

**EUROPEAN
CURRICULUM VITAE
FORMAT**



PERSONAL INFORMATION

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| Surname(s) / First name(s) | Kostic Sandra |
| Address(es) | Soltanska 2, 21000 Split |
| Telephone(s) | +385 21 557 810 |
| Fax(es) | +385 21 557 811 |
| E-mail(s), Web address(s) | sandra.kostic@mefst.hr |
| Nationality(-ies) | Croatian |
| Date of birth | February 22, 1983 |
| Identification number from Records of Scientific Workers | 314431 |

WORK EXPERIENCE

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| Date | 2009 - - |
| Name and address of employer | University of Split School of Medicine |
| Type of business or sector | Academic institution |
| Occupation or position held | 2009 - 2013 Phd student /assistant 2013 - 2016 Postdoctoral fellow/ senior assistant 2016 - - Assistant professor, Department of Histology and Embryology |
| Main activities and responsibilities | 2013 - - Head of the Laboratory for Microscopy (Core Unit) 2013 – 2016 adjunct assistant professor, Department of Histology and Embryology Research and teaching |

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| Date | 2011 – 2012 |
| Place of education | Medical College of Wisconsin, Wisconsin, USA |
| Name and type of organization providing education | Research scholar Department of Anesthesiology, MCW, WI, USA |

EDUCATION

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| Date | 2013 |
| Place of education | Split |
| Name and type of organization providing education | University of Split School of Medicine, doctoral program TRIBE (Translational Research in Biomedicine) |
| Title or qualification awarded | PhD (Neuroscience) |

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| Date | 2008 |
| Place of education | Zagreb |
| Name and type of organization providing education | Faculty of Food Technology and Biotechnology, University of Zagreb |
| Title or qualification awarded | Master of Science in Biotechnology |

TRAINING

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| Date | 2018 |
| Place of education | University of Split, (<i>Horizon 2020 project, Heiri</i>) |
| Name and type of organization providing education | Responsible research and innovation – workshop for teachers |
| Date | 2017 |
| Place of education | Croatian Laboratory Animal Science Association (CroLASA), <i>Zagreb</i> |
| Name and type of organization providing education | Workshop: “Animal Experiment Design“ |
| Date | 2017 |
| Place of education | University of Split |
| Name and type of organization providing education | Clinical genomics and NGS course |
| Date | 2013 |
| Place of education | University of Siena, Siena, Italy |
| Name and type of organization providing education | European Pain School |
| Date | 2011 – 2012 |
| Place of education | Medical College of Wisconsin, Wisconsin, USA |
| Name and type of organization providing education | Research scholar Department of Anesthesiology, MCW, WI, USA |
| Date | 1.3. 2011 – 1.5. 2011 |
| Place of education | Medical College of Wisconsin, Wisconsin, USA |
| Name and type of organization providing education | Unity Through Knowledge Fund, Department of Anesthesiology, MCW, WI, USA |
| Date | 2010 |
| Place of education | Split |
| Name and type of organization providing education | EMBO (European Molecular Biology Organization) - Anatomy and Embryology of the Mouse |
| Date | 2010 |
| Place of education | Split |
| Name and type of organization providing education | University of Split, School of Medicine – University Educational Course of Educators (Scientific Approach to Medical Education) |
| Date | 2009 |
| Place of education | Trilj |
| Name and type of organization providing education | Scientific Summer School in Trilj – Research Design and Workshop Teaching Method organized under the patronage of the Journal of Electrocardiology, Anatolian Journal of Cardiology and Croatian Medical Journal in collaboration with the University of Split, School of Medicine |
| Date | 2009 |
| Place of education | Split |
| Name and type of organization providing education | University of Split, School of Medicine - First Croatian Cochrane Symposium (Continuous medical education course – second level) |

