

CURRICULUM VITAE



Peter Kramar, Ph. D.

Assistant Professor

University of Ljubljana, Faculty of Electrical Engineering

Address: Tržaška 25, 1000 Ljubljana, Slovenia

e-mail: peter.kramar@fe.uni-lj.si

EDUCATION

Ph. D. University of Ljubljana, Faculty of Electrical Engineering 2010

Advisor: Associate professor Alenka Maček Lebar, Ph. D.

Dissertation title: Electrical breakdown of a planar lipid bilayer [*in Slovenian*]

M.S. University of Ljubljana, Faculty of Electrical Engineering 2005

B.S. University of Ljubljana, Faculty of Electrical Engineering 2003

PROFESIONAL POSITIONS

2003 – present University of Ljubljana, Faculty of Electrical Engineering

2003 – 2006 Associate Researcher

2006 – 2013 Teaching Assistant

2013 – present Assistant Professor

OTHER PROFESSIONAL ACTIVITIES

- Chairman of the Organizing committee of the International Scientific Workshop and Postgraduate school: Electroporation Based Technologies and Treatments EBTT biannual 2003 – 2011; annual 2012 – 2021.
- Member of the Organising Committee of the 1st World Congress on Electroporation and Pulsed Electric Fields in Biology, Medicine and Food & Environmental Technologies.
- Member of the Organizing Committee of the 11th Mediterranean Conference on Medical and Biological Engineering and Computing MEDICON 2007.

MEMBERSHIP AND ACTIVITIES IN PROFESSIONAL ASSOCIATIONS

2005 – present Bioelectrochemical Society (BES)

2004 – present International Federation for Medical and Biological Engineering (IFMBE)

2004 – present Slovenian Society for Medical and Biological Engineering

2018 – present Treasurer of the Slovenian Society for Medical and Biological Engineering

PROFESSIONAL HONORS, AWARDS AND FELLOWSHIPS

- Prešeren Award for Students, University of Ljubljana, Faculty of Electrical Engineering 2000
- Fulbright Scholarship, Old Dominion University, Norfolk, USA, 2017

SELECTED PUBLICATIONS

Maček Lebar Alenka, Miklavčič Damijan, Kotulska Małgorzata, **Kramar Peter**. Water pores in planar lipid bilayers at fast and slow rise of transmembrane voltage. *Membranes*. Apr. 2021, iss. 4, 263, str. 1-16, ilustr. ISSN 2077-0375. <https://www.mdpi.com/2077-0375/11/4/263>, DOI: 10.3390/membranes11040263.

Alenka Maček Lebar, Aljaž Velikonja, **Peter Kramar**, Aleš Iglič, "Internal configuration and electric potential in planar negatively charged lipid head group region in contact with ionic solution", *Bioelectrochemistry*, vol. 111, pp. 49-56, 2016, <http://dx.doi.org/10.1016/j.bioelechem.2016.04.006>, doi: 10.1016/j.bioelechem.2016.04.006

Aljaž Velikonja, **Peter Kramar**, Damijan Miklavčič, Alenka Maček Lebar, "Specific electrical capacitance and voltage breakdown as a function of temperature for different planar lipid bilayers", *Bioelectrochemistry*, *In Press*, 2016, <http://dx.doi.org/10.1016/j.bioelechem.2016.02.009> doi: doi:10.1016/j.bioelechem.2016.02.009.

Andraž Polak, Aljaž Velikonja, **Peter Kramar**, Mounir Tarek, Damijan Miklavčič, "Electroporation threshold of POPC lipid bilayers with incorporated polyoxyethylene glycol (C₁₂E₈)", *J. phys. chem., B Mater. surf. interfaces biophys.*, vol. 119, no. 1, pp. 192-200, 2015, <http://pubs.acs.org/doi/ipdf/10.1021/jp509789m>, doi: [10.1021/jp509789m](https://doi.org/10.1021/jp509789m).

Andraž Polak, Mounir Tarek, Matija Tomšič, Janez Valant, Nataša Poklar Ulrih, Andrej Jamnik, **Peter Kramar**, Damijan Miklavčič, "Electroporation of archaeal lipid membranes using MD simulations", *V: Bio-Electroporation*, (*Bioelectrochemistry*, vol. 100 (Dec. 2014)), Damijan Miklavčič, ed., Justin Teissie, ed., Eberhard Neumann, ed., [Amsterdam], Elsevier, 2014, vol. 100, pp. 18-26, 2014, doi: [10.1016/j.bioelechem.2013.12.006](https://doi.org/10.1016/j.bioelechem.2013.12.006).

