Curriculum Vitae

PERSONAL INFORMATION

Name and surname	**Davor Juretić**
Academic title	Professor Emeritus
Year and institution of PhD obtained	1976 Biophysics Department, Pennsylvania State University, PA, USA
Address	Mediterranean Institute for Life Sciences, Meštrovićevo šetalište 45 HR – 21000 Split, Croatia
Phone	+385-(0)21-388724 Cellular phone: 098-581193
Fax	+385-(0)21-555605
E-mail	davor.juretic@medils.hr, davor.juretic@gmail.com, juretic@pmfst.hr
Personal web page	http://www.pmfst.hr/~juretic/
Citizenship	Croatian
Date and place of birth	October 23, 1944, Split, Croatia

WORK EXPERIENCE

Date (from – until)	2016-present
Institution	Mediterranean Institute for Life Sciences
Position	Scientific adviser
Date (from – until)	1989-2015
Institution	University of Split, Faculty of Science, Split
Position	Professor of physics, Full Professor of physics, Professor emeritus Department of physics from November 2015
Work field	physics, biophysics, bioenergetics and bioinformatics
Date (from – until)	1977-1985
Institution	University of Rijeka, Faculty of Education, Rijeka
Position	Assistant professor of physics
Work field	physics, biophysics, bioenergetics
Date (from – until)	1968-1972
Institution	Ruđer Bošković Institute, Zagreb
Position	Assistant
Work field	Theoretical solid state physics

EDUCATION

Date	1963-1968 Physics, 1968-1972 Theoretical Physics
Place	Zagreb
Institution	University of Zagreb, Faculty of Science, Zagreb, Croatia
Title of qualification awarded	BSc 1968, MSc 1971
Date	1972-1976 Biophysics
Place	State College, PA, USA
Institution	Pennsylvania State University, Biophysics Department
Title of qualification awarded	PhD 1976

TRAINING

Year	1985-1989
Place	Washington, DC, USA
Institution	Uniformed Services University for Health Sciences 1985, National Institutes of Health 1986-1989, Bethesda, USA
Subject and skills covered	biophysics, physics, bioinformatics and bioenergetics
Year	1984-1985
Place	Parma, Italy
Institution	University of Parma, Department of Biochemistry, Parma, Italy
Subject and skills covered	biophysics of membrane proteins
Year	1976
Place	East Lansing, MI, USA
Institution	University of Michigan
Subject and skills covered	biophysics of membranes

RESEARCH AND OTHER PROJECTS

1996-2001 project 177060: Predicting structure and activity of membrane polypeptides
Project leader: Davor Juretić, Ministry of Science, Technology and Sport funding (MZOS)
2002-2006 project 177163: Predicting structure and activity of membrane polypeptides
Project leader: Davor Juretić, Ministry of Science, Technology and Sport funding (MZOS)
2007-2013 project 177-1770495-0476: Development and applications of maximal entropy production principle. Project leader, Davor Juretić (MZOS)
2009-2011 Co-leadership of Bilateral project Croatia-Italia: Design and synthesis of selective peptide antibiotics
2010 Co-leadership of Alpe-Adria Fellowships project: Designing, synthesis and control of therapeutic activity of novel selective peptide antibiotics.
2007-2011 Co-leadership of Bilateral project Croatia-Slovenia: Maximal entropy production principle and biochemical reaction networks in cells
2014-2017 Project leader until 2016 and collaborator afterwards, Croatian Science Foundation Project 8481 BioAmpMode: Biophysical Design of Antimicrobial Peptides and Innovative Molecular Descriptors.

