

Curriculum Vitae

Personal information:

Name: Dr. Shiladitya Banerjee

Date of birth: March 30, 1986

Place of birth: Kolkata

Nationality: Indian

Sex: Male

Address: Scuola Normale Superiore di Pisa

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Present Academic status:

Ph.D. (Doctor rerum naturalium) in Theoretical Chemistry.

Academic background:

2002: Passed All India Secondary School Examination from Birla High School, Kolkata with 85.4%.

2004: Passed All India Senior School Certificate Examination From Birla High School, Kolkata with 91.2%.

2007: Bachelor of Science in Chemistry from University of Calcutta (Presidency College) with 72.4%.

2009: Master of Science in Chemistry from Indian Institute of Technology, Bombay with a C.P.I. of 9.33/10

2014: Ph.D. in Theoretical Chemistry from The University of Potsdam, Germany with *Magna cum laude*.

Research Experience:

Master Thesis:

Title: *“The study of vibrational cross-section in electron-molecule scattering using time-dependent wave-packet approach”*.

Institute: Indian Institute of Technology, Bombay.

Supervisor: Prof. Dr. Manoj K. Mishra

Duration: 01.05.2008 – 30.04.2009

Internship:

Title: *“The effects of electron correlation on coupled electronic and nuclear fluxes”*.

Institute: Free University, Berlin

Supervisors: Prof. Dr. Jörn Manz and Prof. Dr. Beate Paulus

Duration: 01.09.2009 – 31.12.2009

Ph.D. Thesis:

Title: *“Elucidation of optical properties of β -carotene and diamondoids through vibrationally resolved spectroscopy: A time-dependent perspective”*.

Institute: University of Potsdam, Germany

Supervisor: Prof. Dr. Peter Saalfrank

Duration: 15.07.2010 – 31.05.2014

Post-Doctoral Research:

Title: “*Progettazione di materiali nano-eterogenei per la conversione di energia solare*”, “*Spettroscopia e Tecniche computazionali per la ricerca Astrofisica, atmosferica e Radioastronomica*”.

Institute: Council of National Research (CNR), Pisa.

Supervisors: Prof. Vincenzo Barone, Dr. Julien

Bloino

Duration: 01.02.2015 – 31.1.2017 (currently pursuing)

List of Publications:

1. *Probing electron correlation in molecules via quantum fluxes.*

Authors: A.Kenfack, S. Banerjee and B. Paulus

Phys. Rev. A. **85**, 032501 (2012).

2. *Resonance Raman and vibronic absorption spectra with Duschinsky rotation from a time-dependent perspective: Application to β -carotene.*

Authors: S. Banerjee, D. Kröner and P. Saalfrank

J. Chem. Phys. **137**, 22A534 (2012).

3. *Vibrationally resolved absorption, emission and resonance Raman spectra of diamondoids: a study based on time-dependent correlation functions.*

Authors: S. Banerjee and P. Saalfrank

Phys. Chem. Chem. Phys. **16(1)**, 144 (2014).

4. *Carotenoids as a Shortcut for Chlorophyll II Soret-to-Q band energy flow.*

Authors: J. P. Götze, D. Kröner, S. Banerjee, B. Karasulu and W. Thiel

Chem. Phys. Chem, DOI: 10.1002/cphc.201402233 (2014).

5. *Vibrationally resolved absorption, emission and resonance Raman spectra of electronically modified and functionalized diamondoids from time-dependent correlation functions.*

Authors: S. Banerjee, T. Stueker and P. Saalfrank

Phys. Chem. Chem. Phys. **17**, 19656 (2015).

6. *Temperature dependence of radiative and non-radiative rates from time-dependent correlation function methods.*

Authors: S. Banerjee, A. Baiardi, J. Bloino and V. Barone

J. Chem. Theor. Comput. **12(2)**, 774 (2016).

7. *Vibronic effects on rates of excitation energy transfer and their temperature dependence.*

Authors: S. Banerjee, A. Baiardi, J. Bloino and V. Barone

J. Chem. Theor. Comput. **12(5)**, 2357 (2016).

Additional Research Activities:

1. Collaborated in the Bachelor Thesis entitled *Elektronische und Spektroskopische Eigenschaften von Diamantoiden* by Mr. Tony Stueker in the University of Potsdam (2013).
2. Collaborated in the Master Thesis of Mr. Robert Scholz in the University of Potsdam (2014).

Conferences:

1 *Solving an anomaly in the resonance Raman spectrum of β -carotene with the Duschinsky effect.*

23rd Lecture Conference on photochemistry.

Potsdam, Golm (2012).

2. *Attended Winter modeling 2015 - Complex Systems: Accuracy and Interpretation.*

Scuola Normale Superiore, Pisa (2015).

Teaching Assistance:

“*Quantumdynamik in der Chemie*”

Summer Semester, 2012.

University of Potsdam.

Computational Skills:

1. Programming languages: FORTRAN
2. Quantum chemical packages: GAUSSIAN, ORCA, VIBES, MOLPRO, TURBOMOLE, GAMESS and FCClasses.
3. Other software: LaTeX, Molden and Xmgrace.

Declaration:

I hereby declare that the information provided in the CV is true to the best of my knowledge.

Shiladitya Banerjee

November 09, 2016

Pisa, Italy.