

CURRICULUM VITAE OF– DR. NATAŠA POKLAR ULRIH

PERSONAL DATA:

Name: Nataša Poklar Ulrih

Permanent address: Bežigrad 18,1000 Ljubljana, Slovenia

University address: University of Ljubljana, Biotechnical Faculty, Jamnikarjeva 101,1000 Ljubljana, Slovenia. Telephone: +386 (0)320 3780; Fax: +386 (0)1 2566296; E-mail: natasa.poklar@bf.uni-lj.si

Citizenship: Slovenian

Date of birth: 05/17/1965

Place of birth: Postojna, Slovenia

Mother tongue: Slovenian

Other languages: English, Croatian

EDUCATION:

1994 - Doctor of Philosophy (Ph.D.), University of Ljubljana, Faculty of Chemistry and Chemical Technology (FKKT)

1992 - Master of Science (MSc), University of Ljubljana, FKKT

1989 - Bachelor of Science (BSc), University of Ljubljana, Faculty of Chemistry and Chemical technology, FKKT

1984 – High School

PROFESSIONAL EXPERIENCE:

1989-1994 PhD Student

1994-2000 Teaching assistant at the Chair of Physical Chemistry, Faculty of Chemistry and Chemical Technology, University of Ljubljana

2000-2005 Assistant Professor at the Chair of Chemistry, Biotechnical Faculty, University of Ljubljana

2005-2010 Associate Professor at the Chair of Biochemistry and Food Chemistry, Biotechnical Faculty, University of Ljubljana

2010-Full Professor of Biochemistry at the Chair of Biochemistry and Food Chemistry, Biotechnical Faculty University of Ljubljana

PROFESSIONAL ACTIVITIES:

1) Members of FEBS Fellowships Committee since 2023

2) Member of the local organizing committee of FEBS2021 meeting in Ljubljana

3) President of the Organizing Committee of FEBS3+ meeting, Molecules of Life 2015 in Portorož

4) President of Scientific Committee of 7th Meeting of the Slovenian Biochemical Society with International Participation 2007

5) Membership in the Professional Societies:

American Chemical Society; Biophysical Society, Slovenian Chemical Society; Slovenian Biochemical Society; Slovenian Biophysical Society

STUDY VISITS:

Postdoctoral study:

12. July 1995 - 22. September 1996 (14 months). In the laboratory of Prof. Dr. Breslauer, K.J., Rutgers, The State University of New Jersey, Piscataway, N.J., U.S.A.

Others study visits:

1) 1992, Poly-biós, Research Center, Trieste, Italy. (1 month)

2) 1997 Rutgers, The State University of New Jersey, Piscataway, N.J., USA (2 months).

3) 1998 University of Toronto, Faculty of Pharmacy, Toronto, Canada (2 months)

4) 1999 University of Toronto, Faculty of Pharmacy, Toronto, Canada (2 months)

5) 2000 University of Toronto, Faculty of Pharmacy, Toronto, Canada (2 months).

Visiting professor

Fulbright award for 2006-2007 academic years. University of California at Santa Cruz, Department of Chemistry and Biochemistry, CA, USA

TEACHING:

Biochemistry I (1st cycle Bologna study program) Biochemistry II (2st cycle Bologna study program) Nutritional Biochemistry (PhD program); Physico-chemical methods in food science (2st cycle Bologna study program) Biophysical and biochemical methods (PhD program)

MANAGEMENT FUNCTIONS:

2022- Representative of Slovenia in EUA RIS group
2020- 2022 Dean
2018- Chairman of the Board of the Center of Excellence CIPKeBIP
2018- 2000 Vice Dean for Research of Biotechnical Faculty
2014- 2018 Vice Dean of Food Science at Biotechnical Faculty
2009- Head of Chair of Biochemistry and Food Chemistry
2010- 2018 President of the Board for Research and Development at Biotechnical Faculty
2014- 2018 Member of the Board for Research and Development at University of Ljubljana
2009 – 2011 Member of Temporary Expert Bodies of Slovenian Research Agency ARRS

AWARDS:

Lapanje's award of Slovenian Biochemical Society for scientific achievements 2022
Golden medal of the University of Ljubljana for outstanding achievements 2016
Award of Biotechnical Faculty for research achievements for year 2014
Award of Biotechnical Faculty for research achievements for year 2011
Fulbright award for 2006-2007 academic years.