TEACHING

Faculty of Education, University of Rijeka
1977-1985 Theoretical mechanics, Statistical physics, Quantum physics, Thermodynamics, Biophysics
Faculty of Science, University of Zagreb
2000-2006 Bioenergetics, PhD level course
2001-2005 Bioinformatics, PhD level course
Faculty of Chemical Engineering and Technology, University of Split
1995-2002 Biological free-energy transduction
1996 Selected chapters of medical biophysics
Faculty of Science, University of Split
1989-1996 General physics courses I, II, III (mechanics, electromagnetism, wave motion respectively), Biophysics
1997-2008 General physics courses I, II (mechanics and electromagnetism respectively), Biophysics, Bioenergetics
2010-2013 General Physics course I (mechanics)
2007-2015 Diploma (MSc) study of physics – Biophysics orientation: Bioinformatics, Biophysics Bioenergetics, Biophysics Research, Bioinformatics Research, Research Methods in Natural Sciences
2008-2015 Doctoral study of biophysics, teaching in English language 2008 – leading and paricipating in courses: Cell Biophysics, Bioinformatics, biophysics and bioenergetics of membrane

proteins, Applications of maximum entropy production principle in physics and biology, Seminars and Workshops from Interdisciplinary Life Sciences

MENTORSHIP OF DEFENDED DOCTORAL AND MASTER DISSERTATIONS AND TRAINING OF YOUNG RESEARCHERS AND SCIENTISTS

Mentorship of MSc thesis: Bono Lučić 1994, Ana Jerončić 2004, Larisa Zoranić 2005, Mario Novković 2010, Mara Kozić 2012, Marija Miljak 15.01.2013, Josip Ivica 15.01.2013 Nataša Vučemilović-Alagić 4.10.2013, Tomislav Donđivić 17.09.2015, Luka Gujinović 29.03.2016. The majority of these thesis were written in English with joint works in international journals published afterwards. Topics from Mario Novković MSc thesis have been published jointly in three CC publications. The CC publication, which formed the basis of Larisa Zoranić thesis already collected almost 200 citations. CC publications with Bono Lučić also collected around 200 citations, while CC publications with Nada Ilić colected close to 100 citations.
Mentorship of PhD thesis: Nada Ilić (got her PhD 29.08.2013) and Tomislav Rončević (in the process).

VISITS TO FOREIGN RESEARCH AND EDUCATION INSTITUTIONS

Pennsylvania State University, State College, USA, 1972-1976
Michigan State University, East Lansing, USA, 1977
University of Parma, Parma, Italija, 1984-1985
Uniformed Services University for Health Sciences, Bethesda, MD, SAD, 1985
National Institutes of Health, Washington D.C., SAD, 1986-1989

AWARDS AND RECOGNITIONS

Slobodna Dalmacija award for science, 1992
State award for science „Ruđer Bošković", 1994
State award "Red Danice Hrvatske s likom Ruđera Boškovića", 1996
Matica Hrvatska award for science for the book „Bioenergetics", 1997
Slobodna Dalmacija award for science, 2012
Professor Emeritus, 2016
University of Split Faculty of Science award for lifelong achievements, 2017

ORGANIZATIONAL ACHIEVEMENTS

Organisation of the first whole day session in Croatia on Bioinformatics as the part of the MCC meeting in Dubrovnik, June 2001, with the participation of the first class bioinformatics and computational biophysics researches, such as Andrej Sali, and co-editor of Periodicum Biologorum journal number in 2005 partially devoted to bioinformatics. See ref. # 51.

Co-leadership of the international conference about maximum entropy production principle and its applications: 4th international meeting on maximum entropy production in physics and biology, Split, 2006

Leadership of the research programme: „ Development and Application of New Biophysical Models and Procedures" which included two MZOS projects from Zagreb with project leaders Academician Nenad Trinajstić and Dr. Nenad Raos in addition to MZOS project from Split with project leader Davor Juretić. This leadership led to:

Organisation of the first biophysical conference at the Faculty of Science, University of Split: "1st Split Meeting on Development and Applications of Novel Methods and Models in Computational Biophysics and Structural Bioinformatics", Split, 2007, http://www.pmfst.hr/biophysics/konf/

Organisation of the First Australia-Croatia Workshop on Antimicrobial Peptides AMP2010, Split 2010. It was also the workshop for PhD students from Univ. of Split biophysics programme and for other PhD students from Croatia and from abroad. http://split4.pmfst.hr/konferencija/

Construction and leadership: Graduate study of physics – biophysics orientation, Faculty of Science, Univ. of Split, 2007-2015

Construction and leadership: PhD biophysics programme, Faculty of Science, Univ. of Split, 2008-2015, http://www.pmfst.hr/biophysics/

