

**EUROPEAN
CURRICULUM VITAE
FORMAT**



PERSONAL INFORMATION

First name and surname	Natalija Filipović
Adress	Put mira 16, 21 210 Solin, Croatia
E-mail	natalija.filipovic@mefst.hr

EDUCATION

Date	05. 05. 2008.
Place	Zagreb
Name of organisation providing education and training	Faculty of Veterinary Medicine University of Zagreb
Title of qualification awarded	PhD

Date	10. 05. 2002.
Place	Zagreb
Name of organisation providing education and training	Faculty of Veterinary Medicine University of Zagreb
Title of qualification awarded	Doctor of veterinary medicine - DVM

TRAINING

Date	2016.
Place	Budapest
Name of organisation providing education and training	Laboratory of Neuronal Network and Behavior Research Centre for Natural Sciences Hungarian Academy of Sciences
Principal subjects/occupational skills covered	Anterograde and retrograde tracings, viral injections and their application in basic neuroscientific research, application of optogenetics with electrophysiology in basic neuroscientific research, behavioural testing of mouse, craniotomy of mouse

Date	2011.
Place	Zagreb
Name of organisation providing education and training	Galapagos Research Center Ltd.
Principal subjects/occupational skills covered	Laboratory Animal science course (FELASA cat. C equivalent)

Date	2006.
Place	Zagreb
Name of organisation providing education and training	Ruđer Bošković Institute
Principal subjects/occupational skills covered	Molecular methods: DNA and RNA course

Date	2005.
Place	Ljubljana
Name of organisation providing	Department of Physiology, Parmacology and Toxicology, Veterinary Faculty University of

education and training	Ljubljana
Principal subjects/occupational skills covered	Endocrinology, methods of hormone quantification (EIA, RIA)

WORK EXPERIENCE

Date	17. 01. 2011. -
Name of employer	School of Medicine University of Split
Department	Department of Anatomy, Histology and Embryology, Laboratory for Neurocardiology
Occupation or position held	Associate professor (since 2019), Head of the Laboratory for Neurocardiology http://www.mefst.unist.hr/research/laboratories-and-research-groups/laboratory-for-neurocardiology/2364
Main activities and responsibilities	Lecturer, Senior researcher
Date	01. 10.2003. – 16. 01. 2011.
Name of employer	Faculty of Veterinary medicine University of Zagreb
Department	Department of Physiology
Occupation or position held	Assistant
Main activities and responsibilities	Younger researcher

TEACHING

From January 2011. **Anatomy, Radiological anatomy, Neuroscience** for students of medicine, dental medicine, pharmacy and University department of health studies at School of medicine, University of Split

From 2014. **Hello kidney** – elective course for students of medicine, at School of medicine, University of Split

From 2018. **Microphotography in science** – elective course at PhD programme at School of medicine, University of Split

2011-2015. **Experimental animals and animal models**, at PhD programme at School of medicine, University of Split

2004-2010. **Physiology** at Faculty of Veterinary Medicine University of Zagreb

SCIENTIFIC INTEREST

Diabetic micro- and macrovascular complications;
cardiac innervation and its changes during infarct, aging and metabolic disturbances;
early human development;
pre- and postnatal development of the nervous system;
metabolic changes during stress

SCIENTIFIC PROJECTS

2014 - «BioWine – Biological effects of wine» (Croatian science foundation 8652) – researcher

2011 – 2014. «Mechanisms of cardiac pain in ischaemia, metabolic changes and ageing » (216-2160528-0067 MZOŠ RH) – researcher

2007 – 2014. «Mineral metabolism in domestic animals during high production and stress » (053-1080229-2104 MZOŠ RH) - researcher

2002-2007. «Metabolic changes in poultry during stress » (0053310 MZOŠ RH) – younger researcher

OTHER SCIENTIFIC ACTIVITIES

Instructor on the course „EMBO Practical Course Anatomy and Embryology of the Mouse“, 2012.
Lecturer on the Split Summer School – Course: „Application of Imaging Techniques in Life Sciences“, University of Split (2018 and 2019)

