

## CURRICULUM VITAE

### Assoc. Prof. Dr. Marko Novinec, univ. dipl. biokem.

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### CAREER STATEMENT

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I am a biochemist with primary training in enzymology, extensive experience in protein biochemistry, protein interactions, and computational biology, and a strong interest in interdisciplinary research in the broader fields of chemistry and life sciences. My current research goals include (1) engineering enzymes with superior kinetic properties and regulation, (2) developing systems for directed evolution and in vivo detection of protein oligomerization, and (3) identifying novel biologically active small molecules and their macromolecular targets.

### EDUCATION AND ACADEMIC CAREER

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2018 Associate professor of Biochemistry and Molecular Biology, University of Ljubljana, Faculty of Chemistry and Chemical Technology, Slovenia (UL FKKT)  
2013 Assistant professor of Biochemistry and Molecular Biology, UL FKKT  
2008 PhD in Biomedicine – module Biochemistry and molecular biology  
Medical Faculty, University of Ljubljana, Slovenia; Title of PhD thesis: “Biochemistry and evolution of thyroglobulin type-1 domains: modular architecture as the basis for function diversity of multidomain proteins”, PhD Supervisor: Prof. Brigita Lenarčič  
2004 University diploma - Undergraduate program Biochemistry at UL FKKT

### EMPLOYMENT

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2013 – Permanent faculty professorship position at UL FKKT, Department of Chemistry and Biochemistry, Chair of Biochemistry.  
2011 – 2013 Post-doctoral researcher at UL FKKT, Department of Chemistry and Biochemistry, Chair of Biochemistry with a post-doctoral research grant by the Slovenian Research Agency for the project »Design and characterization of allosteric modifiers of cysteine cathepsins«.  
2009 – 2011 Teaching assistant at UL FKKT, Department of Chemistry and Biochemistry, Chair of Biochemistry.  
2009 – 2010 Postdoctoral fellow in the laboratory of Prof. Antonio Baici, Department of Biochemistry, University of Zürich, Switzerland.  
2005 – 2008 PhD student with a National Scholarship for Young Researchers, Jožef Stefan Institute, Ljubljana, Slovenia.

### INSTITUTIONAL RESPONSIBILITIES

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2021 – Vice-Dean for Doctoral Study and Research, UL FKKT  
2015 – 2021 Vice-chair of the Faculty Tutoring Committee, UL FKKT  
2015 – 2021 Member of the Faculty Committee for Foreign Education Approval, UL FKKT  
2013 – 2021 Member of the Faculty Committee for Bachelor and Master Studies, UL FKKT  
2013 – Faculty member UL FCCT

## FELLOWSHIPS AND AWARDS

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- 2014 Recipient of the Lapanje's prize awarded by the Slovenian biochemical society to young researchers for top-level scientific achievements.
- 2009 Best poster award at the 9th FEBS Young Scientist Forum in Prague, Czech Republic.
- 2007 National short-term research fellowship for a 4-month research visit to the laboratory of prof. Antonio Baici, University of Zürich, Switzerland.
- 2004 Prešeren award of the University of Ljubljana for outstanding diploma thesis (highest possible award for students from University of Ljubljana).

## RESEARCH GRANTS

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- 2021 – 2024 Project COOPERATE - »Engineering cooperativity into peptidases for enhanced activity and precise regulation« by the Slovenian Research Agency (grant N1-0211).
- 2016 – 2020 Supervision and training of a PhD student by the Slovenian Research Agency as part of the Young Researchers program (grant MR-39078).
- 2011 – 2013 Postdoctoral grant for the project "Design and characterization of allosteric modifiers of cysteine cathepsins" by the Slovenian Research Agency (grant Z1-4077).

## PEER-REVIEWED JOURNAL PAPERS, BOOK CHAPTERS AND PATENTS

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I have published 38 peer-reviewed journal papers, of these 35 original papers and 3 review papers, 1 book chapter and 1 national (Slovenian) patent. Citations: 641 (WoS/Scopus, excl. self-citations), h-index: 13 (WoS/Scopus, excl. self-citations).

## SELECTED PUBLICATIONS

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- Novinec M, Bembič P, Janković M, Kisilak M, Kljun J & Turel I (2022) Kinetic Characterization of Cerium and Gallium Ions as Inhibitors of Cysteine Cathepsins L, K, and S. *Int. J. Mol. Sci.* 23, 8993.
- Varda N & Novinec M (2022) Evolutionary Analysis of Dipeptidyl Peptidase I. *Int. J. Mol. Sci.* 23, 1852.
- Goričan T, Ciber L, Petek N, Svete J & Novinec M (2021) Synthesis and kinetic characterization of hyperbolic inhibitors of human cathepsins K and S based on a succinimide scaffold. *Bioorg. Chem.* 115, 105213.
- Ulčakar L & Novinec M (2020) Inhibition of human cathepsins B and L by caffeic acid and its derivatives. *Biomolecules.* 11, 31.
- Rebernik M, Snoj T, Klemenčič M & Novinec M (2019) Interplay between tetrameric structure, enzymatic activity and allosteric regulation of human dipeptidyl-peptidase I. *Arch. Biochem. Biophys.* 675, 108121.
- Novinec M (2017) Computational investigation of conformational variability and allostery in cathepsin K and other related peptidases. *PLoS One.* 12, e0182387.
- Novinec M, Korenč M, Caflisch A, Ranganathan R, Lenarčič B & Baici A (2014) A novel allosteric mechanism in the cysteine peptidase cathepsin K discovered by computational methods. *Nat. Commun.* 5, 3287.
- Novinec M, Kovačič L, Lenarčič B & Baici A (2010) Conformational flexibility and allosteric regulation of cathepsin K. *Biochem. J.* 429, 379-389.

## MEMBERSHIPS OF SCIENTIFIC SOCIETIES

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- 2005 – Member of the Slovenian Biochemical Society

## REVIEWING ACTIVITIES

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I regularly review scientific papers submitted for consideration in distinguished international journals, including The Biochemical Journal, PLoS One, Molecules, Biomolecules, Proteins, BBRC, etc. I do about 20 reviews per year.



Marko Novinec

Ljubljana, 15 February 2023