MEMBERSHIP IN SCIENCE ORGANIZATIONS AND BODIES

American Association for the Advancement of Science (member)
American Biophysical Society (member until 1991)
Croatian Biophysical Society (member)
Croatia Physical Society (member)
Physical Society Split (member)
Institute of Physics (associate member)
Croatian Academic Association (board member from 1998 to 2007)

COMMISSIONS, COMMITTEES, BOARDS AND WORK GROUPS

1993-1995 Department of Physics, Head
1992-2005 National committee for the field of physics, member
2001 National committee for natural sciences, member

SCIENTIFIC PAPERS, BOOK CHAPTERS, AND BOOKS

Book authorship:

D. Juretić: Bioenergetika – Rad membranskih proteina, Informator, Zagreb, 1997 (in Croatian)
D. Juretić: Research Methods in Natural Sciencies, Split 2015 (In Croatian, online publication)
D. Juretić: Translation of Halliday-Resnick-Walker „Fundamentals of Physics" in Croatian language 2015. According to agreement with Editors I can make it available on request to University of Split professors and assistants teaching physics.
D. Juretić: „Dozivam Te", Split 2015 (first book of poems in Croatian)
D. Juretić: „Dvorana savršene akustike", Split 2017 (book of poems in Croatian to be published)

Scientific publications:

2017:

M.-A. Sani, C. Saenger, **D. Juretić** and F. Separovic: „Glycine Substitution Reduces Antimicrobial Activity and Helical Stretch of diPGLa-H in Lipid Micelles" ***The Journal of Physical Chemistry B***, DOI: 10.1021/acs.jpcb.7b03067.

Tomislav Rončević, Goran Gajski, Nada Ilić, Ivana Goić-Barišić, Marija Tonkić, Larisa Zoranić, Juraj Simunić, Monica Benincasa, Marijana Mijaković , Alessandro Tossi, **Davor Juretić**: "PGLa-H tandem-repeat peptides active against multidrug resistant clinical bacterial isolates". ***BBA-Biomembranes* 1859**, 228-237 (2017).

Davor Juretić, Damir Vukičević, Alessandro Tossi: "Tools for designing amphipathic helical antimicrobial peptides". Methods in Moleculer Biology book series, published as one chapter of the book: ***Antimicrobial Peptides: Methods and Protocols 2017.***

2016:

Željana Bonačić Lošić, Tomislav Donđivić, **Davor Juretić**: "Is the catalytic activity of triosephosphate isomerase fully optimized? An investigation based on maximization of entropy production." ***J. Biol. Phys.*** DOI 10.1007/s10867-016-9434-3

2015:

Mara Kozić, Damir Vukičević, Juraj Simunić, Tomislav Rončević, Nikolinka Antcheva, Alessandro Tossi, **Davor Juretić**, „Predicting the Minimal Inhibitory Concentration for Antimicrobial Peptides with Rana-box Domain." ***Journal of Chemical Information and Modeling***, **55**, 2275-2287 (2015). DOI: 10.1021/acs.jcim.5b00161.Epub 2015 Sep 18. Citations 2.

2014:

Juraj Simunić, Dražen Petrov, Tahar Bouceba, Nedia Kamech, Monica Benincasa, **Davor Juretić**: "Trichoplaxin — A new membrane-active antimicrobial peptide from placozoan cDNA". ***BBA-Biomembranes,*** **1838**, 1430-1438 (2014). Citations 3.

Andrej Dobovišek, Paško Županović, Milan Brumen, **Davor Juretić**: "Maximum entropy production and maximum Shannon entropy as the germane principles for the evolution of enzyme kinetics". Published as a book chapter in ***Beyond the Second Law: Entropy Production and Non-Equilibrium Systems*** (R.C. Dewar, C. Lineweaver, R. Niven, K. Regenauer-Lieb, eds.), pp. 361-382, Springer (2014). Citations 3.

2013:

Nada Ilić, Mario Novković, Filomena Guida, Daniela Xhindoli, Monica Benincasa, Alessandro Tossi, **Davor Juretić**: "Selective antimicrobial activity and mode of action of adepantins, glycine-rich peptide antibiotics based on anuran antimicrobial peptide sequences". ***BBA-Biomembranes,*** **1828**, 1004-1012 (2013). Available online from 26. November 2012. (http://dx.doi.org/10.1016/j.bbamem.2012.11.017). Citations 34.

