Riccardo Conte

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WORK EXPERIENCE

10/2019 – 07/2021
RESEARCHER (RTD-A) IN THEORETICAL PHYSICAL CHEMISTRY (CHIM/02) – DIPARTIMENTO DI CHIMICA, UNIVERSITÀ DEGLI STUDI DI MILANO

Teaching: "Metodi Chimici per le Biotecnologie"; "Rational design and structural characterization of bioactive molecules"; "Structural Chemistry".
Research Area: Theoretical and computational chemistry.
Research interests in molecular spectroscopy, kinetics, and reactivity through theoretical development of semiclassical, quantum and quasi-classical molecular dynamics and potential energy surface fitting techniques.

Milano, Italy

08/2021 – CURRENT
ASSISTANT PROFESSOR (RTD-B) IN THEORETICAL PHYSICAL CHEMISTRY (CHIM/02) – DIPARTIMENTO DI CHIMICA, UNIVERSITÀ DEGLI STUDI DI MILANO

Teaching: "Metodi Chimici per le Biotecnologie"; "Rational design and structural characterization of bioactive molecules"; "Structural Chemistry".
Research Area: Theoretical and computational chemistry.
Research interests in molecular spectroscopy, kinetics, and reactivity through theoretical development of semiclassical, quantum and quasi-classical molecular dynamics and potential energy surface fitting techniques.

EDUCATION AND TRAINING

2015 – 2019 – Milano, Italy
SENIOR POSTDOCTORAL FELLOW – Dipartimento di Chimica, Università degli Studi di Milano

ERC Project "SEMICOMPLEX" - Prof. Michele Ceotto's group.
Development of semiclassical molecular dynamics for molecular spectroscopy

2013 – 2015 – Atlanta, Georgia, United States
POSTDOCTORAL FELLOW – Department of Chemistry, Emory University

DOE project - Prof. Joel M. Bowman's group.
Development of quasi-classical trajectory dynamics and potential energy surfaces for molecular energy transfer and reactivity.

2012 – 2012
RESEARCH COLLABORATOR OF PROF. MICHELE CEOTTO

Development of semiclassical molecular dynamics for spectroscopy

01/2009 – 12/2011 – Rehovoth, Israel
POSTDOCTORAL FELLOW – Faculty of Chemistry, Weizmann Institute of Science

Group of Prof. Eli Pollak.
Development of semiclassical molecular dynamics for dissipative systems.

2004 – 2008 – Pisa, Italy
PHD IN CHEMISTRY – Scuola Normale Superiore di Pisa

PhD thesis title: A dynamical approach to the calculation of thermal reaction rate constants. Marks: 70/70 cum laude

2003 – Pisa, Italy
2ND LEVEL MASTER (DIPLOMA) IN CHEMISTRY – Scuola Normale Superiore di Pisa

Dissertation title: Development of the Bachelet-Bassani model by means of the forced oscillator method. Marks: 70/70 cum laude.

2003 – Pisa, Italy
MSC (LAUREA) IN CHEMISTRY – Università di Pisa

Thesis title: Application of the force oscillator method to the study of atomic cluster properties. Marks: 110/110 cum laude.

LANGUAGE SKILLS

Mother tongue(s): ITALIAN. OVERALL C2 LEVEL IN ENGLISH CERTIFIED BY CAMBRIDGE ASSESSMENT ENGLISH

Other language(s):

	UNDERSTANDING		SPEAKING		WRITING
	Listening	Reading	Spoken production	Spoken interaction	
ENGLISH	C1	C2	C2	C1	C2
FRENCH	B1	B1	B1	B1	B1
HEBREW	B1	B1	B1	B1	B1

Levels: A1 and A2: Basic user; B1 and B2: Independent user; C1 and C2: Proficient user

SCIENTIFIC HABILITATION

Scientific Habilitation

Italian national habilitation to associate professor of physical chemistry (Settore Concorsuale 03/A2).
Italian national habilitation to associate professor of theoretical physics of the matter (Settore Concorsuale 02/B2).

AWARDS

Awards

2017 and 2018: Marie Curie Seal of Excellence
2010: Visiting Scholar at Beijing Normal University, China.
2007: Fellowship at IPCF-CNR, Pisa, Italy.
1998-2003: Fellowship at Scuola Normale Superiore di Pisa, Italy.

REPRESENTATIVE PUBLICATIONS

Representative publications

- A. Rognoni, **R. Conte**, M. Ceotto How many water molecules are needed to solvate one? *Chem. Sci.* **12**, 2060 (2021).
- **R.Conte**, C. Qu, P.L. Houston, J.M. Bowman Efficient Generation of Permutationally Invariant Potential Energy Surfaces for Large Molecules. *J. Chem. Theory Comput.* **16**, 3264 (2020).
- **R. Conte**, L. Parma, C. Aieta, A. Rognoni, M. Ceotto Improved semiclassical dynamics through adiabatic switching trajectory sampling. *J. Chem. Phys.* **151**, 214107 (2019).
- F. Gabas, G. Di Liberto, **R. Conte**, M. Ceotto Protonated Glycine Supramolecular Systems: The Need for Quantum Dynamics. *Chem. Sci.* **9**, 7894 (2018).
- M. Ceotto, G. Di Liberto, **R. Conte** Semiclassical "Divide-and-Conquer" Method for Spectroscopic Calculations of High Dimensional Molecular Systems *Phys. Rev. Lett.* **119**, 010401 (2017).
- **R. Conte**, C. Qu, J. M. Bowman Permutationally-invariant Fitting of Many-body, Noncovalent Interactions with Application to 3-body CH_4-H_2O-H_2O *J. Chem. Theory Comput.* **11**, 1631 (2015).
- **R. Conte**, P. L. Houston, J. M. Bowman Trajectory Study of Energy Transfer and Unimolecular Dissociation of Highly Excited Allyl with Argon *J. Phys. Chem. A* **118**, 7742 (2014).
- **R. Conte**, A. Aspuru-Guzik, M. Ceotto Reproducing Deep Tunneling Splittings, Resonances, and Quantum Frequencies in Vibrational Spectra From a Handful of Direct *Ab Initio* Semiclassical Trajectories *J. Phys. Chem. Lett.* **4**, 3407 (2013).