CURRICULUM VITAE

- Name: Dr. Kaushik Maji
- Designation: Assistant Professor
- Academic Background:

  B.Sc. (CU)

  M.Sc. (IIT, Kanpur)

  Ph.D. (JU) (Department of Physical Chemistry, IACS, Kolkata)

R. A. Welch Postdoctoral Research Fellow (April, 2009 - February, 2011) with Prof. Donald J. Kouri at the Department of Physics, University of Houston

Postdoctoral Research Fellow (March, 2011 – February, 2012) with Prof. S. S. Iyengar, Department of Chemistry, Indiana University, Bloomington.

- Contact No. 9433414783

- Email: pckmiacs@gmail.com

- Date of joining in WBES: March 07, 2006

- Research Experience: 12 years

- Teaching Experience: 12 years Undergraduate (Hons/Pass) and 5 years Postgraduate

- Name of the colleges served till date:

  Bidhannagar College

- Area of Specialization: Theoretical Chemistry
- Research Interests:

  Quantum Dynamics, Simulation(Quantum and Classical), Quantum Scattering Acoustic Wave Scattering, Supersymmetric Quantum Mechanics, Parallel Computing. Bohmian Mechanics. Ab-initio Molecular Dynamics.

- Project:

UGC minor project at the Department of Chemistry, Bidhannagar College.
Title: A multi-configurational time-dependent Hartree method for probing the relaxation and energy transfer dynamics in H_2O. (Year 2007-2009).

- Details of Publication:

1. On the eigenvalues and dynamics of non-Hermitian PT symmetric Hamiltonians in finite basis spaces; C. K. Mondal, KaushikMaji and S. P. Bhattacharyya, Phys. Lett. A. **291**, 293 (2001).

2. A Simple Approach to Computing Tunneling Time: Test Cases; C. K..Mondal, Kaushik. Maji and S. P. Bhattacharyya, Int. J. Quantum. Chem.**94**, 57 (2003).

3. A time-dependent Fourier Grid Hamiltonian based formulation of time-dependent multiconfigurationHartree Method; Kaushik Maji and S. P. Bhattacharyya, Pramana- J. Phys. **62**, L983 (2004).

4. Photoionization dynamics from Cl_2^-: a one electron model; C. K. Mondal, K. K. Das, Kaushik Maji, and S. P. Bhattacharyya, Chem. Phys. Lett. **394**, 215 (2004).

5. The photodetachment dynamics of Cl_2^- in mono and bichromaticfields : Analysis based on a multistate mean field approach; Kaushik Maji and S. P. Bhattacharyya, Chem. Phys. Lett. **403**, 347 (2005).

6. Quantum dynamics of a system of coupled non-linear oscillators: spectral and information based analysis; Kaushik Maji and S. P. Bhattacharyya, Int. J. Quantum. Chem. **104**, 894(2005).

7. Quantum dynamics of relaxation of a pair of coupled Morse oscillators: effect of Mass and Electrical asymmetries; Kaushik Maji and S. P. Bhattacharyya, Int. J. Quantum. Chem.**105**, 101 (2005).

8. Tunneling dynamics in a perturbed triple-well potential:Enhancement versus quenching of tunneling; Kaushik Maji and S. P. Bhattacharyya, Chem. Phys. Lett. **424**, 218 (2006).

9. Tunneling time and Tunneling Dynamics; Kaushik Maji, C. K. Mondal and S. P. Bhattacharyya, Int. Rev. Phys. Chem. **26**, Issue 4, 647 (2007).

10. On optimal designing of low frequency polychromatic fields for facile photo-dissociation of model diatomic molecules ; S. Ghosh, Kaushik Maji, R. Sharma and S. P. Bhattacharyya, J. Chem. Sci. **121**,Issue 5, 757 (2009).

11. New Generalization of Supersymmetric Quantum Mechanics to Arbitrary Dimensionality or Number of Distinguishable Particles; D. J. Kouri, Kaushik Maji**,** T. Markovich and E. R. Bittner, J. Phys. Chem. A. **114,** Isuue 32,8202 (2010).

12. Quantum Mechanical Generalized Phase-Shift Approach to Atom-Surface Scattering: A Feshbach Projection Approach to Dealing with Closed Channel Effects; Kaushik Maji and D. J. Kouri, J. Chem. Phys. **134**, 124103 (2011)

13. New Generalized Phase-Shift Approach to Solve the Helmholtz Acoustic Wave equation for Modeling**;** Kaushik Maji, F. Gao, S. K. Abeykoon and D. J. Kouri, Geophysics.**77**, 1-17, No. 1 (January-February) (2012).

14. Hermite Distributed approximating functional-based formulation of Multi-configuration time-dependent Hartree method: A Case study of Quantum tunneling in a coupled double-well system; Kaushik Maji, Pramana- Journal of Physics.**87**, 34, No. 2 (2016).

- Lecture Notes/Useful Links:
  1. Introduction to Representation Theory:Introduction_to_Representation_Theory.pdf
  2. QM Lecture Note: Introductory Level:QM_Lecture_Notes.pdf
  3. Lecture notes on Angular Momentum Operators:.lecnotes_on_Angular_Momentum.pdf
  4. Degenerate Perturbation Theory:degenerate Pertubation theory.pdf
  5. Time dependent Perturbation Theory: Time Dependent Perturbation_Theory.pdf