2012:

Nédia Kamech, Damir Vukičević, Ali Ladram, Christophe Piesse, Julie Vasseur, Viktor Bojović, Juraj Simunić, **Davor Juretić**: "Improving the selectivity of antimicrobial peptides from anuran skin". ***Journal of Chemical Information and Modeling***, **52**, 3341–3351 (2012) Available online from 24. October 2012. (http://dx.doi.org/10.1021/ci300328y). Citations 8.

Mario Novković, Juraj Simunić, Viktor Bojović, Alessandro Tossi, **Davor Juretić**: "DADP: the Database of Anuran Defense Peptides". ***Bioinformatics J.,*** **28**, 1406-1407 (2012). Citations 45.

Valentina Tessera, Filomena Guida, **Davor Juretić**, Alessandro Tossi: "Identification of antimicrobial peptides from teleosts and anurans in expressed sequence tag databases using conserved signal sequences" ***FEBS Journal,*** **279**, 724–736 (2012). Citations 13.

Domagoj Kuić, Paško Županović, **Davor Juretić**:" Macroscopic time evolution and MaxEnt inference for closed systems with Hamiltonian dynamics" ***Foundations of Physics,*** **42**, 319-339 (2012). Citations 7.

2011:

Davor Juretić, Damir Vukičević, Dražen Petrov, Mario Novković, Viktor Bojović, Bono Lučić, Nada Ilić, Alessandro Tossi: "Knowledge-based computational methods for identifying or designing novel, non-homologous antimicrobial peptides". ***Eur. Biophys. J.,*** **40**, 371-385 (2011). Citations 29.

Andrej Dobovišek, Paško Županović, Milan Brumen, Željana Bonačić-Lošić, Domagoj Kuić, and **Davor Juretić**: "Enzyme kinetics and the maximum entropy production principle" ***Biophysical Chemistry*, 154**, 49-55 (2011). Citations 11.

S. Afonin, **D. Juretić**, F. Separovic, A.S. Ulrich:" Special issue on membrane-active peptides" ***European Biophysics Journal*, 40**, 347-348 (2011). Citations 2.

2010:

Paško Županović, Milan Brumen, Marko Jagodič, **Davor Juretić**: "Bacterial chemotaxis and entropy production" ***Philosophical Transactions of the Royal Society B,* 365**, 1397-1403 (2010). Citations 5.

Paško Županović, Srećko Botrić, **Davor Juretić**, Domagoj Kuić: " Relaxation Processes and the Maximum Entropy Production Principles" ***Entropy*, 12**, 473-479 (2010). Citations 1.

Paško Županović, Domagoj Kuić, **Davor Juretić**, Andrej Dobovišek: " On the Problem of Formulating Principles in Nonequilibrium Thermodynamics" ***Entropy*, 12**, 926-931 (2010). Citations 4.

Paško Županović, Domagoj Kuić, Željana Bonačić-Lošić, Dražen Petrov, **Davor Juretić**, Milan Brumen: "The Maximum Entropy Production Principle and Linear Irreversible Processes" ***Entropy* 12**, 996-1005 (2010). Citations 14.

2009:

D. Juretić, Damir Vukičević, Nada Ilić, Nikolinka Antcheva, Alessandro Tossi: " Computational Design of Highly Selective Antimicrobial Peptides" ***J. Chem. Inf. Model.*, 49**, 2873-2882 (2009). Citations 52.

2006:

R. C. Dewar, **D. Juretić**, P. Županović: "The functional design of the rotary enzyme ATP synthase is consistent with maximum entropy production" ***Chemical Physics Letters*, 430**, 177-182 (2006). Citations 41.

P. Županović, S. Botrić, **D. Juretić**: "Relaxation Processes, MaxEnt Formalism and Einsten's Formula for the Probability of Fluctations" ***Croatica Chemica Acta,* 79**, 335-338 (2006). Citations 10.

2005:

D. Juretić, B. Lučić, N. Trinajstić: "Why focusing on bioinformatics?" ***Periodicum Biologorum,* 107**, 379–383, (2005). Citations 4.