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| TEACHING ACTIVITIES | <p><u>Undergraduate education</u></p> <ul style="list-style-type: none"> - Histology and Embryology: <ul style="list-style-type: none"> • Medicine • Dental Medicine • Pharmacy • Medical Studies in English • Health Sciences • University of Mostar, School of Medicine - Elective course <ul style="list-style-type: none"> • How to construct your own organ? • Pain and genes – custom made pain treatment • The puzzle of pain • Empathy and Pain • The Cochrane Library and Pain • How safe and effective are treatments used in medicine? • “Test tube” baby • Hello kidney • The secret of human development • Muscle games <p><u>Graduate education</u></p> <ul style="list-style-type: none"> • How to construct your own organ? • The puzzle of pain • Experimental animals and animal models • Adventures of pain in the brain • Development of human spinal ganglia • Seeing invisible - the world under microscope • The science system, education and the career of the scientist (University of Mostar, School of Medicine) |
| RESEARCH THEME | <p>- Effect of nerve injury on behavioral and morphological properties of the dorsal root ganglion neurons (2009 -)</p> |
| RESEARCH EXPERIENCE | <p>Extensive experience in immunofluorescence histology techniques. Routine usage of neuropathic pain models (spinal nerve ligation) and related behavioral testing procedures. Basic knowledge of electrophysiological techniques (patch clamp methodology) and other major research methodologies used in morphology and molecular biology laboratories.</p> |
| RESEARCH GRANTS | <ul style="list-style-type: none"> - 2019-2020 Students and Scientists: Developing Innovative Teaching of Responsible Research in Personalized Medicine –Technological development, research and application of innovation Program, Split-Dalmatia County, project leader - 2019-2012 „Personalized Medicine Inquiry-Based Education (PROMISE)“ Erasmus+:KA2 - Cooperation for innovation and the exchange of good practices,KA203 - Strategic Partnerships for higher education, Project coordinator for MEFST - 2018-2019 Participation in grant,„Building a Personalized Kidney: Approach from Kidney Development to Disease“,University of Split – Penn State Collaboration Development Fund, 2018-2019. 2017- 2021 Participation in NZZ grant The characterization of the candidate genes for congenital kidney and urotract anomalies during the development of the mouse and human - 2014 - 2017 Participation in NZZ grant "Treating neuropathic pain with dorsal root ganglion stimulation – NeuroMod" - 2015 - Participation in grant STRIPmed “Jačanje kapaciteta Sveučilišta u Splitu za istraživanje, razvoj i inovacije u području medicinske neuroelektronike“, - 2011-2012 Participation in National Institutes of Health Grant NS-42150, Q. Hogan - 2011 UKF 2A grant “Gene therapy of neuropathic pain”(amount awarded 60.000 kn), project leader - 2010-2013 Participation in NZZ grant „Molecular Memory in Diabetic Neuropathy“ - 2009-2013 Participation in MZOS grant "Functional analysis of injured primary afferent neurons" - 2009-2013 Participation in MZOS program project grant “Nerve injury and neuropathic pain” |

MEMBERSHIP AND ACTIVITIES IN PROFESSIONAL ASSOCIATIONS

- Member of International Association for the Study of Pain (IASP) (2010 -)
- Member of Croatian Society for Pain Management (Hrvatsko društvo za liječenje boli, HDLB) (2010 -)
- Member of Croatian Medical Association (Hrvatski liječnički zbor, HLZ)
- Member of Croatian Microscopy Society
- Member and treasurer of the Croatian Society of morphologists

OTHER ACTIVITIES IN PROFESSIONAL ASSOCIATIONS

- Executive editor – Electronic publishing – Croatian Medical Journal (2010 -)
- Instructor at EMBO Practical Course (2010, 2012)
- Participation in the organization of Festival of Science in Split, Croatia (2010, 2011)
- Participation in the organization of the “Night of the Researchers” in Split, Croatia (2013, 2014)
- Organization of the workshop “Introduction to human body” - Festival of Science in Split, Croatia, 2014