CC PUBLICATIONS

WoS/CC PUBLICATIONS IN THE LAST 5 YEARS:

CC PUBLICATIONS AS A FIRST/EQUAL FIRST CONTRIBUTION*/CORRESPONDING AND SENIOR AUTHOR** - in the last five years:

1. Urlić, M., Urlić, I., Urlić, H., Mašek, T., Benzon, B., Vitlov Uljević, M., Vukojević, K., **Filipović, N.** (2020): Effects of Different n6/n3 PUFAs Dietary Ratio on Cardiac Diabetic Neuropathy. *Nutrients* 12: 2761.
2. Milardović, I., Vitlov Uljević, M., Vukojević, K., Kostić, S., **Filipović, N.** (2020): Renal expression of sigma 1 receptors in diabetic rats. *Acta histochem.* 122:151580.
3. Kosovic I., **Filipovic, N.***, Benzon, B., Vukojevic, K., Saraga, M., Glavina Durdov, M., Bocina, I., Saraga-Babic, M. (2020): Spatio-temporal patterning of different connexins in developing and postnatal human kidneys and in nephrotic syndrome of the Finnish type (CNF). *Sci Rep.* 10(1):8756.
4. **Filipović, N.***, I. Bočina, I. Restović, M. Grobe, G. Kretzschmar, N. Kević, T.v Mašek, M. Vitlov Uljević, M. Jurić, K. Vukojević, M. Saraga-Babić, A. Vuica (2020): Ultrastructural characterization of vitamin D receptors and metabolizing enzymes in the lipid droplets of the fatty liver in rat. *Acta histochem.* 122: 151502.
5. Luetić, M., M. Vitlov Uljević, T. Mašek, B. Benzon, K. Vukojević, **N. Filipović**** (2019): PUFAs supplementation affects the renal expression of pannexin 1 and connexins in diabetic kidney of rats. *Histochem Cell Biol.* 153: 165-175.
6. Vitlov Uljević, M., K. Starčević, T. Mašek, I. Bočina, I. Restović, N. Kević, A. Racetin, G. Kretzschmar, M. Grobe, K. Vukojević, M. Saraga-Babić, **N. Filipović**** (2019): Dietary DHA/EPA supplementation ameliorates diabetic nephropathy by protecting from distal tubular cell damage. *Cell and tissue research.* 378: 301-317.
7. Jerčić, L., Kostić, S., Vitlov Uljević, M., Vukušić Pušić, T., Vukojević, K., **Filipović, N.**** (2019): Sigma-1 receptor expression in DRG neurons during a carrageenan-provoked inflammation. *Anat Rec (Hoboken).* 302: 1620-1627.
8. Vitlov Uljević, M., Bočina, I., Restović, I., Kunac, N., Mašek, T., Kretzschmar, G., Grobe, M., Šarić, M., Vukojević, K., Saraga-Babić, M., **Filipović, N.**** (2018): Reabsorption in the proximal tubuli – an ultrastructural evidence for a novel aspect of renal VEGF trafficking. *Cell and tissue research.* 374: 189-201.
9. Grobe, M., Kretzschmar, G., Vuica, A., **Filipović, N.**** (2018): Expression of VDR in the superior cervical ganglia of rats. *Biotech Histochem.* 93: 320-327.
10. Agnić, I., **Filipović, N.***, Vukojević, K., Saraga-Babić, M., Grković, I. (2018): Isoflurane postconditioning influences dynamics of infarct healing in rats. *Biotech Histochem.* 93: 354-363.
11. **Filipovic, N.**, K. Vukojevic, I. Bocina, M. Saraga, M. Glavina Durdov, B. Kablar, M. Saraga-Babic (2017): Immunohistochemical and electronmicroscopic features of mesenchymal-to – epithelial transition in human developing, post-natal and nephrotic podocytes. *Histochem Cell Biol.* 147: 481-495.
12. Jerić, M., K., Vukojević, A. Vuica, **N. Filipović**** (2017): Diabetes mellitus influences the expression of NPY and VEGF in neurons of rat trigeminal ganglion. *Neuropeptides* 62: 57-64.
13. Vuica, A., K. Vukojević, L. Ferhatović Hamzić, M. Jerić, L. Puljak, I. Grković, **N. Filipović**** (2016): Expression pattern of CYP24 in liver during ageing in long-term diabetes. *Acta*

Histochem. 118: 486-495.