D. Juretić, P. Županović: "The free-energy transduction and entropy production in initial photosynthetic reactions" in the book **Non-equilibrium Thermodynamics and the Production of Entropy**, Eds. A. Kleidon i R.D. Lorenz,Springer,-Verlag, Berlin (2005); pp. 161-171. Citations 7.

P. Županović, **D. Juretić**, S. Botrić: "On the equivalence between Onsager's principle of the least dissipation of energy and maximum entropy production principle. Conduction of heat in an anisotropic crystal." ***FIZIKA A*, 14**, 89–96,(2005). Citations 6.

S. Botrić, P. Županović, **D. Juretić**: "Is the Stationary Current Distribution in a Linear Planar Electric Network Determined by the Principle of Maximum Entropy Production" ***Croatica Chemica Acta*, 78**, 181-184 (2005). Citations 8.

2004:

D. Zucić, **D. Juretić**: "Precise Annotation of Transmembrane Segments with Garlic – a Free Molecular Visualization Program" ***Croatica Chemica Acta*, 77**, 397-401 (2004). Citations 13.

P. Županović, **D. Juretić**: "The Chemical Cycle Kinetics Close to the Equilibrium State and Electrical Circuit Analogy" ***Croatica Chemica Acta*, 77**, 561-571 (2004). Citations 15.

P. Županović , **D. Juretić**, S. Botrić: "Kirchhoff's loop law and the maximum entropy production principle" ***Physical Review E 70***, 056108 (2004). Citations 51.

2003:

D. Juretić, P. Županović: "Photosynthetic Models with Maximum Entropy Production in Irreversible Charge Transfer Steps" , ***Comp. Biol. Chem.*, 27**,541-553(2003). Citations 57.

2002:

D. Juretić, L. Zoranić, D. Zucić: "Basic charge clusters and predictions of membrane protein topology". ***J. Chem. Inf. Coput. Sci.*, 42**, 620-632 (2002). Citations 195.

1999:

D. Juretić, A. Jerončić, D. Zucić, "Sequence analysis of membrane proteins with the web server SPLIT". ***Croatica Chemica Acta*, 72**, 975-997 (1999). Citations 24.

D. Juretić, A. Jerončić, D. Zucić, "Prediction of initiation sites for protein folding with helix preferences". ***Periodicum Biologorum*, 101**, 339-347 (1999). Citations 3.

1998:

D. Juretić, B. Lučić, D. Zucić, N. Trinajstić, '' Protein transmembrane structure: recognition and prediction by using hydrophobicuty scales through preference functions.'' p. 405-445 as book chapter in the book "***Theoretical and Computational Chemistry*** ", Vol 5. Theoretical Organic Chemistry (Edited by Parkanyi, C.), Elsevier Science, Amsterdam, (1998). Citations 25.

D. Juretić, D. Zucić, B. Lučić and N. Trinajstić, " Preference functions for prediction of membrane-buried helices in integral membrane proteins." ***Computers and Chemistry*, 22**, 279-294 (1998). Citations 37.

D. Juretić, A. Lučin, " The preference functions method for predicting helical turns with membrane propensity. " ***Journal of Chemical Information and Computer Sciences*, 38**, 575-585 (1998). Citations 26.

1997:

B. Lučić, N. Trinajstić, **D. Juretić**, '' Recognition of membrane protein structure from amino acid sequence.'' p. 117-158 as book chapter in the book ***"From Chemical Topology to Three-Dimensional Geometry "*** (Edited by Balaban, A.T) Plenum Publishing Corporation, New York, (1997).

1996:

B. Lučić, N. Trinajstić, **D. Juretić**, "From protein sequence to conformation I". (in Croatian). ***Polimeri*, 17**, 119-128 (1996).

1995:

H.V. Westerhoff, M. Zasloff, J.L. Rosner, R.W. Hendler, A.De Wall, A Vaz Gomez, A.P.M. Jongsma, A. Riethorst, **D. Juretić**, "Functional synergism of the magainins PGLa and magainin-2 in Escherichia coli, tumor cells and liposomes". ***Eur. J. Biochem*., 228**, 257-264 (1995). Citations 125.

