Curriculum Vitae

PERSONAL INFORMATION

Name and surname	**Dušica Vujaklija**
Academic title	PhD, Senior Scientific Associate; Senior Scientist (Nominal title)
PhD / Year and Institution	1992, University of Tokyo, Tokyo, Japan
Address	Ruđer Bošković Institute, Bijenička 54, 10000 Zagreb
Phone	+385-1-4571-258
Fax	+385-1-4561-177
E-mail	vujakliij@irb.hr
Citizenship	Croatian
Date and place of birth	1956, August 6
Personal web page	http://www.irb.hr/eng/People/Dusica-Vujaklija
Publication List	http://bib.irb.hr/lista-radova?autor=116760 (CROSBI- **EN**/English Version)

PROFESSIONAL EXPERIENCE

Date	March, 1993. - present
Institution	Ruđer Bošković Institute
Position	Head of the Laboratory for mass spectrometry and functional proteomics (2018.-) Head of the Laboratory for molecular genetics (2009.–2018.) Senior Scientific Associate (2008. -); Research Associate (2003. – 2008); Senior Scientific Assistant (1993. – 2003.)
Work field	Molecular microbiology
Date	1993. -1995.
Position	Postdoctoral Fellow
Institution	The University of British Columbia
Date	1982.-1988.
Institution	Faculty of Food Technology and Biotechnology, University of Zagreb
Position	Younger Scientific Assistant (Teaching activities and research)
Work field	Genetics and molecular microbiology (investigation of the plasmid instability in *Streptomyces rimosus*)

NOMINAL TEACHING TITLES

Date	2003. – Associate Professor, Faculty of Food Technology and Biotechnology, University of Zagreb 1999. – 2003. Assistant Professor, Faculty of Food Technology and Biotechnology, University of Zagreb

EDUCATION

Date	August 1992
Place	Tokyo
Institution	Tokyo University
Title of qualification awarded	PhD (Molecular Biology)
Date	Jun 1982
Place	Zagreb
Institution	Faculty of Food Technology and Biotechnology, University of Zagreb
Title of qualification awarded	BSc (Biotechnical Sciences - Biochemical engineering)

TRAINING AND RESEARCH VISITS

Year	1987 - 1988
Place	Munich, Germany
Institution	Institute for Microbiology and Genetics, University of Munich,
Subject and skills covered	PhD student, Training in molecular techniques (Advisor: H. Schrempf)
Year	1988 - 1992
Place	Tokyo, Japan
Institution	University of Tokyo,

Subject and skills covered	Molecular microbiology, PhD student (Advisors: T. Beppu, S. Horinouchi)
Year	1993 - 1995
Place	Vancouver, Canada
Institution	The University of British Columbia (Advisor: J. Davies)
Subject and skills covered	Molecular microbiology, Postdoctoral Fellow (Research focused on biology of streptomycetes and signalling cascade that involves fosfoproteome)
Year	1998. (June-August); 2001. (June-August); 2003. (June-August)
Place	Vancouver, Canada
Institution	University of British Columbia
Subject and skills covered	Molecular microbiology, Short research visit
Year	2004/2005. (December – January)
Place	Lyngby, Denmark
Institution	Technical University of Denmark
Subject and skills covered	Molecular microbiology, Short research visit
Year	2005/2006. (November – January)
Place	London, UK
Institution	School of Pharmacy
Subject and skills covered	Molecular microbiology, Short research visit
Year	2009. (November – December)
Place	Pau, France
Institution	Universite de Pau et des Pays de l'Adour – UPPA
Subject and skills covered	Molecular microbiology, Short research visit
Year	2014. (April)
Place	Glasgow, UK
Institution	Strathclyde University
Subject and skills covered	Molecular microbiology, Short research visit
Year	2016. (February)
Place	Swansea, UK
Institution	Swansea University
Subject and skills covered	Molecular microbiology, Short research visit
Year	2016. (April)
Place	Swansea, UK
Institution	Swansea University
Subject and skills covered	Molecular microbiology, Short research visit

LANGUAGES

Mother tongue	Croatian
English	Speaking Advanced, Writing Advanced, Reading Advanced
German	Speaking Basic communication skills, Writing -, Reading –

RESEARCH PROJECTS - FUNDING

2020.- DAAD-RH bilateral project (MZO-Kl. 910-08/19-01/00281;Ur.br. 533-10-20-0003), "New approach to evaluate the binding of ssDNA and paralog SSB proteins from *Streptomyces coelicolor* "**D. Vujaklija principal investigator**

2019.- RAPTOVAX "Robust and adaptable biological platforms for new vaccines", KK.01.1.1.04.0099, ESIF-MSE, 6.848.671,00 Kn, voditelj S. Kazazić, **D. Vujaklija-collaborator**

2019.- Bilateral project /Croatian–French Program "Cogito" - Hubert Curien Partnership, (MZO-Kl. 910-08/18/01/00382; Ur.br.533-10-19-0003) **D. Vujaklija - principal investigator**

2019.- CSF project "Young researchers career development project - training new doctoral students " **D. Vujaklija mentor**

2018.-2022. CSF project" Identifying interactome of paralogous SSB proteins in the multicellular prokaryote, *Streptomyces coelicolor*" (IP-2018-01-1754) **D. Vujaklija - principal investigator**, 994.500,00 Kn, www.irb.hr/idrobust

2017.-**2022**. "Bioprospecting of Adriatic Sea ", Project proposal to call for "High level Research of Science Centers of Excellence ",(KK.01.1.1.01), financed by the EU from the European Regional Development Fund. The requested grant, ~5mill Euros. **D. Vujaklija is Principal Applicant of the Activity 1**, Title: Research on biodiversity and genetic resources of marine habitats, (~ 450.000,00 Eur)

2015-2017. UKF project (27/15):" Comparative phosphoproteome analysis of S. rimosus oxytetracycline producers-strains"(~250.000Eur),**PI-D.Vujaklija**
http://www.ukf.hr/default.aspx?id=18&projectid=623&prikaz=1

2015.- Centre of Excellence BioProCro, established for the Adriatic sea Bioprospecting, (Director: R. Čož Rakovac; **D. Vujaklija leader of WP1** - Biological diversity) http://bioprocro.zci.hr/

2014-2018. CSF project "DNA recombination, repair and maintenance of genome integrity: new pathways "(principal investigator: D. Zahradka, **D. Vujaklija – collaborator**)