14. Vukojević, K., **N. Filipović***, I. Tica Sedlar, I. Restović, I. Bočina, I. Pintarić, M. Saraga-Babić (2016): Neuronal differentiation in the developing human spinal ganglia. *Anat Rec (Hoboken)*. 299: 1060-1072.

15. Vuica, A., L. Ferhatović Hamzić, K. Vukojević, M. Jerić, L. Puljak, I. Grković, **N. Filipović**** (2015): Ageing and a long-term diabetes mellitus increase expression of 1 α -hydroxylase and vitamin D receptors in the rat liver. *Exp. Gerontol.* 72: 167-176.

16. **Filipović, N.**, T. Mašek, I. Grković (2015): Expression of nestin in superior cervical ganglia of rats is influenced by gender and gonadectomy. *J. Chem. Neuroanat.* 63: 6-12.

17. Jerić, M., A. Vuica, M. Borić, L. Puljak, A. Jeličić Kadić, I. Grković, **N. Filipović**** (2015): Diabetes mellitus affects activity of calcium/calmodulin-dependent protein kinase II alpha in rat trigeminal ganglia. *J. Chem. Neuroanat.* 64-65:12-19.

WoS/CC PUBLICATIONS AS A SECOND AUTHOR - in the last five years:

1. Mizdrak, M., **N. Filipović**, K. Vukojević, V. Čapkun, I. Mizdrak, M. Glavina Durdov (2019): Prognostic value of connective tissue growth factor and c-Myb expression in IgA nephropathy and Henoch-Schönlein purpura – a pilot immunohistochemical study. *Acta Histochem.* doi:10.1016/j.acthis.2019.151479

2. Starčević, K., **Filipović, N.**, Galan, A., Micek, V., Gudan Kurilj, A., Mašek, T. (2018): Hepatic lipogenesis and brain fatty acid profile in response to different dietary n6/n3 ratios and DHA/EPA supplementation in streptozotocin treated rats. *Mol Nutr Food Res.* 62: 1701007

3. Baković, M., **Filipović, N.**, Ferhatović Hamzić, L., Kunac, N., Zdrilić, E., Vitlov Uljević, M., Kostić, S., Puljak, L., Vukojević, K. (2018): Changes in neurofilament 200 and tyrosine hydroxylase expression in the cardiac innervation of diabetic rats during ageing. *Cardiovasc. pathol.* 32: 38-43.

4. Mašek, T., **N. Filipović**, A. Vuica, K. Starčević, K. (2017): Effects of treatment with sucrose in drinking water on liver histology, lipogenesis and lipogenic gene expression in rats fed high-fiber diet. *PLEFA* 116: 1-8.

5. Rančić, A., **N. Filipović**, J. Marin Lovrić, S. Mardešić, M. Saraga- Babić, K. Vukojević (2017): Neuronal differentiation in the early human retinogenesis. *Acta Histochem.* 119: 264-272.

6. Starčević, K., **N. Filipović**, M. Šperanda, M. Đidara, T. Mašek (2017): The influence of sex and gonadectomy on hepatic and brain fatty acid composition, lipogenesis and β -oxidation. *J Anim Physiol Anim Nutr (Berl)*. 101: 649-657.

7. Matas, A., **N. Filipović**, Lj. Znaor, S. Mardešić, M. Saraga-Babić, K. Vukojević (2015): Interplay of proliferation and differentiation factors is revealed in the early human eye development. *Graefes Arch Clin Exp Ophthalmol.* 253: 2187-2201.