D. Juretić , B. Lučić, N. Trinajstić , "Secondary structure prediction quality for naturally occurring amino acids in soluble proteins". ***Journal of Molecular Structure (Theochem)*, 338**, 43-50 (1995). Citations 3.

D. Juretić and R. Pešić , "A scale of beta-preferences for structure-activity predictions in soluble proteins". ***Croatica Chemica Acta*, 68**, 215-232 (1995). Citations 2.

B. Lučić , S. Nikolić , N. Trinajstić , A. Jurić, **D. Juretić**, "A novel QSPR approach to physicochemical properties of the alpha-amino acids". ***Croatica Chemica Acta,* 68**, 435-450 (1995). Citations 43.

B. Lučić, S. Nikolić, N. Trinajstić, **D. Juretić**, The Structure-Property Models can be Improved Using the Orthogonalized Descriptors. ***Journal of Chemical Information and Computer Science,* 35**, 532-538 (1995). Citations 88.

1994:

D. Juretić , R. W. Hendler, F. Kamp, W. S. Caughey, M. Zasloff, H. V.Westerhoff, "Magainin oligomers reversibly dissipate membrane potential in cytochrome oxidase liposomes". ***Biochemistry,* 33**, 4562-4570 (1994). Citations 45.

1993:

D. Juretić, B.K. Lee, N. Trinajstić, R.W. Williams, "Conformational preference functions for predicting helices in membrane proteins". ***Biopolymers*, 33**, 255-273 (1993). Citations 44.

D. Juretić, N. Trinajstić, B. Lučić, "Protein secondary structure conformations and associated hydrophobicity scales". ***J. Math. Chem*., 14**, 35-45 (1993). Citations 5.

D. Juretić, B. Lučić, N. Trinajstić, "Predicting membrane protein secondary structure. Preference functions method for finding optimal conformational preferences". ***Croatica Chemica Acta*, 66**, 201-208 (1993). Citations 8.

D. Juretić, "Hydrophobicity preferences and secondary structure prediction for membrane proteins". ***Acta Pharmaceutica*, 43**, 223-226 (1993).

1992:

D. Juretić, "Secondary structure of membrane proteins: Prediction with conformational preference functions of soluble proteins". ***Croatica Chemica Acta*, 65**, 921-932 (1992). Citations 4.

D. Juretić, "Membrane free-energy converters: The benefits of intrinsic uncoupling and nonlinearity". ***Acta Pharmaceutica*, 42** , 373-376 (1992).

1991:

D. Juretić, R.W. Williams "Protein secondary structure preferences: dependence on medium-range steric interactions" ***J. Math. Chem*., 8**, 229-242 (1991). Citations 4.

D. Juretić, "Damped oscillatory control of mitochondrial energy linked processes observed in the presence of magainins" ***Period. biol*., 93**, 277-278 (1991).

D. Juretić, "Localizing alpha-helices in water-soluble and membrane-bound proteins". ***Period. biol.*, 93**, 279-280 (1991). Citations 2.

1990:

D. Juretić, "Antimicrobial peptides of the magainin family: membrane depolarization studies on *E. coli* and cytochrome oxidase liposomes", ***Studia Biophysica,* 138**, 79-86 (1990). Citations 13.

1989:

D. Juretić, B. Lee, "Secondary structure preferences of amino acids in proteins as analytical functions of local hydrophobicity in the primary structure", ***Biophys. J.,* 55**, 354 (1989).

D. Juretić, R.W. Hendler, M. Zasloff, H.V. Westerhoff, "Cooperative action of magainins in disrupting membrane-linked free-energy transduction", ***Biophys. J.,* 55**, 572 (1989). Citations 6.

D. Juretić, H.-C. Chen, J.H. Brown, J.L. Morell, R.W. Hendler, H.V. Westerhoff, "Magainin 2 amide and analogues. Antimicrobial activity, membrane depolarization and susceptibility to proteolysis", ***FEBS Letters*, 249**, 219-223, (1989). Citations 76.