2013– Capacities FP7- REGPOT-2012-2013-1 project "Enhancement of the Innovation Potential in SEE through new Molecular Solutions in Research and Development - InnoMol", European Commission, **D. Vujaklija collaborator** (PI: Oliver Vugrek) http://www.innomol.eu/

2012 - OZIP / RBI capital structural project, ERDF Foundation; **D Vujaklija** designed and defended the sub-project "MetaCore platform" part of "Biotechnology Unit" before the RBI Commission, the project is in progress

2007 -2013 – 2014 Ministry of Science, project title "Fundamental molecular studies of Streptomyces biology" (MZOS - 098-0982913-2877) (**D Vujaklija, principal investigator**)

2011-2014 ADRIS Donation - Project: "Metagenomic analysis of the microbial communities from the sea sediments "(**D. Vujaklija, principal investigator**)

2011 Bilateral French-Croatian project (Program "Cogito") - "Exploring and exploiting the bacterial diversity in the West Istria Sea: focus on marine actinomycetes" (**D. Vujaklija project leader of Croatian group**)

2004-2008 International cooperation, University of Graz and ARC Seibersdorf Research Gmb, project: "Bacterial endophytes, a novel biosource for biocatalytic, agricultural and environmental application "(**D. Vujaklija project leader of Croatian group**)

2006–2007 Bilateral Austrian-Croatian project: "Enzyme Engineering of GDSL hydrolases and Application of *Streptomyces* expression system"; (MZOŠ, Br. 533-0606-4) (**D. Vujaklija project leader of Croatian research group**)

2004-2006 Collaborative project "Biodiversity in Croatia: genetic characterization of autochthonous flora and fauna and economically important species and breeds" (MZOŠ, Br. 13MK905), project leader V. Gamulin, **D. Vujakllija participant**

2004 - 2005 Bilateral Austrian-Croatian project: Molecular enzymology and protein engineering of hydrolitic enzymes,(MZOŠ, Br. 533-05 / 530-03-2) (**D. Vujaklija leader for Croatian research group**)

2002 - 2003 Bilateral Austrian-Croatian project: Molecular enzymology and enzyme engineering of hydrolases,(MZOŠ, Br. 530-05 / 530- 02-02) (**D. Vujaklija leader for Croatian research group**)

2002 - 2006 Ministry of Science project "Genes and genomes of evolutionarily conserved and economically important species" (principal investigator Dr.sc. V. Gamulin), **D. Vujaklija participant**

1996 - 2002 Ministry of Science project "Study of phylogenetically conserved and industrially important genes" (principal investigator Dr.sc. V. Gamulin; MZOŠ 0098072), **D. Vujaklija participant**

TEACHING

Postgraduate teaching:

1. Basic principles of genetic engineering (course leader: D. Vujaklija) Faculty of Veterinary Medicine, Zagreb, 2009. –
2. BIOMEMBRANES, (2010-2013., D. Vujaklija co-lecturer, course leader: M. Ilakovac, Faculty of Natural Sciences, University of Zagreb)
3. Molecular microbiology, Faculty of Agronomy - Zagreb (AG 2130, D. Vujaklija course leader,; 2008 - 2013)
4. Methods in molecular ecology, Faculty of Agronomy - Zagreb (AG2131, D. Vujaklija course leader, 2008 - 2013)
5. Cellular regulation in bacteria (D. Vujaklija course leader, 2002-2005; Faculty of Natural Sciences, University of Zagreb)
6. Molecular mechanisms of hereditary diseases co-lecturer, Faculty of Food Technology and Biotechnology, University of Zagreb (D. Vujaklija co-lecturer from 1999-2012, course leader, J. Franekić)

Undergraduate teaching (Faculty of Food Technology and Biotechnology, University of Zagreb):

1. Ecogenetic studies, D. Vujaklija co-lecturer 2002 - 2007, course leader J. Franekić Čolić
2. Physiology of industrial microorganisms, , D. Vujaklija co-lecturer 2000–2006, course leader S. Novak
3. Biology of higher eukaryotes, D. Vujaklija co-lecturer 1999-2000, course leader J.Franekić
4. Basic principles of genetic engineering (D. Vujaklija – introduced genetic engineering methods for student practicum, 1986-1987)

MENTORSHIPS OF DOCTORAL AND GRADUATION THESIS AND TRAINING OF YOUNG STUDENTS

Doctoral thesis:

1. Ana Bielen, 2011. (Faculty of Sciences, University of Zagreb)
2. Tina Paradžik, 2013. (Molecular Biosciences, University Josip J. Strosmayer, Osijek)
3. Želimira Filić, 2019. .(Molecular Biosciences, University Josip J. Strosmayer, Osijek)
4. Ela Šarić, work on a doctoral dissertation in progress (PMF, University of Zagreb)
5. Goran Pipalović, work on a doctoral dissertation in progress (PMF, University of Zagreb)

Graduation thesis - 9 graduate theses (direct supervision: UBC 1995-C. Bakal; Supervision - RBI / PMF: 1999. G. Gregorović; 2002. T. Čepo; 2006. L. Andrišić; 2008. E. Krstevska; Marić M, 2010. Mrak M (PBF), 2013. L. Kovačević (PMF), 2019. A. Kostelac (PMF)

Students awards: 4 Rector's awards (2006/7: M. Marić; A. Kuzmanic, PMF; 2009/10 Dario Zrnec (PBF), 2011/12, Irina Tanuwidjaja, AF), 1 HUGI award was won for the diploma thesis (L. Kovačević) and doctoral students received two annual awards from the Society of University Teachers and Other Scientists in Zagreb (AB and TP)

FELLOWSHIPS AND AWARDS

2020. Plaque of the Croatian Microbiological Society

2013. Award of the Ruđer Bošković Institute for the best scientific work in the field

2013 FEMS- "Invited Speaker Grant" (ISMG), for an invited lecture at the Power of Microbes in Industry and Environment 2013 conference in Promošten, Croatia

2010 FEMS - "Invited Speaker Grant" (ISMG), for the conference Power of Microbes in Industry and Environment 2010, Malinska, Krk, Croatia

2007 For the book "Methods in Molecular Biology" (D. Vujaklija –is one of the editors) RBI obtained the "Josip Juraj Strossmayer" award for the best book in the field of science in the Republic of Croatia for 2007.