8. Agnić, I., **N. Filipović**, K. Vukojević, M. Saraga-Babić, M. Vrdoljak, I. Grković (2015): Effects of isoflurane post-conditioning on chronic phase of ischemia-reperfusion heart injury in rats. *Cardiovasc. pathol.* 24: 94-101.

9. Poljicanin, A., **N. Filipović**, T. Vukušić Pušić, V. Šoljić, A. Čarić, M. Saraga-Babić, K. Vukojević (2015): Expression pattern of RAGE and IGF-1 in the human fetal ovary and ovarian serous carcinoma. *Acta histochem.* DOI: 10.1016/j.acthis.2015.01.004

OTHER WoS/CC PUBLICATIONS AS A CO-AUTHOR - in the last five years:

1. Arapović, A., Vukojević, K., **Filipović, N.**, Glavina Durdov, M., Ljubanović-Galešić, D., Saraga-Babić, M., Prgomet, S., Simičić Majce, A., Belavić, A., Borić Škaro, D., Ljutić, D., Saraga, M. (2020): Epidemiology of 10-year paediatric renal biopsies in the region of Southern

Croatia. BMC Nephrology. 21:65.

2. Kostić, S., B. Williams, S. Ksouri, L. Hardung, **N. Filipović**, L. Ferhatovic Hamzic, L. Puljak, N. Ghahramani, K. Vukojević (2020): Changes in Snail and SRF expression in the kidneys of diabetic rats during ageing. Acta Histochem. 122:151460

3. Racetin, A., M. Jurić, **N. Filipović**, I. Šolić, I. Kosović, M. Glavina Durdov, N. Kunac, S. Zekić Tomaš, M. Saraga, V. Šoljić, V. Martinović, J. Petričević, I. Restović, V. Lasić, S. Kostić, B. Kablar, K. Watanabe, Y. Katsuyama, M. Saraga-Babić, K. Vukojević (2019): Expression and localization of DAB1 and Reelin during normal human kidney development . Croatian medical journal, 60: 521-531

4. Racetin, A., Kablar, B., Raguž, F., Restović, I., Petričević, J., Saraga, M., Glavina Durdov, M., Lozić, M., Saraga-Babić, M., **Filipović, N.**, Kunac, N., Kostić, S., Zekić Tomaš, S., Sanna-Cherchi, S., Mardešić, S., Šoljić, V., Martinović V., Vukojević, K. (2019): Immunohistochemical expression pattern of RIP5, FGFR1, FGFR2 and HIP2 in the normal human kidney development. Acta Histochem. 121: 531-538

5. Restović I., Bočina, I., Vukojević, K., Kero, D., **Filipović, N.**, Raonić, J., Vukmirović, F., Vučković, Lj., Saraga-Babić, M. (2019): Time Course and Expression Pattern of the Neuronal Markers in the Developing Human Spinal Cord. Int J Dev Neurosci. 74: 1-10.

6. Mizdrak, M., Vukojević, K., **Filipović, N.**, Čapkun, V., Benzon, B., Glavina Durdov, M. (2018): Expression of DENDRIN in several glomerular diseases and correlation to pathological parameters and renal failure - preliminary study. Diagn Pathol. 13: 90.

7. Vukojević, K., Raguž, F., Saraga, M., **Filipović, N.**, Bočina, I., Kero, D., Glavina Durdov, M., Martinović, V., Saraga-Babić, M. (2018): Glomeruli from patients with nephrin mutations show increased number of ciliated and poorly differentiated podocytes. Acta Histochem. 120: 748-756.

8. Delić, I.K., Kostić, S., **Filipović, N.**, Gudelj Ensor, L., Ivandić, M., Dukić J.J., Vitlov Uljević, M., Ferhatović Hamzić, L., Puljak, L., Vukojević, K. (2018): 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. 33: 1734-1741.

9. Martinović, V., T. Vukušić Pušić, I. Restović, I. Bočina, **N. Filipović**, M. Saraga-Babić, K. Vukojević (2017): Expression of epithelial and mesenchymal differentiation markers in the early human gonadal development. Anat Rec (Hoboken). 300: 1315-326.