PUBLICATIONS

- Cikes M, Vrdoljak L, Buljan I, Mudnic I, Vukojevic K, Medvedec Mikic I, **Kostic S**. Students' perceptions and knowledge about antimicrobial use and resistance in Split, Croatia: the education of our future prescribers. Under review
- **Kostic S**, Williams B, Ksouri S, Hardung L, Filipovic N, Ferhatovic Hamzic L, Puljak L, Ghahramani N, Vukojevic K. Changes in Snail and SRF expression in the kidneys of diabetic rats during ageing. Under review
- Racetin A, Raguž F, Durđov MG, Kunac N, Saraga M, Sanna-Cherchi S, Šoljić V, Martinović V, Petričević J, **Kostić S**, Mardešić S, Tomaš SZ, Kablar B, Restović I, Lozić M, Filipović N, Saraga-Babić M, Vukojević K. Immunohistochemical expression pattern of RIP5, FGFR1, FGFR2 and HIP2 in the normal human kidney development. *Acta Histochem*. 2019. doi: 10.1016/j.acthis.2019.04.011. [Epub ahead of print]
- Jerčić L, **Kostić S**, Vitlov Uljević M, Vukušić Pušić T, Vukojević K, Filipović N. Sigma-1 Receptor Expression in DRG Neurons during a Carrageenan-Provoked Inflammation. *Anat Rec (Hoboken)*. 2019 Jan 7. doi: 10.1002/ar.24061. [Epub ahead of print]
- Delic Jukic IK, **Kostic S**, Filipovic N, Gudelj Ensor L, Ivandic M, Dukic JJ, Vitlov Uljevic M, Ferhatovic Hamzic L, Puljak L, Vukojevic K. Changes in expression of special AT-rich sequence binding protein 1 and phosphatase and tensin homologue in kidneys of diabetic rats during ageing. *Nephrol Dial Transplant*. 2018 Mar 1. doi: 10.1093/ndt/gfy003. [Epub ahead of print]
- Bakovic M, Filipovic N, Ferhatovic Hamzic L, Kunac N, Zdrilic E, Vitlov Uljevic M, **Kostic S**, Puljak L, Vukojevic K. Changes in neurofilament 200 and tyrosine hydroxylase expression in the cardiac innervation of diabetic rats during aging. *Cardiovasc Pathol*. 2018 Jan-Feb; 32:38-43. doi: 10.1016/j.carpath.2017.11.003. Epub 2017 Nov 16.
- **Kostic S**, Pan B, Guo Y, Yu H, Sapunar D, Kwok WM, Hudmon A, Wu HE, Hogan QH. Regulation of voltage-gated Ca²⁺ currents by Ca²⁺/calmodulin-dependent protein kinase II in resting sensory neurons. *Mol Cell Neurosci*. 2014 Jul 24. pii: S1044-7431(14)00077-3. doi: 10.1016/j.mcn.2014.07.004. [Epub ahead of print]
- Jelcic Kadic A, Boric M, **Kostic S**, Sapunar D, Puljak L. The effects of intraganglionic injection of calcium/calmodulin-dependent protein kinase II inhibitors on pain-related behavior in diabetic neuropathy. *Neuroscience*. 2014; 3:256:302-8.
- **Kostic S**, Puljak L, Sapunar D. Attenuation of pain-related behaviour evoked by carrageenan injection through blockade of neuropeptide Y Y1 and Y2 receptors. *Europ J Pain*. 2013;17:493–504.
- Ferhatović L, Banožić A, **Kostić S**, Tičinović TK, Novak A, Vrdoljak L, Heffer M, Sapunar D, Puljak L. Expression of calcium/calmodulin-dependent protein kinase II and pain-related behavior in rat models of type 1 and type 2 diabetes. *Anesth Analg*. 2013;116(3):712-21.
- Ferhatovic L, Banozic A, **Kostic S**, Sapunar D, Puljak L. Sex differences in pain-related behavior and expression of calcium/calmodulin-dependent protein kinase II in dorsal root ganglia of rats with diabetes type 1 and type 2. *Acta Histochem*. 2013; 115(5):496-504.
- Tang Q, Bangaru ML, **Kostic S**, Pan B, Wu HE, Koopmeiners AS, Yu H, Fischer GJ, McCallum JB, Kwok WM, Hudmon A, Hogan QH. Ca²⁺-Dependent Regulation of Ca²⁺ Currents in Rat Primary Afferent Neurons: Role of CaMKII and the Effect of Injury. *J Neurosci*. 2012;32(34):11737-49.
- Busic Z, **Kostic S**, Kosta V, Carija R, Puljak L, Sapunar D. Postthelaminectomy stabilization of the spine in a rat model of neuropathic pain reduces pain-related behavior. *Spine (Phila Pa 1976)*. 2012;37(22):1874-82.