2005 - Received a prestigious scholarship "Royal Society London" for a study visit at the School of Pharmacy in London and for developing cooperation between Croatian and English scientists

1990 - During her doctoral studies, D. Vujaklija was awarded a scholarship by the Japan Society for the Promotion of Science (JSPS) for continuing scientific research that began with a JICA scholarship

1989 - Scholarship for young researchers and 6 months stay at the University of Tokyo received from the "Japanese International Cooperation Agency (JICA)"

1983 KRKA Award for Young Scientists

VISTING SCIENTIFIC INSTITUTIONS ABROAD

Visiting as an associate scientist or visiting professor:

2019 (one week in November), Visiting Scientist, University of Pau, France (COGITO)
2012 (one week in December), Visiting Scientist, University of Pau, France (COGITO)
2011 (one week in December), Visiting scientist, University of Pau, France (COGITO)
2009 (one month, October / November), Visiting Professor, University of Pau, France.

MEMBERSHIP IN PROFESSIONAL SOCIETIES

Croatian Genetic Society (member of the Board of Directors since March 17, 2009 -, vice president of CGS from 2015 - 2019)
Croatian Society for Biochemistry and Molecular Biology (member)
Croatian Microbiological Society (President of the Bacteriological Section from 2012-2020, member of the CMS Committee for the Annual Awards to young scientist since 2012; member of the CMS Conference Committee, since 2019 and member of the CMS Publishing Committee, since 2015)
Croatian Society for Mathematical and Theoretical Biology (member since the founding of the Society)
European Environmental Mutagen Society (member)

ORGANIZATIONAL SKILLS AND COMPETENCES

Participation in the organization of scientific conferences and summer schools:

- 2020. 8th Summer Schools in Applied Molecular Microbiology, co-director of the summer school http://www.jic.ac.uk/science/molmicro/summerschool/ (hold online via Zoom application).
- 2018. 4th Congress of Croatian Geneticists with international participation (Member of the Scientific and Organizing Committee), 26.-29. 09. 2018., Krk, Croatia, http://pubweb.carnet.hr/genetika/kongresi-u-organizaciji-hgd-a/
- 2018. 7th Summer Schools in Applied Molecular Microbiology, co-director of the summer school http://www.jic.ac.uk/science/molmicro/summerschool/ , IUC –Dubrovnik, Croatia.
- 2016. 6th Croatian Congress of Microbiology with international participation (member of the Scientific Committee). 15-18. June, Sveti Martin na Muri, Croatia.
- 2016. 6th Summer Schools in Applied Molecular Microbiology, co-director of the summer school http://www.jic.ac.uk/science/molmicro/summerschool/ IUC -Dubrovnik, Croatia.
- 2014. 5th Summer Schools in Applied Molecular Microbiology, co-director of the summer school http://www.jic.ac.uk/science/molmicro/summerschool/ IUC -Dubrovnik, Croatia.
- 2012. 4th Summer Schools in Applied Molecular Microbiology, co-director of the summer school http://www.jic.ac.uk/science/molmicro/summerschool/report2012.html , IUC- Dubrovnik, , Croatia.
- 2012. 3rd Congress of Croatian Geneticists, 13-16.05., Krk, Croatia (member of the Scientific Committee), http://pubweb.carnet.hr/genetika/kongresi-u-organizaciji-hgd-a/
- 2012. 5th Croatian Congress of Microbiology with international participation (vice-president of the Scientific Committee) Primošten, Croatia 26-30. 09. 2012
- 2011. Scientific meeting of PhD students of Ruđer Bošković Institute: ZS3V (07. - 08. 07. IRB, Zagreb, Croatia, Member of the Scientific and Organization Committee)
- 2010. 3rd Summer Schools in Applied Molecular Microbiology, IUC, Dubrovnik, Croatia https://www.irb.hr/eng/News/The-John-Innes-Ruder-Boskovic-Summer-School-in-Applied-Molecular-Microbiology
- 2008. 4th Congress of Microbiology with international participation, Zadar, Croatia (President of the Scientific Committee) 24-27. September
- 2008. EEMS congress, 38th Annual Meeting "Environmental Mutagens and Human Cavtat, , Croatia 21-25.10.2008. (Member of the Organising Committee) http://pubweb.carnet.hr/genetika/kongresi-u-organizaciji-hgd-a/
- 2008. 2nd Summer Schools in Applied Molecular Microbiology, IUC, Dubrovnik, , Croatia http://www.jic.ac.uk/science/molmicro/summerschool2008/index.htm
- 2007. Power of Microbes in industry and environment, Zadar, Croatia (President of the Scientific Committee)
- 2007. 1th Summer Schools in Applied Molecular Microbiology, MedILS, Split, Croatia http://www.jic.ac.uk/science/molmicro/summerschool2007/ (Member of the Organization Committee)
- 2006. Eurotox 2006/6 CTDC Congress, Cavtat, Croatia, 20-24 September 2006. organized three CEC sctions
- 2003. 45 years of molecular biology in Croatia and 50 years of the double helix, 2nd international symposium, Zagreb, Croatia (Member of the Organization Committee)
- 1998. 40 years of molecular biology in Croatia: retrospective and perspective (Member of the Organization Committee)
- 1986. Genetics of Industrial Microorganisms (GIM), Split, Croatia (Member of the Organization Committee)

Functions at the Ruđer Bošković Institute: 2009-2015. RBI Director advisor for doctoral students mentoring; 2011–2017. Ombudsman for young scientists at the RBI;
2010.- Member of the working group of the Institute "Ruđer Bošković" authorized by the Ministry of Science and Education to perform professional activities of risk assessment for the purpose of introduction of genetically modified organisms (GMO) (**i**) into the environment and (**ii**) on the market.

Member of the committee for Doctoral Theses defence (on invitation): Faculty of Science / Zagreb, Faculty of Medicine / Rijeka; Biotechnical Faculty / Ljubljana, Strathclyde University / Glasgow (details on request).