H.V. Westerhoff, **D. Juretić**, R.W. Hendler, M. Zasloff, "Magainins and the distruption of membrane-linked free-energy transduction", ***Proc. Natl. Acad. Sci. USA*, 86**, 6597-6601 (1989). Citations 275.

H.V. Westerhoff, R.W. Hendler, M. Zasloff and **D. Juretić**, "Interactions between a new class of eukaryotic antimicrobial agents and isolated rat liver mitochondria", ***Biochim. Biophys. Acta*, 975**, 361-369 (1989). Citations 62.

1988:

D. Kotnik-Karuza, G. Pifat, **D. Juretić**, "Tryptophan - a protein fluorescent probe in myelin-basic protein and low density lipoproteins". ***Jugoslav. Med. Biokem., 7***, 71-80 (1988).

P. Cavatorta, L. Masotti, A.G. Szabo, **D. Juretić**, P. Riccio, E. Quagliariello, "Fluorescence spectral resolution of myelin basic protein conformers in complexes with lysophosphatidylcholine", ***Cell Biophysics*, 13**, 201-215 (1988). Citations 13.

D. Juretić, R.W. Hendler, H.V. Westerhoff, "Variation of efficiency with free energy dissipation in theoretical models of oxidative phosphorylation and cytochrome oxidase". The chapter in the book ***Integration of Mitochondrial Function*** (Lemasters, J.J., Hackenbrock, C.R., Thurman, R.G., Westerhoff, H.W., eds.), Plenum Press New York, 205-211 (1988). Citations 1.

1987:

D. Juretić, H.V. Westerhoff, "Variation of efficiency with free-energy dissipation in biological energy transduction". ***Biophysical Chemistry,* 28**, 21-34 (1987). Citations 15.

R.W. Williams, A. Chang, **D. Juretić**, S. Loughran, "Secondary structure predictions and medium range interactions". ***Biochim. Biophys. Acta,* 916**, 200-204 (1987). Citations 160.

D. Juretić, R.W. Williams, „Conformational preferences of the amino acids vary as a function of the solvent accessible surface-area of neighboring side-chains". ***Biophys. J.*, 51**, 235 (1987). Citations 2.

1986:

P. Riccio, L. Masotti, P. Cavatorta, A. De Santis, **D. Juretić** , A. Bubba, I. Pasquali-Ronchetti, E. Quaqliariello, "Myelin basic protein ability to organize lipid bilayers: structural transition in bilayers

of lisophosphatidylcholine micelles". ***Biochem. Biophys. Res. Commun.*, 134**, 313-319 (1986). Citations 32.

D. Kotnik-Karuza, **D. Juretić** , "Membrane potential measurements of granule-free bovine neutrophiles". ***Studia Biophysica*, 112**, 105-113 (1986).

D. Juretić, F. Sokolić, "Membrane potential as a coupling agent for photophosphorylation by bacteriorhodopsin and ATP-ase containing artificial membrane". ***Croatica Chemica Acta,* 59**, 599-615 (1986). Citations 2.

1985:

D. Juretić, D. Kotnik-Karuza, "Inhibition of cancer-promotor caused stimulation of human neutrophils by a proton ionophore". ***Period. biol.,* 87**, 23-26 (1985).

D. Juretić , D. Kotnik-Karuza, A. Frković , "The accumulation of 3,3'-dipentyloxacarbocyanine by human cord blood leukocytes". ***Period. biol.,* 87**, 375-381 (1985).

1984:

D. Juretić , "Efficiency of free energy transfer and entropy production in photosynthetic systems". ***J. theor. biol.,* 106**, 315-327 (1984). Citations 5.

D. Juretić, M.O. Kunić, O. Nikolić, M. Mastrović, "The fluorescent and infrared spectroscopy of oil samples after exposure to sea surface". ***Rocc. News,* 13**, 9-16 (1984).

1983:

D. Juretić, D. Kotnik-Karuza, "Calcium ionophore generation of membrane depolarization in human leukocytes". Period. biol. 85, 137-138 (1983).

D. Juretić, "The thermodynamic and kinetic limits on the process of free energy storage by photosynthetic systems". Croatica Chemica Acta 56, 383-387 (1983). Citations 3.

