net/1811/21503>.
3. **Nandi C. K.**, and Chakraborty T. (2004): “Hydrogen bond induced vibronic mode mixing in benzoic acid dimer”. **Trombay Symposium on Radiation and photochemistry (TSRP-2004)**, Bhaba Atomic Research Centre, Mumbai, India, February 7–9. p 187
4. **Nandi C. K.**, and Chakraborty T. (2003): “Vibronic mode mixing in hydrogen-bonded dimers of benzoic acid and substituted benzoic acid: Laser-induced fluorescence study in supersonic jet”. **National Symposium on Radiation and Photochemistry (NSRP-2003)**, Indian Institute of Technology, Kanpur, India. March 3-5. p 38
5. **Nandi C. K.**, and Chakraborty T. (2002): “Vibronic mode mixing in hydrogen-bonded dimers of benzoic acid : Laser-induced fluorescence study in supersonic jet”. **International Symposium on Spectroscopy Structure and Dynamic.** Indian Association for the Cultivation of Science, Kolkata, India, December 12-13. p 64.

6. **Nandi C. K.**, Berth, H. –D., Brutschy, B. (2008): “Fluorescence Correlation Spectroscopy at single molecule level on the Tat-TAR complex and it’s inhibitors”. *SFB-579 RNA-Ligand interaction*, J. W. Goethe University, Frankfurt, Germany, March 12-14. p 61.
7. **Nandi C. K.**, Brutschy, B. (2007): “Fluorescence Correlation Spectroscopy at single molecule level on the Tat-TAR complex and it’s inhibitors”. *International symposium on SFB-579 RNA-Ligand interaction*, J. W. Goethe University, Frankfurt, Germany, September 27-29. p 55.
8. **Nandi C. K.**, and Brutschy, B. (2007): “Spectroscopic investigation on the binding of small biomolecular clusters”. *Network meeting, Alexander Von Humboldt Foundation*, Giessen, Germany, November 27-29. p 75.
9. **Nandi C. K.**, and Chakraborty, T. (2005): “Hydrogen bond mediated intramolecular vibrational energy redistribution and intermolecular electronic energy transfer in carboxylic acid dimers”. *7<sup>th</sup> CRSI National Symposium in Chemistry (CRSI 2005)*, Indian Association for the Cultivation of Science, Kolkata, India, February 4-6. p 217

#### Invited Talks

1. 8<sup>th</sup> spectroscopy and Dynamics of molecules and clusters, 2011” conference. Uttarakhand, India February 18<sup>th</sup> -20<sup>th</sup> 2011.
2. Indian Institute of Science and Educational Research Kolkata, India on 18.06.09
3. Department of Chemistry, Indian Institute of Technology Roorkee, India, on 10.07.09
4. Department of Chemistry, Indian Institute of Technology Kharagpur, India, on 06.11.08
5. Indian Institute of Science and Educational Research Mohali, India on 10.11.08
6. Department of Chemistry, Indian Institute of Technology Delhi, India on 11.11.08
7. Department of Physical Chemistry, Indian Association for the cultivation of science, India, on 17.11.08.
8. Department of Chemistry, Indian Institute of Technology Chennai, India on 18.11.08.
9. Department of Chemistry, Central University of Hyderabad: 26.11.08.
10. Network meeting, Alexander Von Humboldt Foundation, Giessen, Germany, November 27- 29<sup>th</sup>, 2007.
11. Johann Wolfgang Goethe Institute winter seminar 2008, Kleinwalsertal, Austria, March 10-14<sup>th</sup>, 2008

#### Peer Reviewed

1. Title: “Extracting rate coefficients from single-molecule photon trajectories and FRET efficiency histograms for a fast-folding protein”. The Journal of Physical Chemistry Manuscript ID: JP -2010-009669.R1, 2010

2. Title: Action of the Chaperonin GroEL/ES on a Non-Native Substrate Observed with Single-Molecule FRET. Journal of Molecular Biology (Manuscript ID: JMB-D-10-00351), 2010

## Collaborators

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**2. Prof. Philip Tinnefeld**

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