- Sapunar D, Vukojevic K, **Kostic S**, Puljak L. Attenuation of injury-evoked pain-related behavior by blockade of neuropeptide Y Y2 receptor. *Pain* 2011;152: 1173-1181.
- Fisher GJ, **Kostic S**, Nakai H, Park F, Sapunar D, Yu H, Hogan Q. Direct injection into the dorsal root ganglion: Technical, Behavioral and Histological observations. *Journal of Neuroscience Methods* 2011; 199(1):43-55.
- Klinar I, Ferhatovic L, Banozic A, Raguz M, **Kostic S**, Sapunar D, Puljak L. Physicians' attitudes about interprofessional treatment of chronic pain: family physicians are considered the most important collaborators. *Scand J Caring Sci.* 2012 Jul 15. doi: 10.1111/j.1471-6712.2012.01039.x. [Epub ahead of print]
- Novak K, Aljinović J, **Kostić S**, Čapkun V, Novak Ribičić K, Batinić T, Štula I, Puljak L. Pain to hospital times after myocardial infarction in patients from mainland and islands of Dalmatia, Southern Croatia. *Croat Med J* 2010; 51; 423-31.

SCI:

1. Sapunar D, **Kostic S**, Banozic A, Puljak L. Dorsal root ganglion – a potential new therapeutic target for neuropathic pain. *J of Pain Research. J Pain Res.* 2012;5:31-8.

Scopus:

2. Sapunar D, **Kostić S**, Banožić A, Ferhatović L, Puljak L. Pain research in Croatia: Analysis of bibliometric trends. *Periodicum Biologorum* 2011; 113(2):137-140
3. Durgo K, **Kostić S**, Gradiški K, Komes D, Osmak M, Franekić J. Genotoxic Effects of Green Tea Extract on Human Laryngeal Carcinoma Cells In Vitro. *Arh Hig Rada Toksikol.* 2011; 62(2):139-146.

BOOKS

- Sapunar, D, Puljak, L, **Kostic S**, Banozic, A. Are mice small rats? Rodent models of neuropathic pain, in *Anatomy and Embryology of the Mouse*, A. Marusic, Editor. 2010, University of Split School of Medicine: Split.
- Saraga-Babić M, Puljak L, Mardešić S, **Kostić S**, Sapunar D. Human embryology and histology. Health studies, University of Split, Redak, 2014.
- Purves D, Augustine GJ, Fitzpatrick D, Hall WC, LaMantia AS, White LE. *Neuroznanost. Urednice hrvatskog izdanja: Heffer M, Puljak L, Kostić S.* 2016, Medicinska naklada
-

AWARDS

- 3rd place at Symposium of Young Scientists, January 26th 2011
- The Award for Excellence in Teaching (Histology and embryology teaching, academic year 2012/2013), 2014