Member of the Expert Committees for Elections to Associate, Scientific / Teaching Titles or Associated Positions (Postdoctoral Fellow, Research Associate or Assistant Professor; Senior Research Associate or Associate Professor and Senior Scientist) RBI: 2009-2019/9 applicants; PMF, Zagreb: 2013-2018./5 applicants, PBF, Zagreb /2009. /1 applicant

Reviewer for Awards: State Awards for Science and State Awards for Lifetime Achievement (2013-2017) Reviewer of the Society of University Teachers for the Annual award for the best scientific work to young scientists (2014-2019), Reviewer of the University of Zagreb for the student book (2012),
Member of the CMS Committee for the Annual award for the best work for young scientists (2012-2019), Member of the Commissions for election to scientific-teaching titles (RBI; PMF / Zagreb)

Scientific journals: Field Editor for Food Technology and Biotechnology journal / Reviewer on invitation for: Research in Microbiology; Journal of Biotechnology; FEMS Microbiology Letters; Food Technology and Biotechnology

Scientific projects - Invited reviewer for: 2019, 2020 HrZZ - Funding Agency; 2017 BBSRC Funding Agency - UK, and 2019 AARS - Slovenian funding Agency

Activities related to GMO regulation and membership in the Committees at the Ministry of Science and Education and Ministry of Health:

- 2005-2006. and 2019 (MZO) member of the Commission for drafting the Ordinance related to GMO issues
- 2009 - Chair of the Committee for Restricted Use of GMOs (Ministry of Science and Education and Ministry of Health)
- 2020. Functions during the Presidency of the Republic of Croatia in the European Union:

(**1**) member of the Working Group for International Environmental Issues, Biosafety format (under Ministry of Environmental Protection and Energy)
(**2**) member of the Working Group on Agriculture, subgroup of GMO (under Ministry of Agriculture)

Organization of GMO workshops:

2019. Annual meeting of the European Enforcement Project on Contained Use and Deliberate Release of GMOs, 30-31. May, Zagreb (DV member of the Organizing Committee and lecturer)
2011. Workshop on Introduction to National Monitoring and Evaluation System for Contained Use of Genetically Modified Organisms (GMOs); Zagreb, Croatia (October 10-11, 2011), organized in collaboration with the Ministry of Health and Taiex (TAIEX Workshop - AGR 46197):

Publications indexed in WoS and Scopus databases:

1. Bermanec, V., Paradžik, T., Kazazić, S.P.; Venter, C., Hrenović., **Vujaklija, D***., Duran, R., Boev, I., B. Boev, Novel arsenic hyper-resistant bacteria from an extreme environment, Crven Dol mine, Allchar, North Macedonia, Journal of Hazardous Materials, 2021, **402**, 123902, 10 doi:10.1016/j.jhazmat.2020.123437 *corresponding author
2. Biđin, S., I. Vujaklija, T. Paradžik, A. Bielen, **D. Vujaklija*** Leitmotif: protein motif scanning 2.0., Bioinformatics, 2020; 36(11): 3566-2020. *corresponding author
3. Terra L, Dyson PJ, Hitchings MD, Thomas L, Abdelhameed A, Banat IM, Gazze SA, **Vujaklija D**, Facey PD, Francis LW, Quinn GA, A Novel Alkaliphilic Streptomyces Inhibits ESKAPE Pathogens, Front Microbiol. 2018, 16;9: 2458.
4. Đermić E, Zahradka D, **Vujaklija D**, Ivanković S, Đermić D, 3'-Terminated Overhangs Regulate DNA Double-Strand Break Processing in Escherichia coli. G3 - Genes Genomes Genetics (Bethesda). 2017; 7(9):3091-3102
5. Ivanković S, **Vujaklija D**, Đermić D., Nucleolytic degradation of 3'-ending overhangs is essential for

DNA-end resection in RecA-loading deficient recB mutants of Escherichia coli, DNA Repair (Amst). 2017, 57:56-65.