WoS/CC PUBLICATIONS BEFORE 2015:

WoS/CC PUBLICATIONS AS A FIRST AUTHOR- before 2015:

1. **Filipović, N.**, M. Vrdoljak, A. Vuica, M. Jerić, A. Jeličić Kadić, T. Utrobičić, T. Mašek, I. Grković (2014): Expression of PTHrP and PTH/PTHrP receptor 1 in the superior cervical ganglia of rats. Neuropeptides. 48: 353-359.

2. **Filipović, N.**, L. Žuvan, T. Mašek, R. Tokalić, I. Grković (2014): Gender and gonadectomy influence on neurons in superior cervical ganglia of sexually mature rats. Neurosci. letters. 563: 55-60.

3. **Filipović, N.**, Z. Stojević, N. Plevnik, T. Mašek, N. Prvanović Babić, Z. Tuček (2014): The influence of age on bone metabolism in mares during late pregnancy and lactation. Res. vet. sci. 97: 194-198.

4. **Filipović, N.**, L. Ferhatović, I. Marelja, L. Puljak, I. Grković (2013): Increased vitamin D receptor expression in dorsal root ganglia neurons of diabetic rats. Neurosci Letters. 549: 140-145.

5. **Filipović, N.**, Z. Stojević, T. Mašek, Ž. Mikulec, N. Prvanović (2011): Relationship between fructosamine with serum protein, albumin and glucose concentrations in dairy ewes. Small

ruminant res. 96: 46-48.

6. **Filipović, N.**, Z. Stojević, N. Prvanović (2010): Serum fructosamine concentrations in relation to metabolic changes during late pregnancy and early lactation in mares. Berl. Munch. Tierarztl. Wochenschr. 123: 169-173.

7. **Filipović, N.**, Z. Stojević, N. Prvanović, Z. Tuček (2010): The influence of late pregnancy and lactation on bone metabolism in mares. Res. Vet. Sci. 88: 405-410.

8. **Filipović, N.**, A. Nađ, T. Mašek, Ž. Mikulec, Z. Stojević (2009): Metabolisches Profil in der Spätträchtigkeit als Indikator der Milchleistung während der Früh lactation bei Schafen. Tierarztl. Umsch. 64: 332-337.

9. **Filipović, N.**, Z. Stojević, B. Beer-Ljubić, N. Poljičak-Milas (2008): Der Fettstoffwechsel bei Holstein-Kühen in der Trockenstehzeit und zu Laktationsbeginn. Tierarztl. Umsch. 63: 59-64.

10. **Filipović, N.**, Z. Stojević, M. Zdelar-Tuk, V. Kušec (2008): Plasma parathyroid hormone related peptide and bone metabolism in periparturient dairy cows. Acta Vet. Hung. 56: 235-244.

WoS/CC PUBLICATIONS AS A SECOND AUTHOR - before 2015:

1. Mašek, T., **N. Filipović**, L. Ferhatović Hamzić, L. Puljak, K. Starčević (2014): Long-term streptozotocin diabetes impairs arachidonic and docosahexaenoic acid metabolism and $\Delta 5$ desaturation indices in aged rats. Exp. gerontol. 60: 140-146.

2. Đuričić, D., **N. Filipović**, T. Dobranić, M. Lipar, N. Prvanović, R. Turk, D. Gračner, D. Stanin, I. Folnožić, M. Samardžija (2011): Progesterone and Insulin-Like Growth Factor I Levels in Blood of Boer Goats During Puerperium Out-of-Season in a Mild Climate Region. Reprod. Domest. Anim. 46: 776-780.

3. Stojević, Z., **N. Filipović**, M. Zdelar-Tuk, V. Kušec, N. Prvanović (2009): Knochenstoffwechsel von Milchkühen in drei Laktationen während der Trockenperiode und Früh lactation. Tierarztl. Umsch. 64: 175-180.

