

Jimena Díaz Gorfinkiel

EMPLOYMENT HISTORY

Senior Lecturer	10/11 to date
Department of Physics and Astronomy, The Open University	
Lecturer	12/05 to 9/11
Department of Physics and Astronomy, The Open University	
Postdoctoral Research Fellow	1/00-11/05
Department of Physics and Astronomy, University College London	
PhD student	9/96-12/99
Chemistry Department, Universidad Autónoma de Madrid	
Associate lecturer	3/96-9/96
Chemistry Department, Universidad Autónoma de Madrid	

EDUCATION

Ph. D. in Theoretical Chemistry (Cum Laude)	12/99
<i>Theoretical study of non-adiabatic processes in ion-diatomic molecule collisions. The $C^{4+} + H_2$ system.</i>	
Universidad Autónoma de Madrid. Supervisor: Dr. Luis Mendez	
M. Sc. in Theoretical Chemistry (Special Award)	3/96
Universidad Autónoma de Madrid.	
Degree in Chemistry (main field: Quantum Chemistry)	6/94
Universidad Autónoma de Madrid	

FUNDING AWARDED

Parallelisation and porting of UKRMol-in, the electron-molecule scattering inner region R-matrix codes	
Distributed CSE Support (dCSE), NAG	04/11
UK R-matrix Atomic and Molecular Physics HPC Code Development Project (UK-RAMP)	
EP/G055599/1 Principal Investigator	10/09
Electron interactions with small molecular clusters	
EP/E001238/1 Principal Investigator	09/06

OTHER EXPERIENCE

- Member of the ICPEAC General Committee (2007-2011)
 - Chair (October 2011 to date) and Secretary of the IOP Atomic and Molecular Interactions (AMIG) group and member of the CCP2 *Quantum Dynamics in Atomic, Molecular and Optical Physics* committees
 - Referee for the Journal of Physics B, New Journal of Physics, The European Physical Journal D and Physical Review A.
 - Reviewer for EPSRC
 - Departmental Postgraduate tutor (September 2010 to date)
 - External examiner for four PhD vivas
 - Co-organizer of the Atomic and Molecular Interactions Group 2009 Winter meeting (Milton Keynes), the Mathematical and Computational Methods in R-matrix theory workshop (London 2007), the tutorial day at the RADAM conference (Dublin 2007) and the Electron and Positron Induced Chemistry European Winter School on Theoretical Methods (Prague 2005).
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INVITED TALKS

Low energy electron collisions of relevance to biological radiation damage

63rd Gaseous Electronics Conference

Paris, France, October 2010

Low energy electron collisions with small molecular clusters

QuAMP09: International Conference on Quantum, Atomic, Molecular and Plasma Physics

Leeds, UK, September 2009

Electron interactions with small molecular clusters

ESF Conference: Chemical Control with Electrons and Photons

Obergurgl, Austria, November 2008

Electron collisions of relevance to biological processes

QuAMP IV

London, UK, September 2007

Theoretical studies of electron interactions with biologically relevant molecules

ESF Conference: Biomolecules - From Gas Phase Properties to Reactions relevant in Living Cells

Obergurgl, Austria, June 2006

Calculation of excitation and ionization cross sections for electron-molecule collisions at intermediate energies

XXIV ICPEAC: 24 International Conference on Photonic, Electronic, and Atomic Collisions

Rosario, Argentina, July 2005

Ab initio cross sections for electron-molecule collisions at intermediate energies

ECAMP 8: 8th European Conference on Atomic and Molecular Physics

Rennes, France, July 2004

Electron-molecule collisions at intermediate energies: the R-matrix with pseudostates method

EMS 03: 13th International Symposium on Electron-Molecule Collisions and Swarms

Pruhonice, Czech Republic, August 2003

RESEARCH INTERESTS

- Electron-molecule collisions: theoretical description of electronic excitation, ionisation and rotational excitation. Dissociative scattering. Application to radiation damage, astrophysics and plasma technologies.
- Development of discretization techniques to treat nuclear and electronic continua.
- Electron collisions with small molecular clusters. Multiple-scattering. Application to processes of relevance in biological radiation damage.
- Charge exchange in ion-atom and ion-molecule collision: development of semiclassical and fully quantal methods.
- Use of *ab initio* methods for evaluation of potential energy surfaces, non-adiabatic couplings and molecular properties for use in collisions calculations.

TEACHING EXPERIENCE

PhD supervision: One student supervised to completion. Currently supervising one full-time PhD student

The Open University

Course Team Chair, update: *S207 The Physical World*

The Open University

2010 to date

Course Team Chair, presentation: *S207 The Physical World*

The Open University

2007-2010

Course Team Member (presentation): *MST121 Using mathematics* and *MS221 Exploring mathematics*

The Open University	2007-2010
Course Team Member (production): SM358, <i>The Quantum World</i>	
The Open University	2006
Residential School Course Director: SXR207 <i>Physics by Experiment</i>	
The Open University	2008, 2010
Residential School Tutor: SXR103 <i>Practicing Science</i> and SXR207 <i>Physics by Experiment</i>	
The Open University	2006-2009
Lecturer of Atomic and Molecular Physics	
Part-time Evening BSc Physics Degree	
University College London	2003
Tutorials and Problem Solving classes (Mathematics, Classical Mechanics and Electricity and Magnetism) for first year physics students	
University College London	2000-2002
Supervision of a fourth year research project	
University College London	2000
Introduction to experimental Physical Chemistry	
First year of Environmental Science, Physics and Chemistry degrees	
Universidad Autónoma de Madrid.	1994 -1996

TEACHING-RELATED RESEARCH

Embedding mathematical content and figures in electronic assignments	
π cetl supported project	2007-2008