6. Paradžik T, Ž. Filić, **D. Vujaklija***, Variations in amino acid composition in bacterial single stranded DNA binding proteins correlate with GC content, Periodicum Biologorum, 2017; 118(4): 385-397 *corresponding author
7. I Vujaklija*, A Bielen*,T Paradžik, S Biđin, P Goldstein and **D Vujaklija***, An effective approach for annotation of protein families with low sequence similarity and conserved motifs: identifying GDSL hydrolases across the plant kingdom, BMC Bioinformatics, 2016, 18;17:91 *corresponding author
8. Duran R, Bielen A, Paradžik T, Gassie C, Pustijanac E, Cagnon C, Hamer B, **Vujaklija D**., Exploring Actinobacteria assemblages in coastal marine sediments under contrasted Human influences in the West Istria Sea, Croatia, 2015, Environ Sci Pollut Res Int., 2015, 20(22): 15360-15369
9. Abella J, Bielen A, Huang L, Delmont T O, **Vujaklija D**, Duran R, Cagnon C, Integron diversity in marine environments, Environ Sci Pollut Res Int, 2015 , 20(22): 15215-15229
10. Bielen, R. Teparic, **D. Vujaklija***, and V. Mrsa, Microbial Anchoring Systems for Cell SurfaceDisplay of Lipolytic Enzymes, Food Technology and Biotechnology, 2014, SI 52(1) 16:34 *corresponding author
11. T Paradzik, N. Ivic, Z Filic, Babu A. Manjasetty, P Herron, M Luic and **D Vujaklija***, Structure-function relationships of two paralogous single-stranded DNA binding proteins from Streptomyces coelicolor: implication of SSB-B in chromosome segregation during sporulation, Nucleic Acids Res., 2013, 1;41(6):3659-72 *corresponding author
12. **Vujaklija D***, Macek B, Detecting posttranslational modifications of bacterial SSB proteins 2012, Methods Mol Biol. 2012; 922:205-18. doi: 10.1007/978-1-62703-032-8_16; ISSN: 19406029 (Scopus & Medline, WoS – in all Database) *corresponding author
13. Leščić Ašler, I., Pigac, J., **Vujaklija, D**., Luić, M., Štefanić, Z., Crystallization and preliminary X-ray diffraction studies of a complex of extracellular lipase from *Streptomyces rimosus* with the inhibitor 3, 4-dichloroisocoumarin. Acta Crystallographica Section F: Structural Biology and Crystallization Communications., 2011, F67; 1378-1381
14. Z. Stefanic, **D. Vujaklija** and M. Luic, Structure of the single-stranded DNA-binding protein from Streptomyces coelicolor, Acta Cryst. 2009, D65, 974-979.
15. Bielen A., Ćetković H., Long P.F., Schwab H., Abramić M.,and **Vujaklija D*.** "The SGNH-hydrolase of *Streptomyces coelicolor* has (aryl)esterase and a true lipase activity", Biochimie, 2009**,** 91 (3)**,** 390-400 *corresponding author
16. Goldstein, P., Zucko J., **Vujaklija D**., Krisko A., Cullum J.,Hranueli D., Long PF., Etchebest C., Basrak B. Cullmn J., Clustering of protein domains for functional and evolutionary studies. BMC Bioinformatics, 2009 Oct 15, 10:335.
17. Castaldo G., Zucko J., Heidelberger S., **Vujaklija D**, Hranueli D., Wattana-Amorn P.,, Crump M.P., Crosby J and Long P. F. * **"**Proposed arrangement of proteins forming a bacterial type II polyketide synthase" *Chemistry & Biology,* 2008, **15 (11),1156-1165**
18. Salopek-Sondi B; Vukelic B; Spoljaric J; Simaga S., **Vujaklija D**; Makarevic J; Jajcanin N; ABRAMIC M, (2008): "Functional tyrosine residue in the active center of human dipeptidyl peptidase III" Biol Chem. 2008, 389(2):163-7
19. Štefanić Z, **Vujaklija D**; Andrišić; L., Mikleušević; G., Andrejašič; M., Turk; D. and Luić, M.. (2007) Preliminary crystallographic study of *Streptomyces coelicolor* single-stranded DNA-binding protein. Croatica Chemica Acta. 2007, 80, 1; 35-39
20. Petkovič, H., Cullum, J. Hranueli, D., Hunter, I.S., Perić-Concha, N., Pigac, J., Thamchaipenet, A., **Vujaklija, D**. Long, P.F. Genetics of *Streptomyces rimosus*, the oxytetracycline producer. Microbiology and Molecular Biology Reviews, 2006, 70 (3), 704-728.
21. Mijaković, I., Petranović, D., Maček, B., Čepo, T., Mann, M., Davies, J., Jensen, P. R., **Vujaklija, D***. Bacterial single-stranded DNA-binding proteins are phosphorylated on tyrosine. Nucleic Acids Research 2006, 34(5) 1588-1596 *corresponding author
22. Orhanović S, Bučević-Popović, V, Pavela-Vrančić M, **Vujaklija D**, Gamulin V., Effect of a T81A mutation at the subunit interface on structural stability and catalytic properties of alkaline phosphatase from *Escherichia coli*. International Journal of Biological Macromolecules., 2006, 40 54-58
23. Ishiyama, D., **Vujaklija, D**. and Davies, J., Novel pathway of salycilate degradation by *Streptomyces* sp. strain WA 46. Applied and Environmental Microbiology, 2004, 70 (3) 1297-1306.
24. **Vujaklija, D***, Abramić, M., Leščić, Maršić, T. and Pigac, J., *Streptomyces rimosus* GDS(L) Lipase: Production, heterologous overexpression and structure-stability relationship. Food Technol. Biotechnol., 2003, 41 (1), 89-93 *corresponding author
25. **Vujaklija, D***., Schröder, W., Abramić, M., Zou, P., Leščić, I., Franke, P., Pigac, J., A novel streptomycete lipase: cloning, sequencing and high-level expression of the *Streptomyces rimosus* GDS(L)-lipase gene, Archives of Microbiol., 2002, 178(2), 124-130
26. Ahel, I., **Vujaklija**, **D.,** Mikoč, A., Gamulin, V. Transcriptional analysis of the *recA* gene in *Streptomyces rimosus*: identification of a new type of promoter. FEMS Microbiology Lett., 2002, 209, 133-137
27. Bakal, C.J., **Vujaklija, D**. and Davies, J. Immunochemical identification of a Stat3 analogue in streptomycetes. Food Technol. Biotechnol., 2001, 39 (4), 313-317 *corresponding author
28. Gregorović, G. and **Vujaklija, D***. High efficiency for direct plasmid shuttling between distantly related bacteria by electroduction Food Technol. Biotechnol. 2001., 39 (1), 49-53
29. Mikoč, A., **Vujaklija, D.** and Gamulin, V. The *recA* gene from *Streptomyces rimosus* R6: sequence and expression in *Escherichia coli*. Res. Microbiol. 1997, 148, 397-403
30. **Vujaklija D***, J. Žafran, A. Mikoč and V. Gamulin, Direct detection of extracellular deoxyribonucleases

in different strains of *Streptomyces rimosus*. Food Technol. Biotechnol. 1996, 34, 71-76

31. **Vujaklija, D*** and Davies, J., Direct transfer of plasmid DNA between *Streptomyces* spp. and *E. coli* by electroduction. *J. Antibiot.* , 1995, 48 (7), 635-637
32. Waters, B., **Vujaklija, D.**, Gold, M.R. and Davies, J., Protein tyrosine phosphorylation in streptomycetes. FEMS Microbiology Lett. , 1994, 120, 187-190
33. **Vujaklija, D***, Horinouchi, S. and Beppu, T., Detection of an A-factor-dependent protein that binds to the upstream activation sequence of *strR*, a regulatory gene for streptomycin biosynthesis in *Streptomyces griseus*. *J. Bacteriol.* 1993, 175, 2652-2661
34. **Vujaklija, D***, Ueda, K. Hong, S-K., Beppu, T. and Horinouchi, S., Identification of an A-factor-dependent promoter in the streptomycin biosynthetic gene cluster of *Streptomyces griseus*. Mol.Gen.Genet. 1991, 229, 119-128
35. Pigac, J., **Vujaklija D.**, Toman, Z., Gamulin, V. and H. Schrempf, Structural instability of a bifunctional plasmid pZG1 and single stranded DNA formation in *Streptomyces*. Plasmid, 1988, 19, 222-230

Other databases:

1. Horinouchi S., K. Miyake, S-K. Hong, **D. Vujaklija**, K. Ueda and T. Beppu (1991) Regulation by A-factor and afsR of Secondary Metabolism and Morphogenesis in *Streptomyces*. Actinomycetol. 5, 119-125
2. Pigac J., **D. Vujaklija**, V. Gamulin and Z. Toman (1987) Structural instability of plasmids in streptomycetes. Food technology biotechnology. rev. 25 (4), 111-117.

