Stefan Petrovic, Ph.D.

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EDUCATION

Ph.D.	**Biochemistry and Molecular Biophysics**
2022	Thesis: "*The Structure and Function of the Human Nuclear Pore Complex*"
	Caltech, Pasadena, CA, USA
B.S.	**Cell Biology and Biochemistry** (minors in Physics and Mathematics)
2014	*Summa cum laude* and Honors Thesis
	Bucknell University, Lewisburg, PA, USA

RESEARCH AND PROFESSIONAL EXPERIENCE

Nov 2024 – present	**Assistant Professor** Department of Chemistry & Biochemistry Division of Physical Sciences California NanoSystems Institute University of California Los Angeles (UCLA), Los Angeles, CA, USA
Jun 2022 – Oct 2024	**Postdoctoral Scholar** mentor: André Hoelz, Ph.D. Caltech, Pasadena, CA, USA
Jan 2015 – Jun 2022	**Graduate Scholar** mentor: André Hoelz, Ph.D. Caltech, Pasadena, CA, USA
Jul 2014 – Dec 2014	**Graduate Scholar (rotation)** mentor: William M. Clemons, Ph.D. Caltech, Pasadena, CA, USA
May 2011 – May 2014	**Undergraduate Research Scholar** mentor: Thomas L. Selby, Ph.D. Bucknell University, Lewisburg, PA, USA
Sep 2010 – May 2011	**Undergraduate Research Scholar** mentor: Mitchell I. Chernin, Ph.D. Bucknell University, Lewisburg, PA, USA
Jun 2009 – Aug 2009	**Volunteer Research Assistant** mentor: Davorin Medaković, Ph.D. Rudjer Boskovic Marine Research Institute, Rovinj-Rovigno, Croatia

TEACHING AND MENTORING

2022	**Lead Teaching Assistant** (Spring '22) Macromolecular Structure Determination with Modern X-ray Crystallography Methods, Caltech
2018	**Teaching Assistant** (Spring '18) Principles of Biology, Caltech
2017 – 2019	**Teaching Assistant** (Spring '17, '18, and '19) Macromolecular Structure Determination with Modern X-ray Crystallography Methods, Caltech
2016	**Teaching Assistant** (Winter '16) Biophysical and Structural Methods, Caltech
2015	**Teaching Assistant** (Spring '15) Intro to Cell Biology, Caltech
2013	**Teaching Assistant** (Fall '13) Classical and Modern Physics, Bucknell University

2013 – 2014 **Teaching Assistant** (Spring ‘13 and ‘14)
Analytical Chemistry, Bucknell University

2013 **Teaching Assistant** (Fall ‘13)
Inorganic Chemistry, Bucknell University

2012 **Teaching Assistant** (Fall ‘12)
General Chemistry, Bucknell University

2012 – 2013 **Peer Tutor** (Fall ‘12 and ‘13)
Genetics, Bucknell University Teaching and Learning Center

2011 – 2014 **Peer Tutor** (Fall ‘11, ‘12, and ‘13; Spring ‘11, ‘12, ‘13, and ‘14)
Organic Chemistry, Bucknell University Teaching and Learning Center

Individuals mentored in André Hoelz’s group at Caltech:

2022 Wendy Granados Razo, undergraduate SURF Scholar

2022 Anna Mortari, undergraduate SURF Scholar

2022 Jack Jurmu, undergraduate Amgen Scholar

2019 Lucas Schaus, rotating graduate student

2019 Jimmy Thai, undergraduate Amgen Scholar

2018 Alex Lyons, undergraduate Amgen Scholar

2018 Giovani Pinton Tomaleri, rotating graduate student

2017 – 2018 Theo Yang, undergraduate SURF Scholar

2015 – 2016 Sunho Yoon, high school volunteer

2015 – 2016 Julia See, high school volunteer

UNIVERSITY SERVICE

2017 – 2018 **Graduate Dean’s Advisory Council**
Caltech

2015 – 2022 **Biochemistry and Molecular Biophysics Graduate Recruitment**
Caltech

2015 – 2022 **Center for Molecular Medicine, Maintenance and Purchasing of Instrumentation**
Caltech Division of Chemistry and Chemical Engineering

2011 – 2014 **Bucknell University Challenge Course Facilitator**
Bucknell University

2011 – 2014 **Office of Outdoor Education and Leadership Student Assistant**
Bucknell University

AWARDS

2022 **Herbert Newby McCoy Award**
For the most outstanding research achievement by a Caltech Division of Chemistry and Chemical Engineering graduate student.