PUBLICATIONS, INVITED LECTURES

240 refereed publications in international journals
40 invited lectures at international conferences and universities

CURRENT RESEARCH INTERESTS:

Biophysical chemistry. Binding of small molecules to proteins, membranes and DNA, Polyphenols, Metabolism of polyphenols. Encapsulation of polyphenols and plant extracts. Extremophilic microorganisms. Characterization of proteins. Protein aggregations.

GRANTS/PROJECTS:

Prof. dr. Nataša Poklar Ulrih has experience with leading/coordinating larger project.
Since 2009 she is the coordinator of research program P4-0121 Research program (2009-2023): "Biochemical and biophysical-chemical characterization of natural compounds".
She has been coordinating many national projects and EU projects including the project ESRR F4F.

PRINCIPAL INVESTIGATORS:

National projects (last 5 years)

L7-8277; The development of enzyme formulation for disinfecting prion-contaminated areas (concluded 2019)

J4-1773; Lactic acid fermentation for enrichment of microalgae biomass with new nutrients (concluded 2022)

Collaborator at national projects J1-6736, J2-7413, V4-1611, V4-1621, J4-8225, V4-1824, V4-2011

Bilaterally project : USA (3 projects); Romunia (1 project); Argentina (2 projects); Serbia (2 projects); China (1 project); Turkey (1 project); Russia (1 project); Croatia (1 project); India (1 project)

EU project (last 5 years):

HORIZON2020 REP-EAT Food quality and food innovative strategies to prevent reproductive and eating disorders (2016–2021)

HORIZON2020 METROFOOD Metrofood-RI Preparatory Phase Project (2019-2022)

ESRR F4F Food4Future/Funkcionalna živila prihodnosti (2016-2020)

Completed (last 10 years)

IPA Slovenia – Croatia 4300-303/2011. RAST ISTRE – European funds for regional development (dr. Nataša Poklar Ulrih – coordinator of the project)

COST Action FA1001/2010-2015 (dr. N. Poklar Ulrih)

»The application of innovative fundamental food-structure-property relationships to the design of foods for health, wellness and pleasure «

COST: D20/0006/01

»Metal ion Complexes with Antibacterial Quinolones and Antiviral Nucleotide Analogues (MAQA)« (dr. N. Poklar Ulrih)

NATO LST.CLG 974812 (dr. N. Poklar Ulrih and dr. Gonul Kaletunc, University of Ohio)

»Thermal analysis of extremophilic microorganism inactivation«

NATO LST.CLG (dr. N. Poklar Ulrih and dr. Tigran V. Chalikian, University of Toronto)

...»Equinatoxin interactions with model lipid membranes«

P4-0121 Research program (2009-2013):"Biochemical and biophysical-chemical characterization of natural compounds"

P4-0121 Research program (2014-2017):"Biochemical and biophysical-chemical characterization of natural compounds"

CipKeBiP - The Centre of Excellence for Integrated Approaches in Chemistry and Biology of Proteins (2010-2015)

PATENTS:

ŠNAJDER, Marko, POKLAR ULRIH, Nataša, MIHELIČ, Marko, TURK, Dušan. *Čezmerna produkcija rekombinantne oblike pernizina v heterolognem ekspresijskem sistemu* : SI24364 (A), 2014-11-28. Ljubljana: Urad RS za intelektualno lastnino, 2014. [28] f., ilustr. [COBISS.SI-ID [4484984](#)]

POKLAR ULRIH, Nataša, VILFAN, Tanja. *Methods for degradation of protein deposits and prions = Abbaumethoden von Proteinablagerungen und Prionen = Méthodes pour la dégradation des dépôts de protéine et prions* : European patent specification : EP 2 311 323 (B1), 2013-01-16. [Paris]: Europäisches Patentamt: = European Patent Office: = Office européen des brevets, 2013. 17 str., ilustr. [COBISS.SI-ID [4197240](#)]

PATENT APPLICATION:

DIERICKX, William, DE CUYPER, Dirk, POKLAR ULRIH, Nataša, GUNDE-CIMERMAN, Nina. *Method for producing a polymer product from polar lipids from archaea as carriers of living microbial cells and biological barriers in plastic and textile* : EP 2 518 138 (A1), 2012-10-31. Rijswijk: European Patent Office, 2012. 19 str., ilustr. [COBISS.SI-ID [2424911](#)]

YOUNG RESEARCHERS:

BAHUN, Miha. *Determinante aktivacije in temperaturne stabilnosti pernizina, serinske proteinaze iz hipertermofilne arheje Aeropyrum pernix K1 = Activation and temperature stability determinants of the serine proteinase pernisin from hyperthermophilic archaeon Aeropyrum pernix K1* : [doktorsko delo]. [Ljubljana: M. Bahun, 2020]. X, 102 str., ilustr. <https://repozitorij.uni-lj.si/IzpisGradiva.php?id=121735&lang=slv>. [COBISS.SI-ID [37466627](#)]

ISTENIČ, Katja. *Mikrokapsulacija katehinov in izvlečkov granatnega jabolka (Punica granatum L.) v polisaharidne nosilce* : doktorska disertacija = Microencapsulation of catechins and pomegranate (Punica granatum L.) extracts into polysaccharide matrices : doctoral dissertation. Ljubljana: [COBISS.SI-ID [4661368](#)]

ŠNAJDER, Marko. *Priprava ekspresijskih sistemov za proizvodnjo termostabilne rekombinantne serinske proteaze iz Aeropyrum Pernix K1 in opredelitev njenih fizikalno-biokemijskih lastnosti* : doktorska disertacija = Construction of expression systems for production recombinant thermostabile serine protease from Aeropyrum pernix K1 and defining its physical and biochemical properties : dissertation thesis.. [COBISS.SI-ID [267092992](#)]

GMAJNER, Dejan. *Fizikalnokemijske lastnosti arheosomov, pripravljenih iz polarnih lipidov hipertermofilne arheje Aeropyrum pernix K1* : doktorska disertacija = Physicochemical properties of archaeosomes, prepared from polar lipids of hyperthermophilic [i. e. hyperthermophilic] archaeon Aeropyrum pernix K1 : doctoral dissertation [COBISS.SI-ID [259208960](#)]

ČRNIGOJ, Miha. *Mehanizmi stabilizacije molekule DNA hipertermofilne arheje Aeropyrum pernix in vivo ter in vitro : doktorska disertacija (s področja biotehnologije) : [Krkina nagrada] = Stabilisation mechanisms of DNA molecule from hyperthermophilic archaea Aeropyrum pernix in vivo and in vitro : doctoral dissertation.* [COBISS.SI-ID [3524216](#)]

MILEK, Igor. *Termična inaktivacija in biokemična karakterizacija biološko aktivnih substanc hipertermofilne arheje Aeropyrum pernix : doktorska disertacija = Thermal inactivation and biochemical characterization of biologically active substances from hyperthermophilic archaeon Aeropyrum pernix : doctoral dissertation.* [COBISS.SI-ID [3067512](#)]

Young researcher from industry:

OTA, Ajda. *Vpliv nosilnih sistemov na interakcije koencima Q10 z modelnimi lipidnimi membranami : doktorska disertacija (s področja prehrane) = Impact of carrier systems on the interaction of coenzyme Q10 with model lipid membranes : doctoral dissertation.* [COBISS.SI-ID [4399736](#)]

Other PhD students

BUDIME SANTHOSH, Poornima. *Effects of iron oxide (Fe [sub] 2 O [sub] 3) nanoparticles on the physical properties of liposomes : doctoral dissertation.* [COBISS.SI-ID [10750804](#)]

List of publications – high ranking (A⁺):