1981:

D. Juretić , C. Motolla, D. Romeo, "The K+ requirement for phorbol 12-myristate 13-acetate stimulated O2 consumption by neutrophils". ***Period. biol.,* 83**, 235-237 (1981).

D. Juretić, D. Kotnik-Karuza, "The fluorescent probe for the membrane potential of red blood cells". ***Period. biol.,* 83**, 156-158 (1981). Citations 1.

A. Alebić-Juretić, **D. Juretić** , "Cooperative effects in a kinetic model of a light-driven proton pump". ***Period. biol.,* 83**, 109-112 (1981). Citations 1.

1977:

D. Juretić, "Lecithin requirement for the sporulation process in *Neurospora crassa*". ***J. Bacteriol.,* 130**, 524-525 (1977). Citations 2.

D. Juretić, "The effect of phosphatidylcholine depletion on biochemical and physical properties of a *Neurospora crassa* membrane mutant". ***Biochim. Biophys. Acta,* 469**, 137-150 (1977). Citations 13.

D. Juretić, „Lecithin's role in maintaining the structure and function of eucaryotic cell membranes: A choline starvation study of the *Neurosora crassa chol-1* mutant". PhD thesis, The Pennsylvania State University, 1976, ***Dissertation Abstracts International*, XXXVII**, No. 11, 1977.

1976:

D. Juretić, "Cyanide-resistant respiration of a *Neurospora crassa* membrane mutant". ***J. Bacteriol.,* 126**, 542-543 (1976). Citations 9.

1974:

M.S. Tomaš, A.A. Lukas, M. Šunjić, **D. Juretić**, "Coherent surface bremsstrahlung in low-energy-electron diffraction and reflection high-energy-electron diffraction". ***Phys. Rev. B,* 9**, 1489-1498 (1974). Citations 7.

1971:

D. Juretić, "A diagrammatic approach to the polaron ground-state energy". ***Phys. stat. sol. (b),* 47**, K49-51 (1971).

OTHER RESEARCH ACTIVITIES

Construction of the first server in Croatia for scientific calculations. The server SPLIT is dedicated to secondary structure prediction of membrane-associated segments (mainly transmembrane helices) of integral membrane proteins. From its foundation in 1998 to 2016 is served over 300 universities in about 100 countries and performed on average 10 analyses each day. It was among three best on-line servers in the world in its field according to Cuthbertson et al. analysis in 2005.

In the year 2017 two different versions of SPLIT server are working on-line:
http://split.pmfst.hr/split/ or http://split4.pmfst.hr/split/
with source code developed by D. Juretić et al. (1999)
and http://split.pmfst.hr/split/4/ or http://split4.pmfst.hr/split/4/
with source code developed by D. Juretić et. al. (2002).
The first (earlier) version allows user to choose any of offered 88 amino acid scales for a) prediction of membrane buried helices, b) prediction of hydrophobic moment index for secondary structure, and c) prediction of therapeutic index for anuran peptides.
The second version (version 4.0) performs automatic choice of the best amino acid scale and offers better models tor topology of integral membrane proteins.

New on-line servers for bioinformatics developed in the period 2009-2015 at the University of Split are the result of wider collaboration among Univ. of Split Professors (D. Juretić and D. Vukičević) and BSc, MSc and PhD students of biophysics (V. Bojović, M. Novković, N. Ilić, D. Petrov, M. Kozić, and L. Gujinović).
These are:
http://split4.pmfst.hr/split/dserv1/ server for predicting the therapeutic index of anuran antimicrobial peptides by using the sequence moment concept, described in Juretić et al. 2009.
http://split4.pmfst.hr/dadp/ server as unique source and database of anuran defense peptides, the richest such source in the world described in Novković et al. 2012
http://split4.pmfst.hr/mutator/ server for predicting amino acid substitutions expected to cause significant increase of therapeutic index for antimicrobial peptide, in effect a designer algorithm for creating peptide antibiotics by decreasing peptide toxicity and increasing its selectivity for bacterial cells, described in Kamech et al. 2012.
All of above mentioned servers can be also used from links containing splitbioinf instead of split4 address.

ADDITIONAL INFORMATION AND NOTES

April 2017:
Total of 1827 citations
Hirch h-index = 22