2022 **Teaching Assistantship Award**
For the most outstanding work by teaching assistant(s) in Caltech Division of Chemistry and Chemical Engineering.

2014 **Prize in Cell Biology and Biochemistry**
For the most outstanding achievement by an undergraduate in the Bucknell University Cell Biology and Biochemistry program.

2014 **Teaching Assistant Excellence Award**
For the most outstanding performance by a teaching assistant in the Bucknell University Department of Chemistry.

2014 **Phi Beta Kappa Award for Academic Excellence**
Awarded to a Bucknell University undergraduate who, by work of art, research, or scholarship, shows conspicuous achievement in any discipline.

PROFESSIONAL DEVELOPMENT

2022 **Inclusive Mentoring Workshop**
Caltech Postdoc Association

2022 **Inclusivity in Introductory STEM Courses Workshop**
Cottrell Scholars Collaborative Zoom Series

2021 **Tomography Short Course**
National Center for Cryo-EM Access and Training Course

2019 **"I have my data set - Now what?" Single Particle Cryo-EM Data Processing**
University of Michigan Workshop

2016 **X-ray Methods in Structural Biology**
Cold Spring Harbor Laboratory Course

SCHOLARSHIPS AND FELLOWSHIPS

2016 – 2018 **Boehringer Ingelheim Fonds Graduate Fellowship**
Boehringer Ingelheim Fonds

2014 – 2015 **Amgen Graduate Fellowship**
Amgen Foundation, Caltech

2012 – 2013 **Walthour Undergraduate Research Scholarship**
Bucknell University

2011 **Kales Undergraduate Research Scholarship**
Bucknell University

2010 – 2014 **Gary and Sandy Sojka Scholarship**
Bucknell University

2010 – 2014 **Shelby Davis United World College Scholar**
Bucknell University

2010 – 2014 **Michael M. and Lillian Amber Fremont Scholarship**
Bucknell University

GRANTS

2019 **General access allocation at Stanford-SLAC Cryo-EM Facility**
"Atomic Structure of the Nuclear Pore Complex", co-PI

2019 **General access allocation at Pacific Northwest Center for Cryo-EM (PNCC)**
"Atomic Structure of the Nuclear Pore Complex", co-PI

2019 **General access allocation at National Center for Cryo-EM Access and Training (NCCAT) at the New York Structural Biology Consortium (NYSBC)**
"Atomic Structure of the Nuclear Pore Complex", co-PI

2018 **XSEDE supercomputer startup allocation**
"Molecular mechanisms of β-propeller binding via domain invasion motifs", co-PI

PROFESSIONAL ORGANIZATIONS

2022 – present **American Society for Cell Biology**
National academic society

2014 – present **Phi Sigma Biological Science Honor Society**
Bucknell University chapter of the national academic society

2014 – present **Phi Beta Kappa Honor Society**
Bucknell University chapter of the national academic society

2011 – present **Alpha Lambda Delta Honor Society**
Bucknell University chapter of the national academic society

LANGUAGES

native **Italian**
native **Serbo-Croatian**
excellent **English**
elementary **Spanish**

PUBLICATIONS [# equal contribution]

Original research

1. Bley C.J.,# Nie S.,# Mobbs G.W.,# **Petrovic S.**,# Gres A.T.,# Liu X.,# Mukherjee S., Harvey S., Huber F.M., Lin D.H., Brown B., Tang A.W., Rundlet E.J., Correia A.R., Chen S., Regmi S.G., Dasso M., Patke A., Palazzo A.F., Kossiakoff A.A., Hoelz A. (2022) Architecture of the cytoplasmic face of the nuclear pore. ***Science*** *376*, eabm9129.
   ** Featured on the COVER of a dedicated special issue of ***Science*** with an introduction by Di Jiang and PERSPECTIVE by Thomas U. Schwartz.

2. **Petrovic S.**, Samanta D.,# Perriches T.,# Bley C.J., Thierbach K., Brown B., Nie S., Mobbs G.W., Liu X., Stevens T.A., Tomaleri G.P., Schaus L., Hoelz A. (2022) Architecture of the linker-scaffold in the nuclear pore. ***Science*** *376*, eabm9798.
   ** Featured on the COVER of a dedicated special issue of ***Science*** with an introduction by Di Jiang and PERSPECTIVE by Thomas U. Schwartz.

3. Stuwe T.,# Bley C.J.,# Thierbach K.,# **Petrovic S.**,# Schilbach S., Mayo D.J., Perriches T., Rundlet E.J., Jeon Y.J., Collins L.N., Huber F.M., Lin D.H., Paduch M., Koide A., Lu V., Fischer J., Hurt E., Koide S., Kossiakoff A.A., Hoelz A. (2015) Architecture of the fungal nuclear pore inner ring complex. ***Science*** *350*, 56-64.
   ** PERSPECTIVE in ***Science*** by Katharine S. Ullman and Maureen A. Powers.