Ekaterina Gongadze, Aljaž Velikonja, Šárka Perutková, **Peter Kramar**, Alenka Maček Lebar, Veronika Kralj-Iglič, Aleš Iglič, "Ions and water molecules in an electrolyte solution in contact with charged and dipolar surfaces", *V: Bioelectrochemistry 2013 : selection of papers from the 12th ISE Topical Meeting, 17-21 March 2013, Bochum, Germany: special volume*, (*Electrochimica acta*, vol. 126), Wolfgang Schuhmann, ed., [S. l.], Elsevier, 2014, vol. 126, pp. 42-60, 2014, <http://www.sciencedirect.com/science/article/pii/S0013468613014163>.

Aljaž Velikonja, **Peter Kramar**, Damijan Miklavčič, Alenka Maček Lebar, "Electrical properties of hydrogenated planar lipid bilayers formed from archaea lipids at different temperatures", *V: IFMBE proceedings*, (IFMBE proceedings, vol. 45), 6th European Conference of the International Federation for Medical and Biological Engineering, MBEC 2014, 7-11 September 2014, Dubrovnik, Croatia, Igor Lacković, ed., Darko Vasić, ed., Cham [etc.], Springer, cop. 2014, pp. 557-560.

François Dehez, Lucie Delemotte, **Peter Kramar**, Damijan Miklavčič, Mounir Tarek, "Evidence of conducting hydrophobic nanopores across membranes in response to an electric field", *The journal of physical chemistry. C, Nanomaterials and interfaces*, vol. 118, no. 13, pp. 6752-6757, 4. Apr. 2014, doi: [10.1021/jp4114865](https://doi.org/10.1021/jp4114865)

Andraž Polak, Mounir Tarek, Matija Tomšič, Janez Valant, Nataša Poklar Ulrih, Andrej Jamnik, **Peter Kramar**, Damijan Miklavčič, "Structural properties of archaeal lipid bilayers : small-angle x-ray scattering and molecular dynamics simulation study", *Langmuir*, vol. 30, no. 28, pp. 8308-8315, 2014, <http://pubs.acs.org/doi/pdf/10.1021/la5014208>, doi: [10.1021/la5014208](https://doi.org/10.1021/la5014208).

Aljaž Velikonja, Šárka Perutková, Ekaterina Gongadze, **Peter Kramar**, Andraž Polak, Alenka Maček Lebar, Aleš Iglič, "Monovalent ions and water dipoles in contact with dipolar zwitterionic lipid headgroups-theory and MD simulations", *Int. j. mol. sci. (Online)*, vol. 14, no. 2, pp. 2846-2861, 2013, <http://www.mdpi.com/1422-0067/14/2/2846>, doi: [10.3390/ijms14022846](https://doi.org/10.3390/ijms14022846).

Andraž Polak, Daniel Bonhenry, François Dehez, **Peter Kramar**, Damijan Miklavčič, Mounir Tarek, "On the electroporation thresholds of lipid bilayers : molecular dynamics simulation investigations", *V: Special electroporation-based technologies and treatments*, (The journal of membrane biology (Print), Vol. 246, issue 10-11, Oct.-Nov. 2013), Damijan Miklavčič, ed., Luis Maria Mir, ed., P. Thomas Vernier, ed., New York, Springer, 2013, pt. 2, pp. 843-850, doi: [10.1007/s00232-013-9570-7](https://doi.org/10.1007/s00232-013-9570-7).

Andraž Polak, Boštjan Mulej, **Peter Kramar**, "System for measuring planar lipid bilayer properties", *V: 5th international workshop and postgraduate course on electroporation-based technologies and treatments : EBTT 2011 : Ljubljana, November 13-19, 2011 : special issue on Electroporation - Part 2*, (The journal of membrane biology, Vol. 245, issue 10, 2012), , New York, Springer, 2012, vol. 245, no. 10, pp. 625-632, Oct. 2012, doi: [10.1007/s00232-012-9476-9](https://doi.org/10.1007/s00232-012-9476-9).

Izidor Sabotin, Alenka Maček Lebar, Damijan Miklavčič, **Peter Kramar**, "Measurement protocol for planar lipid bilayer viscoelastic properties", *IEEE trans. dielectr. electr. insul.*, vol. 16, no. 5, pp. 1236-1242, Oct. 2009.

Peter Kramar, Damijan Miklavčič, Alenka Maček Lebar, "A system for the determination of planar lipid bilayer breakdown voltage and its applications", *IEEE trans. nanobiosci.*, vol. 8, no. 2, pp. 132-138, Jun. 2009.

Peter Kramar, Damijan Miklavčič, Alenka Maček Lebar, "Determination of the lipid bilayer breakdown voltage by means of linear rising signal", *Bioelectrochemistry*, vol. 70, 1, pp. 23-27, Jan. 2007.