

Ana-Nicoleta Bondar

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PROFESSIONAL EXPERIENCE AND RELEVANT PAST POSITIONS

September 1998-November 1999
Referent
University of Bucharest, Bucharest, Romania

January 2000-June 2000
Research Assistant
Interdisciplinary Center for Scientific Computing (IWR), University of Heidelberg, Heidelberg, Germany

July 2000-June 2003
Doctoral Candidate/ PhD student
German Cancer Research Center Heidelberg, DKFZ, Heidelberg, Germany

July 2003-September 2004
Scientific Employee and Graduate Student (Doctoral research)
Interdisciplinary Center for Scientific Computing (IWR), University of Heidelberg, Heidelberg, Germany

October 2004-October 2006
Scientific Employee and Post-Doctoral Fellow
Interdisciplinary Center for Scientific Computing (IWR), University of Heidelberg, Heidelberg, Germany

November 2006-September 2010
Assistant Project Scientist
University of California, Irvine, Department of Physiology and Biophysics, Irvine, CA United States

October 2010-November 2014
Junior Professor W1
Freie Universität Berlin, Department of Physics, Berlin, Germany

December 2014-November 2019
Dahlem International Network Professorship, W2
Freie Universität Berlin, Department of Physics, Berlin, Germany

December 2019-March 2021
Guest Professor
Freie Universität Berlin, Department of Physics, Berlin, Germany

April 2021-
Associated member, Forschungszetrum Jülich, Institute for Computational Biomedicine

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April 2021- Professor Univ. Dr., University of Bucharest, Faculty of Physics

October 2025- Professor Univ. Dr., University of Bucharest, Faculty for Interdisciplinary Sciences, affiliated with the Faculty of Physics

October 2025- Team Lead, Petru Poni Institute of Macromolecular Chemistry, Romanian Academy, BioMAT4CAST ERA Chair project.

EDUCATION AND DEGREES

2020 **Habilitation** in Theoretical Physics
Freie Universität Berlin, Department of Physics, Berlin, Germany

2004 **Dr. rer. Nat. Magna cum Laude**
Ruprecht Karl University Heidelberg, Heidelberg, Germany

1997-1999 **Diploma of Advanced Studies**
'Alexandru Ioan Cuza' University of Iasi, Faculty of Physics, Iasi, Romania

1992-1997 **Diploma in Physics**
'Alexandru Ioan Cuza' University of Iasi, Faculty of Physics, Iasi, Romania

1988-1992 **Diploma of School-Leaving Certificate (Bacalaureat)**
'Petru Rares' Theoretical High School of Piatra Neamt, Piatra Neamt, Romania

RESEARCH PROJECTS AS PRINCIPAL INVESTIGATOR

2025-2028 PI within the Doctoral Network WATER European Commission/Marie Sklodowska Curie Actions,

2024-2025 Co-PI for UniBuc, NIGMS 1R01GM151326

2019-2022 PI within the Innovative Training Network (ITN) PROTON – proton and proton-coupled transport', European Commission/Marie Sklodowska Curie Actions,

2016-2019 PI within the project ‚Photoswitchable lipids for optical control of mechanosensitive ion channels', German Science Research Foundation (DFG) Priority Program SPP1926 Next Generation Optogenetics

2013-2020 PI of Project C4 ‚Coupling between protein, water, and protonation dynamics in channelrhodopsin and photosystem II', German Science Research Foundation Collaborative Research Project SFB1078, Protonation Dynamics in Protein Function

Co-organizer of scientific meetings

Co-organizer and Host, Training event of the Marie Slodowska Curie Doctoral Network WATER, University of Bucharest, Sinaia, October 5-9, 2026
Co-organizer, Biophysical Society Thematic Meeting Biophysics of Membrane Reactions in the Brain, University of Bucharest, May 11-14, 2026
Co-Organizer, Biophysical Society Conference Proton Reactions, Granlibakken, Tahoe, USA, August 20-24, 2023
Co-organizer of scientific workshop supported by the Centre Europeen de Calcul Atomique et Moleculaire (CECAM) January 10-12 2018, Lugano, Switzerland
Co-organizer of CECAM workshop 'Frontiers in computational biophysics: understanding conformational dynamics of complex lipid mixtures relevant to biology'; September 24-27, Lausanne, Switzerland
Co-organizer of CECAM workshop 'Coupling between protein, water, and lipid dynamics in complex

biological systems'; September 3-9, 2010, Lausanne, Switzerland, 'Membrane protein Assembly: Theory and Experiments'.
Co-organizer of the kick-off meeting of the Innovative Training Network PROTON, November 16-18, 2020, online
Co-organiser of symposium 'Frontiers in Membrane and Membrane Protein Biophysics: experiments and theory', University of California, Irvine, August 19-20, 2010