4. Dunne C.R., Cillo A.R., Glick D.R., John K., Johnson C., Kanwal J., Malik B.T., Mammano K., **Petrovic S.**, Pfister W., Rascoe A.S., Schrom D., Shapiro S., Simkins J.W., Strauss D., Talai R., Tomtishen III J.P., Vargas J., Veloz T., Vogler T.O., Clenshaw M.E., Gordon-Hamm D.T., Lee K.L., Marin E.C. (2014) Structured Inquiry-Based Learning: Drosophila GAL4 Enhancer Trap Characterization in an Undergraduate Laboratory Course. ***PLoS Biol***. *12*, e1002030.

Review and editorial

5. **Petrovic S.**, Hoelz A. (2022) Forced entry into the nucleus. ***Nat. Cell Biol.*** *24*, 810-812.

6. **Petrovic S.**,# Mobbs G.W.,# Bley C.J.,# Nie S.,# Patke A., Hoelz A. (2022) The structure and function of the nuclear pore complex. ***Cold Spring Harb. Perspect. Biol***. 10.1101/cshperspect.a041264.
   ** Included in the monograph “The Endoplasmic Reticulum”, edited by Susan Ferro-Novick, Tom A. Rapoport, and Randy W. Schekman.

Publications in preparation

7. **Petrovic S.**,# Mobbs G.W.,# Bley C.J.,# Nie S.,# Patke A., Hoelz A. (2023) Nucleocytoplasmic transport. ***Annu. Rev. Biochem***. [Invited].

8. **Petrovic S.**,# Mobbs G.W.,# Bley C.J.,# Ejder S.,# Hoelz A. (2023) The structure of the nuclear pore complex. ***Nat. Rev. Mol. Cell. Biol.***. [Invited].

9. Thierbach K.,# Mobbs G.W.,# **Petrovic S.**,**#** Gres A.T., Correia A.R., Hoelz A. (2023) Primary sequence rather than motif multiplicity determines β-propeller domain architectures.

10. Chien C.Y.,# Mobbs G.W.,# Bley C.J., Nie S., **Petrovic S.**, Hoelz A. (2023) Molecular basis of nucleocytoplasmic transport interference by SARS-CoV-2.

Talks and abstracts

9. **Petrovic S.** (2022) 7th Annual Southern California Cryo-EM Symposium. The architecture of the linker-scaffold in the inner ring of the nuclear pore. Los Angeles, CA, USA. [Talk]

8. **Petrovic S.** (2022) Nucleocytoplasmic Transport Meeting. Architecture of the linker-scaffold in the nuclear pore. Montreal, QC, Canada. [Poster]

7. **Petrovic S.** (2019) 4th Annual Southern California Cryo-EM Symposium. Revealing the molecular details of the nuclear pore complex inner ring architecture. Pasadena, CA, USA. [Talk]

6. **Petrovic S.** (2019) Occidental College Gray-Hill Seminar. Building a massive channel: insights into the architecture of the inner ring of the nuclear pore complex. Los Angeles, CA, USA. [Invited talk]

5. **Petrovic S.** (2018) Life at the Edge: The Nuclear Envelope in Nucleocytoplasmic Transport and Genome Organization, German Society of Cytology Meeting. Nic96 recruits and positions the CNT to establish a functional diffusion barrier of the NPC. Potsdam, Germany. [Talk]

4. **Petrovic S.** (2018) 12th North America Meeting of the Boehringer Ingelheim Fonds. Unstructured linker proteins confer rigidity to the inner ring of the nuclear pore complex. Woods Hole, MA, USA. [Talk]

3. **Petrovic S.** (2016) 11th North America Meeting of the Boehringer Ingelheim Fonds. Towards the atomic structure of the nuclear pore complex inner ring. Woods Hole, MA, USA. [Talk]

2. **Petrovic S.** (2013) 245th National Meeting of the American Chemical Society. Chemical Rescue of Lysine-to-Alanine Mutations in the Ca^{2+}-dependent PI-PLC from *Streptomyces antibioticus*. New Orleans, LA, USA. [Poster]

1. **Petrovic S.** (2012) Middle Atlantic Regional Meeting of the American Chemical Society. Mechanistic Characterization of the *Streptomyces antibioticus* Phospholipase C Enzyme. Baltimore, MD, USA. [Poster]