

CURRICULUM VITAE

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Research Interests

After an initial training and PhD in Chemical Physics, I joined the *Laboratoire de Biochimie Théorique* (LBT) in october 2006. The LBT is a CNRS unit where the structure, mechanics, dynamics and interactions of biological macromolecules are studied by developing and applying algorithms for molecular simulations. Here, I use modeling tools to investigate proteins biological function. Proteins are a central feature of the cellular machinery and constitute an increasingly important target for drug design. My goal is to develop new simulation approaches that can help build a bridge between the available structural data for proteins and their activity in the cell. My projects are mainly focused on coarse-grain models for investigating protein mechanics (which is tightly related to their biological activity) and protein interactions within large biomolecular assemblies or with solid surfaces. These coarse-grain simulations are usually coupled with more classic all-atom Molecular Dynamics simulations, bioinformatics or experimental approaches in order to obtain complementary information regarding protein function on the atomic level.

Research positions

Oct. 2021 Promoted to Research Director (DR2 CNRS, CID 51) Laboratoire de Biochimie Théorique, Paris

Sept. 2020-July 2021 Guest researcher in the research group of Pr. Mroginiski, TU Berlin, Germany

Oct. 2006-Sept. 2021 CNRS Research scientist (section13) Laboratoire de Biochimie Théorique, Paris

Education

Dec. 2011 **Habilitation à Diriger les Recherches (HDR)** U. Paris 7-Denis Diderot, France

Sept. 2000-Oct.2003 **Joint french-german PhD in Physical Chemistry**

Fluides Nanoconfinés dans des Systèmes de Basse Symétrie : Simulations et Théorie

supervised by Pr. Alain Fuchs (Laboratoire de Chimie Physique, CNRS UMR8000, Orsay)

and Pr. Martin Schoen (Stranski Lab. für Physikalische und Theoretische Chemie, TU Berlin)

Current Institutional responsibilities

2021-2025 Member of the **Comité National pour la Recherche Scientifique** (CoNRS),

Section 13, Physical-Chemistry, (http://www.cnrs.fr/comitenational/english/UK_acc.htm)

CID 51, Modeling for life sciences

Selection of recent significant publications

- *It takes tau to tango : Investigating the fuzzy interaction between the R2-repeat domain and tubulin C-terminal tails*
J. Marien, C. Prévost, and S Sacquin-Mora, *BioRxiv*, doi : <https://doi.org/10.1101/2023.02.09.527845> (2023)
- *Modeling the dynamics of protein-protein interfaces, how and why?*
E. Karaca, C. Prévost and S. Sacquin-Mora, *Molecules*, **27**, 1841 (2022)
- *When order meets disorder : Modeling and function of the protein interface in fuzzy complexes*
S. Sacquin-Mora and C. Prévost, *Biomolecules*, **11**, 1529 (2021)
- *Moving pictures : Reassessing docking experiments with a dynamic view of protein interfaces*
C. Prévost and S. Sacquin-Mora, *Proteins*, **89**, 1315-1323 (2021)
- *Protein interaction energy landscapes are shaped by functional and also non-functional partners*
H. Schweke, M.H. Muchielli, W. Bei, S. Sacquin-Mora and A. Lopes, *J. Mol. Biol.*, **432**, 1183 (2020)

Public outreach

2021-2022 *Protéines, un voyage au centre de la cellule, Protéines 2, le carnaval du vivant*

Ed. EDP Sciences, two popularization books about proteins (in french).

Since 2019 *Top of the Prots* : <https://topoftheprots.com>. A popularization blog about proteins published as a book (in french) by EDP Sciences in November 2021.