Editorial Boards

Co-executive editor, Biochimica Biophysica Acta – Biomembranes, since 2025
Editorial Board Member, Biophysical Journal
Guest Editor, Chemical Reviews Thematic Issue on Biomembrane Structure, Dynamics and Reactions. 2019
Editorial Board Member, Biochimica Biophysica Acta – Biomembranes, since 2020
Initiated Up-and-Coming Scientist section of the Journal of Membrane Biology, 2019
Section Editor, Biophysics section, Journal of Membrane Biology, 2018 - 2025
Associate Editor, Biophysics section, Journal of Membrane Biology 2016 - 2018

Fellowships/ Research stays

International Researcher at the Future Value Creation Center (FV-CRC), Graduate School of Informatics, Nagoya University, Nagoya, Japan, 03.03-24.03.2023

Research visit at the University of Tokyo, Institute for Solid State Physics, Functional Materials Group,supported by the Alexander von Humboldt CONNECT Follow-up Program for Participants of Frontiers, of Research Symposia, Kashiwa, Japan, 25.10-07.11.2022

Tokyo University, Institute for Solid State Physics, Tokyo, Japan, 27.09.2019-10.10.2019, Supported by the Follow-Up Program of the Japan Society for the Promotion of Science (FoS) Symposium

Nagoya University, School of Science, Department of Physics, Nagoya, Japan, supported by JSPS-BRIDGE fellowship, 26.08.2018-15.98.2018 (06.09-09.09: symposium in Kyoto)

University of Granada, Spain, Department of Computer Science and Artificial Intelligence, 06.11.2012-18.11.2012, Supported by GENIL-SSV Fellowship

Nagoya University, School of Science, Department of Physics, Nagoya, Japan, supported by JSPS short-term fellowship for 20 days, 2006.

Supervision of post-doctoral, doctoral, and undergraduate students

Supervision activities at the Freie Universität Berlin, as direct advisor
Visiting postdoc: 1
Doctoral theses completed: 6
Master theses completed: 8. Diploma theses completed: 1. Bachelor theses completed: 3

Supervision activities at the University of Bucharest, as direct advisor
Coordinator of the direction Medical Physics, Experimental and Computational Biophysics, Faculty of Physics (own research direction: computational biophysics)
Doctoral theses, ongoing: 6. Master theses, completed: 4. Bachelor theses, completed: 1

Co-supervision activities at the FZ Jülich/RWTH Aachen University
Doctoral thesis, completed: 1

Teaching

Courses taught at the Freie Universität Berlin, 2010-2021
Master students:
1. Quantum and statistical mechanics computations of molecular structure
2. bio(Nanotransporters): Theoretical biophysics and bioinformatics methods
3. Modern Methods in Physics: Electronic Structure Methods
4. Advanced Quantum Mechanics; 5. Advanced Theoretical Biophysics
6. Photobiophysics and Photosynthesis, shared 50%
Bachelor students:
1. Analytical Mechanics (Theory 2); 2. Experimental Physics III, shared 50%
Additional activities: 1. Co-organizer of the seminar day Team Dynamics of the Graduate School (IGK) of the Collaborative Research Center SFB 1078 Protonation Dynamics in Protein Function, February 3, 2020, at the Freie Universität Berlin. 2. Host laboratory for a seminar

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day of the Graduate School (IGK) of the Collaborative Research Center SFB 1078 Protonation Dynamics in Protein Function, December 2, 2019

Courses taught at the University of Bucharest, since 2021
Medical Physics Master students: Molecular dynamics, (Bio)Nanotechnologies
Medical Physics Bachelor students: Bioinformatics
Doctoral School, Faculty of Physics: Biomolecules in Motion.
Doctoral School, ISDS: Digital Health

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