CONGRESS ABSTRACTS

- **Kostic S**, Puljak L, Sapunar D. Acute blood flow alterations within sciatic nerve following its transection. Presentation number: PT231. 14th World Congress on Pain. Milan, Italy, August 27-31, 2012.
- Ferhatovic L, Banozic A, **Kostic S**, Ticinovic TK, Novak A, Vrdoljak L, Sapunar D, Puljak L. Sensory changes and oncrease of Calcium/Calmodulin-Dependent Protein Kinase II expression in animal models of diabetes type I and type II. Presentation number: PF246. 14th World Congress on Pain. Milan, Italy, August 27-31, 2012.
- Ferhatovic L, Banozic A, **Kostic S**, Sapunar D, Puljak L. Role of Calcium/Calmodulin-Dependent Protein Kinase II in the diabetic neuropathy. Young Neuroscientists Meeting (YNM). June, 2011. Trieste, Italy.
- Ferhatovic L, **Kostic S**, Banozic A, Vrdoljak L, Sapunar D, Puljak L. A role of calcium/calmodulin-depedent protein kinase II in diabetic neuropathy. Invited oral presentation. Bridges in Life Sciences 7th Annual Conference: Science and Art for the Advancement in Medicine. March 30 – April 1, 21012. Budapest, Hungary.
- Bangaru MLY, **Kostic S**, Tang Q, Wu HE, Ashpole N, Mueller S, Hudetz AG, Kwok WM, Hudmon A, Hogan QH. Ca²⁺-dependent facilitation of Ca²⁺ current in sensory neurons: Loss of excitability regulation after nerve injury. Neuroscience Meeting, Washington DC, November 12-16, 2011.
- Ferhatovic L, **Kostic S**, Banozic A, Sapunar D, Puljak L. A role of calcium/calmodulin-dependent protein kinase II in diabetic neuropathy. 7th Congress of the European Federation of IASP Chapters. Hamburg 21-24 September, 2011.
- Novak K, **Kostić S**, Čapkun V, Novak Ribičić K, Batinić T, Štula I, Puljak L. Pain to hospital times after myocardial infarction in patients from mainland and islands of Dalmatia,

Southern Croatia. 8th Congress of the Croatian Cardiac Society with international participation, Opatija, October, 21st-24th, 2010.

- **Kostic, S**; Puljak, L. Sapunar, D. Targeted delivery of NPY into dorsal root ganglion reduces pain-related behavior following intraplantar carrageenan injection. 2.hrvatski kongres iz liječenja boli, Osijek, 7.-9. Listopad 2010.
- Sapunar, D; Vukojevic, K; **Kostic,,S**; Puljak, L. Attenuation of injury evoked pain-related behavior by blockade of neuropeptide Y Y2 receptor. 2.hrvatski kongres iz liječenja boli, Osijek, 7.-9. Listopad 2010.
- **Kostic, S**; Puljak, L. Sapunar, D. Targeted delivery of NPY into dorsal root ganglion reduces pain-related behavior following intraplantar carrageenan injection. Presentation number: PW255. 13th World Congress on Pain. Montreal, Canada, August 29-September 2, 2010.
- Sapunar, D; Vukojevic, K; **Kostic,,S**; Puljak, L. Attenuation of injury evoked pain-related behavior by blockade of neuropeptide Y Y2 receptor. Presentation number: PH180. 13th World Congress on Pain. Montreal, Canada, August 29-September 2, 2010.
- Durgo, K; **Kostić, S**; Kopjar, N; Osmak, M; Franekić Čolić, J. Investigation of genotoxic properties of green tea extract // Toxicology Letters, Volume 180, Supplement 1, Abstracts of the 45th Congress of the European Societies of Toxicology.

**TECHNICAL SKILLS AND
COMPETENCIES**

Excellent knowledge of Windows operating system and MS Office package. Sufficient experience with statistical software (Statistica, GraphPad) and image processing software (Adobe Photoshop and Adobe Illustrator).

MENTORSHIPS:

Diploma thesis:
2018 – Laura Vrdoljak
2019 – Martina Olah
2019 – Josipa Tadić
2019 – Mia Piteša
2019 – Ivana Pelaić