Publication in proceedings of an international conference:

1. Pigac J., **D. Vujaklija**, V. Gamulin (1986) Structural segregation of bifunctional vector pZG1 pZG1 in *Streptomyces lividans - Streptomyces rimosus*. Biological, Biochemical and Biomedical Aspects of Actinomycetes (G. Szabo, S, Biro and M. Goodfellow eds) Budapest: Akademia kiado, 103-105

Book with local review:

1. **Methods in molecular biology**, 2007. Zagreb: Ruđer Bošković Institute, (ISBN 953669072) / Ambriović Ristov, A .; Brozovic, A .; Bruvo Madjaric, B .; Cetkovic, H .; Herak Bosnar, M.; Hranilovic, D .; Katusic Hecimovic, S .; Mestrovic Radan, N .; Mihaljevic, S .; Slade, N .; **Vujaklija, D.**, editor (s). D. Vujaklija is an author / co-author in 5 different chapters

Popular Science papers:

1. **Vujaklija D.**, Horizontal gene transfer between distant bacterial species. Richter B. (ed.) Zagreb: Akademija medicinskih znanosti Hrvatske, (2000) 17-23
2. **Vujaklija D.**, "Croatian scientist in the human genome project." Croatian Emigrants' Anthology, Kukavica V. (ed.) Croatian Heritage Foundation, Journal of Emigration (2001) 285-289

Complete bibliography at http://bib.irb.hr/lista-radova?autor=116760 (**CROSBI**- **EN**/ for English Version)

OTHER SCIENTIFIC ACTIVITIES

Invited lectures and accepted lectures at international conferences, schools, institutions (since 2000):

2020 "γ-butyrolactone signalling systems and post-translational modifications" **Vujaklija Dušica** Summer Schools in Applied Molecular Microbiology (**invited lecture**, 01.-29.09.-2020 Zoom application) https://www.jic.ac.uk/training-careers/summer-schools/applied-molecular-microbiology/2020-applied-molecular-microbiology-summer-school-report/)

2019, Vujaklija, Dušica: Streptomyces: the mycelial life-style, spore formation and antibiotic production. The 1st FEMS Summer School for Postdocs, 29.08-11.09. 2019. MedILS, Split, Croatia; (**invited lecture**)

2019, Vujaklija, Dušica: Streptomyces: Twisted bacteria in nature and biotechnology. 28th Congress of Czechoslovak Society for Microbiology, 18-21 09. 2019. Tatranské Matliare, High Tatras, Slovakia (**invited plenary lecture**).

2018., Vujaklija, Dušica: γ-butyrolactone signalling systems and post-translational modifications. Summer Schools in Applied Molecular Microbiology: Microbial Specialized Metabolites: From Genome to Molecule, 08-16.09. 2018., IUC-Dubrovnik (**invited lecture**).

2017., Vujaklija, Dušica: Streptomyces: twisted bacteria with a great potential. European Summit of Industrial Biotechnology (Austrian-Croatian Science Day within esib2017) 15.11. 2017. Graz, AU (**invited lecture**).

2017. Vujaklija, Dušica: Twisted bacteria in Nature, Medicine and Biotechnology, 1st French-Croatian Blue Biotechnology Day, 21. 12. 2017. IRB – Zagreb, (**invited lecture**)
https://www.irb.hr/Kalendar/Arhiva-dogadaja/1st-French-Croatian-Blue-Biotechnology-Day

2016., Vujaklija Dušica: What is the difference between SsbA and SsbB? Central European Genome Stability and Dynamics Meeting, CEGSDM, Zagreb, 15-16.10.2016. (**invited lecture**)

2016., Tina Paradžik, Želimira Filić, Mladen Paradzik, Andrea Gazze, Ana Bielen, Lewis Francis, Paul Dyson, D. Jakimowicz, **Dušica Vujaklija**: A division of labor between two paralogous SSB proteins in Streptomyces coelicolor, 28.09-01.10. Krk, Power of micorbes in industry and environment, (**invited lecture**)

2016., Vujaklija, Dušica: Reversible protein phosphorylation is regulatory mechanism for diverse cellular processes. Summer Schools in Applied Molecular Microbiology: Microbial Diversity and Specialized Metabolites, 10.-18. 09. Dubrovnik IUC; (**invited lecture**).

2016., Tina Paradžik, Želimira Filić, Mladen Paradzik, Ana Bielen, **Dušica Vujaklija**: What will they do if there are two, 6th Croatian Congress of Microbiology with international participation, 15-18. 06. 2016. Sveti Martin na Muri, Hrvatska, (**invited lecture**)

2015. Ž. Filić, T. Paradžik, I. Crnolatac, A Bielen, I Piantanida, P Herron, **D Vujaklija**, Single-stranded DNA binding protein has a key role in chromosome segregation during morphological differentiation of Streptomyces coelicolor, FEBS3+ Meeting: Molecules of Life, 16-19 Sept., Portorož, Slovenia (**invited lecture**)

2014., T. Paradžik, Ž.Filić, N. Ivić, A. Bielen, B. A. Manjasetty, P. Herron, D. Jakimowicz, M. Luić, **D. Vujaklija**, Single stranded DNA binding protein plays an important role in chromosome segregation during reproductive growth of Streptomyces coelicolor. XVII International Symposyum on the Biology of Actinomycetes – ISBA'17, 08–12.10, Kusudasi, Aydin- Turkey (oral contribution)

2014., **Vujaklija, Dušica**. Post-Translational Modifications: focus on global studies of the protein phosphorylation in bacteria// Summer Schools in Applied Molecular Microbiology: "Microbial Specialized Metabolites: Originis and Applications "/ 13.-21.-08. 2014. IUC-Dubrovnik (international summer school, **invited lecture**).

2013., Tina Paradžik, Nives Ivić, Želimira Filić, Paul Herron, Babu A. Manjasetty Marija Luić, **Dušica Vujaklija**: Implication of Single Stranded DNA Binding Protein in Chromosome Segregation during Reproductive Growth of Streptomyces coelicolor., 4th Central European Forum for Microbiology – CEFORM, 16-18.10., 2013., Keszthely, Hungary (**invited lecture**)

2013., Tina Paradžik, Nives Ivić, Želimira Filić, Paul Herron, Babu A. Manjasetty Marija Luić, **Dušica Vujaklija**: How SSB protein ensures sporulation in dominant soil bacteria?, Power Of Microbes In Industry and Environment, 9–12.10. 2013., Primošten, Croatia (**invited lecture**)

2013., Vujaklija D.: Molecular study of dominant soil bacteria: streptomycetes in nature and application to biotechnology, The 2nd International Symposium "Vera Johanides" - Biotechnology in Croatia by 2020, 10-11. 05. 2013., Zagreb, Croatia (**invited lecture**)