OTHER WoS/CC PUBLICATIONS AS A CO-AUTHOR – before 2015:

1. Agnić, I., K. Vukojević, M. Saraga-Babić, **N. Filipović**, I. Grković (2014): Isoflurane post-conditioning stimulates proliferative phase of myocardial recovery in ischemia-reperfusion model of heart injury in rats. Histo. Histopathol. 29: 89-99.

2. Mašek, T., K. Starčević, **N. Filipović**, Z. Stojević, D. Brožić, Z. Gottstein, K. Severin (2014): Tissue Fatty Acid Composition and Estimated Δ Desaturase Activity after Castration in Chicken Broilers Fed With Linseed or Sunflower Oil. J. Anim. Physiol. Anim. Nutr. (Berl). 98: 384-392.

3. Baković, M., M. Jurić Paić, E. Zdrilić, K. Vukojević, L. Ferhatović, A. Marin, **N. Filipović**, I. Grković, L. Puljak (2013): Changes in cardiac innervation during maturation in long-term diabetes. Exp. gerontol. 48, 1473-1478.

4. Kočila, P., A. Janžek, D. Gračner, T. Dobranić, D. Đuričić, N. Prvanović, **N. Filipović**, G. Gregurić Gračner, Lj. Bedrica, F. Marković, M. Horvat, M. Samardžija (2013): Vergleich von Progesteronkonzentrationen, Energiebilanzkennwerten und körperlicher Verfassung bei Milchkühen mit verschiedener Milchleistung im Puerperium. Tierarztl. Umsch. 68: 266-274.

5. Mašek, T., K. Severin, J. Kos, Z. Janicki, **N. Filipović**, L. Kozačinski, Ž. Cvrtić, P. Džaja (2010): Blood lipids and fatty acid composition of abdominal fat in castrated and intact male common pheasant (*Colchicus colchicus*). Ital. J. Anim. Sci. 9, 410-413.

6. Stojević, Z., J. Daud, **N. Filipović** (2010): Einfluss metabolischer Anpassungen in der Transitperiode auf die Blutspiegel von HbA1c und der Fruktosamine bei Milchkühen. Tierarztl. Umsch. 65: 370-375.

7. Kočila, P., M. Samardžija, T. Dobranić, D. Gračner, V. Dobranić, N. Prvanović, Ž. Romić, **N. Filipović**, N. Vuković, D. Đuričić (2009): Einfluss der Energiebilanz auf die reproduktionsfähigkeit von Holsteiner Kühen im Puerperium. Tierarztl. Umsch. 64: 471-477.

8. Poljičak-Milas, N., T.S. Marenjak, Terezija A. Slavica, Z. Janicki, **N. Filipović**, V. Struk (2009): Comparative hematological and biochemical values in pregnant and non-pregnant red, *Cervus elaphus*, and fallow deer, *Dama dama*, females. Folia Zool. Brno 58: 36-44.

9. Mašek, T., Ž. Mikulec, H. Valpotić, N. Antunac, N. Mikulec, Z. Stojević, **N. Filipović**, S. Pahović (2008): The Influence of Live Yeast Culture (*Saccharomyces Cerevisiae*) On Milk Production and Composition, and Blood Biochemistry of Grazing Dairy Ewes during the Milking Period. Acta Vet. Brno 77: 547-554.

10. Stojević, Z., Z. Tuček, **N. Filipović**, K. Gnjiđić (2007): Verlauf der Konzentration von Eisen, Kupfer und Zink im Blut der Milchkühe während der Laktation und der Trockenstehzeit. Tierarztl. Umsch. 62: 480-487.

**TECHNICAL SKILLS AND
COMPETENCES**

- immunohistochemistry (including immunogold staining for electron microscopy),
- immunofluorescence,
- retrograde and anterograde neuronal tracing
- PCR, RT-PCR,
- ELISA,
- WB
- RIA,
- isolation of DNA, RNA and proteins from biological samples,
- hematological analyses
- spectrophotometry,
- supravital stainings,
- small surgery in rats
- craniotomy in mouse and rat

SIGNATURE

Filipović.