1. JAMNIK, Polona, MAHNIČ, Nik, MRAK, Aleksandra, POGAČNIK, Lea, JERŠEK, Barbara, NICCOLAI, Alberto, MASTEN, Jasmina, OGRINC, Nives, DUŠAK, Larisa, FERJANČIČ, Blaž, KOROŠEC, Mojca, CERAR, Ana, LAZAR, Borut, LOVŠE, Urša, PUNGERT, Tjaša, FABJAN, Primož, POKLAR ULRIH, Nataša. Fermented biomass of arthrospira platensis as a potential food ingredient. *Antioxidants*, ISSN 2076-3921, 2022, vol. 11, iss. 2, str. 1-15, art. 216, ilustr. <https://www.mdpi.com/2076-3921/11/2/216>, doi: 10.3390/antiox11020216.
2. BAHUN, Miha, JUKIČ, Marko, OBLAK, Domen, KRANJC, Luka, BAJC, Gregor, BUTALA, Matej, BOZOVIČAR, Krištof, BRATKOVIČ, Tomaž, PODLIPNIK, Črtomir, POKLAR ULRIH, Nataša. Inhibition of the SARS-CoV-2 3CLpro main protease by plant polyphenols. *Food chemistry*, ISSN 0308-8146. [Print ed.], 2022, vol. 373, art no. 131594, str. 1-10, ilustr., doi: 10.1016/j.foodchem.2021.131594.
3. MASTEN, Jasmina, CILLERO-PASTOR, Berta, MOHREN, Ronny, POKLAR ULRIH, Nataša, OGRINC, Nives, JAMNIK, Polona. Insight into the antioxidant effect of fermented and non-fermented Spirulina water and ethanol extracts at the proteome level using a yeast cell model. *Antioxidants*, ISSN 2076-3921, 2021, vol. 10, no. 9, str. 1366-1-1366-15, ilustr., doi: 10.3390/antiox10091366.
4. RAKIČ, Violeta, RINNAN, Åsmund, POLAK, Tomaž, SKRT, Mihaela, MILJKOVIČ, Milena, POKLAR ULRIH, Nataša. pH-induced structural forms of cyanidin and cyanidin 3-O-[beta]-glucopyranoside. *Dyes and pigments*, ISSN 0143-7208. [Print ed.], 2019, vol. 165, str. 71-80, ilustr., doi: [10.1016/j.dyepig.2019.02.012](https://doi.org/10.1016/j.dyepig.2019.02.012). kategorija: 1A1 (Z, A⁺, A⁺, A1/2);
- 5 ABRAM, Veronika, ČEH, Barbara, VIDMAR, Mateja, HERCEZI, Mario, LAZIČ, Neda, BUCIK, Valentina, SMOLE MOŽINA, Sonja, KOŠIR, Iztok Jože, KAČ, Milica, DEMŠAR, Lea, POKLAR ULRIH, Nataša. A comparison of antioxidant and antimicrobial activity between hop leaves and hop cones. *Industrial crops and products*, ISSN 0926-6690, 2015, vol. 64, str. 124-134, ilustr., doi: [10.1016/j.indcrop.2014.11.008](https://doi.org/10.1016/j.indcrop.2014.11.008)
6. PREVC, Tjaša, CIGIČ, Blaž, VIDRIH, Rajko, POKLAR ULRIH, Nataša, ŠEGATIN, Nataša. Correlation of basic oil quality indices and electrical properties of model vegetable oil systems. *Journal of agricultural and food chemistry*, ISSN 0021-8561, 2013, vol. 61, str. 11355-11362, doi: [10.1021/jf402943b](https://doi.org/10.1021/jf402943b).

7. BERTALANIČ, Laura, KOŠMERL, Tatjana, POKLAR ULRIH, Nataša, CIGIĆ, Blaž. Influence of solvent composition on antioxidant potential of model polyphenols and red wines determined with 2,2-diphenyl-1-picrylhydrazyl. *Journal of agricultural and food chemistry*, ISSN 0021-8561, 2012, vol. 60, str. 12282-12288, doi: [10.1021/jf3041512](https://doi.org/10.1021/jf3041512).

8. PIVK KUPIROVIČ, Urška, POKLAR ULRIH, Nataša, JUILLERAT, Marcel-Alexandre, RASPOR, Peter. Assessing lipid coating of the human oral cavity after ingestion of fatty foods. *Journal of agricultural and food chemistry*, ISSN 0021-8561, 2008, vol. 56, str. 507-511.

9. POKLAR ULRIH, Nataša, PILCH, Daniel S., LIPPARD, Stephen J., REDDING, Elizabeth A., DUNHAM, Shari U., BRESLAUER, Kenneth J. Influence of cisplatin intrastrand crosslinking on the conformation, thermal stability, and energetics of a 20-mer DNA duplex : Nataša Poklar ... [et al.]. *Proceedings of the National Academy of Sciences of the United States of America*, ISSN 0027-8424, 1996, vol. 93, str. 7606-7611,

10. PILCH, Daniel S., POKLAR ULRIH, Nataša, GELFAND, Craig A., LAW, Scott M., BRESLAUER, Kenneth J., BAIRD, Eldon E., DERVAN, Peter B. Binding of a hairpin polyamide in the minor groove of DNA: sequence-specific enthalpic discrimination. *Proceedings of the National Academy of Sciences of the United States of America*, ISSN 0027-8424, 1996, vol. 93, str. 8306-8311