

DMITRI SOKOLOVSKI

CURRICULUM VITAE (short, September 2022)

PERSONAL DETAILS

NATIONALITY: British

WORK ADDRESS: Department of Physical Chemistry, University of Basque Country (Leioa campus), Bilbao, Spain

LANGUAGES: Written/spoken Russian, English, Spanish and German.

EDUCATION AND CAREER SYNOPSIS

EDUCATION (1972 - 1985)

1985 **PhD in Theoretical Physics***
Department of Physics, M.A. Bonch-Bruевич
Electrotechnical University of Communications Leningrad, (former) USSR
* The degree has been officially accepted as equivalent to a western PhD by the Bavarian Ministry for Science and Art, Munich, Germany.

1980 **MSci in Theoretical Physics (Statistical Physics)**
Department of Physics, Leningrad State University
Leningrad, (former) USSR

1972 - 1974 **Grammar School No 38** (specialised in Physics and Mathematics,
Affiliated to the University of Leningrad,
Leningrad, (former) USSR.

WORK EXPERIENCE (1980 to date)

2009 - to date **Ikerbasque Research Professor**
Department of Physical Chemistry|
University of the Basque Country (Leioa campus)
Bilbao, Spain

1995-2011 **Lecturer in Theoretical Physics**
Department of Applied Mathematics and Theoretical Physics
The Queen's University of Belfast
Belfast, Northern Ireland

1994 **Lecturer in Physics** (contract)
Department of Physics
University of Nottingham, Nottingham, UK

1988 - 1994 **Research Associate** in the group of Prof. J.N.L. Connor
Department of Chemistry
University of Manchester
Manchester, U.K.

1988 **Research Associate** in the group of Prof. P. Hänggi
Department of Theoretical Physics
University of Augsburg
Augsburg, Germany

1987 - 1988

Research Associate in the group of Prof. O.K.Andersen
Max-Planck-Institut für Festkörperforschung
Stuttgart, Germany

1982 - 1986

Lecturer in Physics
Department of Physics
M.A.Bonch-Bruevich Electrotechnical University of Communications
Leningrad, USSR

RESEARCH AND PROFESSIONAL RECOGNITION

RESEARCH INTERESTS

Quantum measurements, control and information
Tunnelling and condensed matter theory
Molecular collisions and reaction dynamics theory
Electron-atom collisions

RESEARCH GROUP

Dr. Marisa Pons, *Titular de Universidad*, Dpto. De Fisica Aplicada, UPV-EHU (2011- to date)

Cold atoms in time-dependent traps, quantum statistical effects
Relativistic one-particle physics, wave packet propagation.

Dr. Carlos Echeverria-Arrondo, *Post-doctoral Research Assistant* (2013-2014)

Dr. Sofia Martinez_Garaot, *Post-doctoral Research Assistant* (2018-2019)

Dr. Simone Rusconi, *PhD student* (jointly with BCAM, 2014-2018)

Mr. Xabier Gutiérrez de la Cal, *PhD student* (jointly with Dpto. De Fisica Aplicada, 2020-to date)

Mr. Antòn Uranga, *PhD student* (jointly with BCAM, 2022-to date)

PROFESSIONAL RECOGNITION (1995-to date)

more than 50 invited lectures ,

more than 130 publications in refereed journals,

7 chapters in books,

6 courses developed and delivered at the undergraduate and graduate levels,

RECENT PUBLICATIONS (2018-to date)

[1] D. Sokolovski, *Path probabilities for consecutive quantum measurements and certain "quantum paradoxes"*, Ann. Phys., 397, 474 (2018).

[2] D. Sokolovski and E. Akhmatkaya, *An even simpler understanding of quantum weak values*, Ann. Phys., 388, 382 (2018).

[3] D. Sokolovski and E. Akhmatkaya, *No time at the end of the tunnel*, Comm. Phys.-Nature, 1, 47 (2018).

- [4] D.Sokolovski and S. Gurvitz, *Paths, negative "probabilities", and the Leggett-Garg inequalities*, Sci.Rep.(Nature), 21, 123031 (2019).
- [5] D. Sokolovski, *A minimalist's view of quantum mechanics*, Euro. Phys. Lett., 128, 50001 (2019); quant-ph 2005.12674.
- [6] D.Sokolovski, S. Brouard, and D. Alonso, *From quantum to classical by numbers*, New.J.Phys., 21, 123031 (2019).
- [7] S. Martinez-Garaot, M. Pons, and D. Sokolovski, *From quantum probabilities to quantum amplitudes*, Entropy, 22, 1389 (2020).
- [8] A. Matzkin and D. Sokolovski, *Wigner-friend scenarios with noninvasive weak measurement*, Phys. Rev. A 102, 062204 (2020).
- [9] A. Matzkin and D. Sokolovski, Euro. Phys. Lett., *Wigner's friend, Feynman's paths and material records*, 131, 40001 (2020)
- [10] D.Sokolovski, *Quantum measurements with, and yet without an observer*, Entropy, 22, 1185 (2020).
- [11] X. Gutiérrez de la Cal, M. Alkhateeb, M. Pons, A. Matzkin, and D. Sokolovski, *Klein paradox for bosons, wave packets and negative tunnelling times*, Sci. Rep. (Nature), 10, 19225 (2020).
- [12] D. Sokolovski, X. Gutiérrez de la Cal, and M. Pons, *Collective Tunnelling of Strongly Interacting Cold Atoms in a Double-Well Potential*, Annalen der Physik, 532, 1900462, (2020).
- [13] S. Rusconi, D. Dutykh, A. Zarnescu, D. Sokolovski, and E. Akhmatskaya, *An optimal scaling to computationally tractable dimensionless models: Study of latex particles morphology formation*, Comp. Phys. Comm., 247, 106944 (2020).
- [14] D. Sokolovski and E. Akhmatskaya, *Tunnelling times, Larmor clock, and the elephant in the room*, Sci. Rep. (Nature), 11, 10040 (2021).
- [15] M. Alkhateeb, X. Gutiérrez de la Cal, M. Pons, D. Sokolovski, and A. Matzkin, *Relativistic time-dependent quantum dynamics across supercritical barriers for Klein- Gordon and Dirac particles*, Phys.Rev.A., 103, 042203 (2021).
- [16] D. Sokolovski and A. Matzkin, *Wigner's friend scenarios and internal consistency of the standard quantum mechanics*, Entropy 23 (9), 1186 (2021).
- [17] D. Sokolovski and E. Akhmantskaya, *Wigner's friends, tunnelling times and Feynman's "only mystery of quantum mechanics"*, Euro. Phys. Lett., 136, 2001 (2021).
- [18] D. Sokolovski and E. Akhmantskaya, *Numerical Regge pole analysis of resonance structures in state-to-state reactive differential cross sections*, Comp. Phys. Comm., 277, 108370 (2022).
- [19] X. Gutiérrez de la Cal, M. Pons and D. Sokolovski, *Speed-up and slow-down in quantum scattering: wave packets in an Eckart potential*, Sci.Rep. (Nature), 12, 3842 (2022)
- [20] D.Sokolovski, *Unitary Evolution and Elements of Reality in Consecutive Quantum Measurements*, Entropy, 24, 877 (2022). <https://doi.org/10.3390/e24070877>