2012., Dušica Vujaklija: What is the biological role of paralogous SSBs in Streptomyces coelicolor? 21. 12. 2012., Université de Pau et des Pays de l'Adour, Equipe Environnement et Microbiologie, UMR CNRS 5254 (IPREM - EEM), IBEAS - UFR Sciences et Techniques, BP 1155 F64013 Pau, France (**invited lecture** – visiting scientist)

2012., Tina Paradžik, Nives Ivić, Želimira Filić, Paul Herron, Babu A. Manjasetty Marija Luić, **Dušica Vujaklija:** A new look at SSB proteins; Symposium: Actinobacteria within soils: Capacities for mutualism, symbiosis and pathogenesis, 25 – 28., 10. 2012. Münster Germany /Schrempf, Hildgund, Darío Ortiz de Orué Lucana (ur.). Universitaet Osnabrueck, (**invited lecture**)

2012. Vujaklija, Dušica. New insights into bacterial phosphoproteome analysis // Summer School in Applied Molecular Microbiology: Microbial Metabolites in Nature and Medicine/ 25.08-02.09. IUC-Dubrovnk, (international summer school, **invited lecture**).

2012., Tina Paradžik, Nives Ivić, Želimira Filić, Babu A.Manjasetty, Paul Herron, Marija Luić, **Dušica Vujaklija**: Distinct properties of two paralogous SSB proteins from Streptomyces coelicolor 5th Congress of Croatian Microbiological Society with international participation, Primošten, Croatia. 26-30.09. 2012. (**invited lecture**)

2011., Vujaklija Dušica "Streptomycetes are a source of hydrolytic enzymes with potential in lipid biotransformation" //CIPKEBIP Annual Conference "Biosynthetic and metabolic Engineering in Industrial drug and process development" // 15-16. rujan 2011. Ljubljana, Slovenija (international conference; **invited lecture**)

2010., Vujaklija, Dušica: Old concepts - new insights into bacterial phosphorylation, Summer Schools in Applied Molecular Microbiology: "From Signals to Drug", 21-29.08. 2010., IUC, Dubrovnik, (international summer school, **invited lecture**).

2010., Vujaklija, Dušica; Bielen,Ana; Abramić, Marija; Pigac, Jasenka. The power of SGNH lipases from Streptomyces // Power of Microbes in Industry and Environment / Frece, Jadranka; Kos, Blaženka; Mrša, Vladimir (ur.). Zagreb: Croatian Microbiological Society with international participation, 22-25 Sept. 2010, Malinska (**invited plenary lecture**)

2009., Bielen, Ana; Abramić, Marija; Pigac, Jasenka; **Vujaklija, Dušica**. The SGNH-lipolytic enzymes in Streptomyces species // Biology of Streptomycetes / Schrempf, Hildgund (ur.). Osnabrueck, Germany: Universitaet Osnabrueck, Miunster 07-11.10. 2009 (**invited lecture**)

2009., Vujaklija, Dušica; Bielen, Ana; Abramić, Marija; Pigac, Jasenka: The SGNH-hydrolases from streptomycetes, 10 Hrvatski biološki kongres s međunarodnim sudjelovanjem, 14-20 rujna 2009., Osijek, Hrvatska: Croatian Biological Society, (**invited plenary lecture**)

2008., Mijaković, Ivan, Petranović, Dina; Maček, Boris; Čepo, Tina; Mann, Matthias; Davies, Julian; Jensen, Peter, R.; **Vujaklija, Dušica**. Tyrosine phosphorylation of bacterial SSBs from taxonomically distant bacterial species // 4th Congress of the Slovenian Microbiological Society with International Participation "Microbiology for today ", Portorož, Slovenija, 19.-22.11.2008 (**invited lecture**)

2008. Vujaklija, Dušica "Tyrosine phosphorylation in Bacteria - puzzle of Streptomyces signalling "// Summer School on "Microbial Secondary Metabolites: Genomes, Signals and Communities" / 24.08-01.09. (international summer school, **invited lecture**).

2006., Vujaklija, D.: An Introduction to GMO // EUROTOX 2006/6CTDC; CEC 3 "Dealing and debating about GMOs" Congress, Cavtat, September 20-24, 2006 (**invited lecture**)

2006., Mijaković, Ivan, Petranović, Dina ; Čepo, Tina ; Davies, Julian ; Jensen, Peter R ; **Vujaklija, Dušica**: Tyrosine phosphorylation of bacterial single-stranded DNA-binding proteins Streptomyces functional genomics dissemination meeting, Norwich, UK, 10-11 January, (**invited lecture**)

2006., Mijaković, Ivan; Petranović, Dina; Maček, Boris; Čepo, Tina; Mann, Matthias; Davies, Julian; Jensen, Peter R; **Vujaklija, D**.: A novel substrate of bacterial tyrosine kinase // Congress of Croatian biochemical society and molecular biology for 30th anniversary of establishment, with international participation/ Vodice, 03-07.10., 2006. (**invited lecture**)

2005., Mijaković, Ivan; Petranović, Dina; Maček, Boris; Čepo, Tina; Mann, Matthias; Davies, Julian; Jensen, Peter R; **Vujaklija, D**. // Bacterial single-stranded DNA binding proteins are phosphorylated on tyrosine, 1st Central European Forum for Microbiology – CEFORM, Hungary, 26-28 Oct., 2005. (**invited lecture**)

2005., Mijaković, I; Petranović, D; Čepo, T; Davies, J; Jensen, P.R; **Vujaklija, D.** Bacterial single-stranded DNA-binding proteins are phosphorylated on tyrosine // The Second Congress of Croatian Geneticists with international participation, Supetar, Brač, 24.-27. 9. 2005. (**plenary lecture**)

2004., Vujaklija, D; Abramić, M; Kojić-Prodić, B; Leščić, I; Jasenka, P. A novel family of bacterial lipases // Third Croatian Congress of Microbiology with International Participation, Poreč, Croatia, October 4-7, 2004. (**invited lecture**)

2003., Vujaklija D., M. Abramić, B. Kojić-Prodić and J. Pigac, A novel member of bacterial lipases in Streptomyces, Biology of streptomycetes and related actinomycetes, Muenster, Germany: 27.02- 03.03, 2003 (**invited lecture**)

2002, Vujaklija, D.; Abramić, M; Leščić, I; Pigac, J. The third lipolytic-family in Streptomyces, represented by the novel GDS(L) lipase from S. rimosus // Power of microbes in industry and environment / 7-9 June, Opatija, Croatia, (**invited lecture**)

2000., Vujaklija D.: Horizontalni prijenos gena između udaljenih bakterijskih vrsta // Horizontalno širenje gena i ljudsko zdravlje /Zagreb: Akademija medicinskih znanosti Hrvatske, 3. studenog (**invited lecture**)

Visnjan summer school:
2014. Dušica Vujaklija, „Od molekularno - genetičkih spoznaja do lijekova detergenata ili Rembrandta" Summer School of Science - S3 VIŠNJAN, 12. August, 2014. (**invited lecture**)

Poster presentations listed in the Crosby database: http://bib.irb.hr/lista-radova?autor=116760

OTHER IMPORTANT SKILLS AND COMPETENCES

Technical skills and competencies: knowledge of classical and molecular biological and biochemical microbiological techniques, such as techniques used in genetic engineering for gene and genome manipulation, e.g. for gene cloning using different vectors, for in vitro mutagenesis, for "knock out" Genes, for amplification of target DNA fragments - PCR methods, for gene library development, for the screening of target products, for homologous and heterologous gene expression, for protein purification, Western blot analysis and other techniques used in molecular biology

ADDITIONAL INFORMATION AND NOTES

Major scientific collaborations established for the active projects:

UKF project: Prof. Boris Maček, Proteome Center Tuebingen, Tuebingen, Germany, Prof. I. Hunter i dr. P. Herron, Strathclyde University, Glasgow, UK (global proteome / phosphoproteome studies using mass spectrometry (MS) to identify regulatory mechanisms involved in controlling antibiotic synthesis in Streptomyces)
HrZZ project: Prof. Dagmara Jakimowicz, University of Wroclaw, Poland; Professor Paul Hoskisson, Strathclyde University, Glasgow, UK; continued collaboration with Prof. Boris Maček, Proteome Center Tuebingen, Germany, and start of collaboration with Prof. Gregor Anderluh, The National Institute of Chemistry, Ljubljana, Slovenia (study of the SSB protein interactomes).
Cogito project: continuation of collaboration with Prof. R. Duran, Universite de Pau et des Pays de l'Adour - UPPA, Pau (research on metagenomes/bacterial biofilms and viruses in selected ecological niches of the Adriatic sea)
DAAD-RH project: Collaboration with Prof. Wolfgang Fritzsche, Leibniz Institute of Photonic Technology (IPHT) (Development of new approaches for the evaluation of SSB protein binding to ssDNA using nanoparticles and the LSPR method)

On the completed projects, collaboration was established with:
Prof. Ivan Mijaković and prof. Peter Jensen; Technical University of Denmark, (Lyngby) on SSB protein phosphorylation research;
Prof. Helmuth Schwab, Technical University Graz, (Austria), on GDSL lipase research,
Prof. Paul Long, UCL School of Pharmacy (London, UK), on various projects,
Prof. Julian Davies, FRS, UBC, Vancouver, Canada, postdoctoral training and long-term collaboration on various projects, which can be seen from the joint publications.

Other academic achievements:

2007- Present, D. Vujaklija is one of the co-founders of internationally recognized summer schoolsl (co-founders Sir David Hopwood, FRS; Prof. Julian Davies, FRS). This series of renowned summer schools takes place under the title "Summer schools in applied molecular microbiology (SSAMM)". Over the last decade, this school has gained great recognition in academic circles.

Commercialization of services - RBI

D. Vujaklija is a member of the expert team of the Ruđer Bošković Institute authorized to perform: (i) Risk assessment for the introduction of GMOs into the environment and (ii) Risk assessment for placing products containing GMOs on the market. Led by dr.sc. H. Fulgosi (LEM) this group of experts prepared a series of risk assessment studies for placing products containing GMOs on the market, based on which the RBI has earned more than HRK 650,000 net since 2012.

Popularization of Science:

Participation in the organization of RBI Open Days from the very beginning, in conducting popular science lectures during the RBI Open Days and in designing, coordinating and conducting popular science workshops (some significant activities):

RBI Open Days: 2008 and 2010 member of the **ODI** Organizing Committee; 2013, 2015, 2019 - conducting popular science lectures for ODI visitors.

Workshops organized at the RBI
Within the „STEM" project and in collaboration with foundation „Znanje na djelu" - **D. Vujaklija** designed and coordinated a series of workshops for students (Associates in conducting the experiments: H. Ćetković, A. Mikoč, T. Šimunov, E. Šarić)
2016, 2017 and 2018 workshop entitled: How to fight antibiotic-resistant pathogenic bacteria?
2019. Bio-mining: Application of molecular methods to isolate and identify bacteria that produce antibiotics? (Collaborators: S. Kazazić, T. Paradžik, E. Šarić)
Within the project „Ja raSTEM!" - Multiyear interdisciplinary STEM program of innovative teaching of gifted primary school students "- D. Vujaklija was the coordinator of molecular-microbiological workshops with the same thematic units (see STEM) for students: 2017, 2018 and 2019.
In **2018**, D. Vujaklija was the coordinator of the workshop for students of the elementary school "Hugo Badalić" from Slavonski Brod (20/02/2018).
2018. D. Vujaklija was the coordinator of the workshop for the students of the elementary school "Fran Krsto Frankopan" from Krk (27/03/2018.)
In 2019, D. Vujaklija was the coordinator of the workshop for gifted students of "Brodsko-posavske" County.

2019 From Doctorate to Career in Science and Higher Education", University of Rijeka (05/12/2019)

Workshops and professional meetings (outside the RBI):

2016. Workshop for Josip Slavenski High School, Čakovec, June 18, 2016, D. Vujaklija was organizer and lecturer, Title of the lecture: A closer look at the DNA molecule (This event was organized as part of 6th Congress of the Croatian Microbiological Society)
2009. Professional meeting for teachers of biology and chemistry, organized by the Agency for Education, Zagreb, Ministry of Economy, Labor and Entrepreneurship, 9.01.2009. D. Vujaklija, lecture entitled: Introduction to research at the Ruđer Bošković Institute and Insight into the Open Days of the RBI.
2006. Conference for biology professors: INTERESTING GENETICS, D. Vujaklija: How do bacteria talk?, Gimnazija Čakovec, (November 2-3, 2006)