



**Curriculum Vitae** (November 01, 2017.)

**Name:** Tatjana S Kostic  
**Office Address:** Laboratory for Reproductive Endocrinology and Signaling, Section of Animal Physiology, DBE, Faculty of Science, University of Novi Sad, D.Obradovica Sq. 2, 21000 Novi Sad, SERBIA  
Tel: 381-21-485-2674 or 381-21-485-2673, Mobile: 381-63-514-716, Fax: 381-21-450-620  
E-mail: [tatjana.kostic@dbe.uns.ac.rs](mailto:tatjana.kostic@dbe.uns.ac.rs)  
<http://www.dbe.uns.ac.rs/en/nauka-eng/res>

**Date & place of birth:** March 7, 1962, Maribor, Slovenia  
**Citizenship:** Serbia, Slovenia  
**Family:** Twins  
**Language:** English, Slovenian

**Education:**  
1990. B.Sc. Biology, University of Novi Sad, Faculty of Sciences, Novi Sad  
1994. M.Sc. in Neurosciences, University of Belgrade, Center for Multidisciplinary Studies, Belgrade  
1997. Ph.D. Biology, University of Novi Sad, Faculty of Sciences, Novi Sad

**Training:**  
1999–2002: *Visiting fellow* - SCS, ERRB, NICHD, NIH, Bethesda, MD, USA.

**Employment experience:**  
December 1991 - March 1998 Assistant, Department of Biology and Ecology, Faculty of Science, University of Novi Sad,  
March 1998 – October 2002 Assistant Professor, Department of Biology and Ecology, Faculty of Science, University of Novi Sad  
October 1999-October 2002 Visiting fellow, Section on Cellular Signaling, ERRB, NICHD, NIH, USA  
October 2003 – Jun 2008 Associate professor, Department of Biology and Ecology, Faculty of Science, University of Novi Sad  
July 2008 - present Full professor, Faculty of Science, University of Novi Sad

**Teaching:** Animal Physiology (45 hours/year),  
Comparative Animal Physiology (15 hours/year),  
Mechanisms of Cell Signaling (15 hours/year),  
Molecular and Cellular Immunology (15 hours/year),  
Molecular Physiology (15 hours/year)  
Reproductive Physiology (15 hours/year)  
Reproductive Endocrinology (15 hours/year)  
Bachelor, Master and PhD level

**Mentoring**  
Post-doc candidates: **2**  
PhD candidates: **5** (3 completed)  
Master candidates: **18** (16 completed)  
Diploma candidates: **47** (47 completed)

**Research area:** Cellular Signaling, Reproductive Endocrinology, Stress, Aging, Circadian Rhythm in Reproduction  
**Citations (Scopus):** 849 (self citation excluded), *h*-index 18.

**Research Support:**

**Ongoing Research Support**

APV3822, Kostic T, (PI) APV Province Committee for Science and Technology Project: *"The slowdown in the development of aging-related hypogonadism: the effect of cGMP-dependent mechanisms"*, Role: Principal Investigator

ON173057, Kostic T (PI), National Ministry of Science and Environmental Protection, Project: *"Molecular mechanisms and signal transduction pathways involved in regulation of steroidogenesis and adaptation of Leydig cells to disturbed homeostasis"*, Role: Principal Investigator

Bilateral cooperation Serbia-Slovenia, Kostic T (PI), Ministry of Science Republic of Serbia, Project: *"Synchronization of the Leydig cell circadian timing system: coupling cAMP signaling to clock"*, Role: Principal Investigator

APV1137, Andric S (PI), APV Province Committee for Science and Technology Project: *"Signaling pathways and molecular mechanisms involved in maintenance of sex steroids homeostasis"*, Role: Co-investigator

Serbian Academy of Sciences – Academy of Sciences of the Czech Republic Andric S (PI) 01/01/2014 – 31/12/2016, Project: *"The CNG channels in Leydig cell – identification, characterization and functional coupling to testosterone production"*, Role: Co-investigator

COST Action: BM1105 0: *"GnRH network – Neuroendocrine Control of Reproduction"*, Role: MC member for basic science from Serbia

COST Action: BM1105 0, 01/04/2012 – 31/03/2016 Project: *"GnRH network – Neuroendocrine Control of Reproduction"*, Role: MC substitute for basic science from Serbia.

COST Action: BM1402, 01/12/2014 – 30/11/2018 Project: *"Development of a European network for preclinical testing of interventions in mouse models of age and age-related diseases (MouseAGE)"*  
Role: Investigator.

**Awards:**

1990 Award for postgraduate students received from Vojvodina Scientific Grant.  
1997 Award Serbian Biological Society for the best Ph.D. Thesis  
2000 Endocrine Society Award  
2003 FEBS Award travel grant  
2004 Award for publications (2002-2004) funded by National Ministry of Science and Environmental Protection  
2005 Award for participation in development of scientific progress at the Faculty of Science, University of Novi Sad

**Membership:**

1992 – present Yugoslav Biological Society, Serbian Biochemical Society  
1999 – present INTECOL (International Association for Ecology)  
2000 – 2003 The Endocrine Society  
2002 - present Womens in Endocrinology  
2002 - present IAD  
2003 – present FEBS  
2015 – present Serbian Molecular Biology Society

## Publication List

1. Simonovic I., Milin J., **Kostic T.**, Kovacevic R., Maric D. Effect of hypothalamic deafferentation on naloxone-induced modification of LH and PRL in stress condition. *Proc. Nat. Sci Matica Srpska*, 86: 21-27, 1994.
2. Simonovic I., **Kostic T.** and Maric D. Participation of the pineal gland in the reproductive physiology. *Proc Nat SciFac Nat Sci*, 23: 5-12, 1994.
3. **Kostic T.**, Milin J., Maric D. Morphofunctional recovery of the rat pineal gland after acute immobilization. First Congress of Electron Microscopy, Proceedings, Novi Sad, 87-89, 1994.
4. Maric D., **Kostic T.**, Simonovic I. Paracrine regulation of the testis. *Proc. Nat. Sci Matica Srpska*, 87: 5-17, 1994.
5. Maric D., Simonovic I., Kovacevic R., **Kostic T.** and Andjus R.K. Opioid-mediated and opioid-independent components of hormonal responses to acute restraint stress in the male rat. *Proc Nat SciFac*, 24: 17-20, 1995.
6. **Kostic T.**, Maric D. Effects of stress on neuroendocrine responses. *Proc Nat Sci Fac*, 24: 5-12, 1995.
7. Maric D., **Kostic T.**, Kovacevic R. Effects of acute and chronic immobilization stress on rat Leydig cell steroidogenesis. *J. Steroid Biochem. Molec. Biol.* 58: 351-355, 1996.
8. **Kostic T.**, Andric S., Kovacevic R., Maric D. The effect of opioid antagonists on testicular response to acute stress in adult rats. *Yugoslav. Physiol. Pharmacol Acta*, 32: 197-203, 1996.
9. **Kostic T.**, Andric S., Kovacevic R., Maric D. The effect of opioid antagonists in local regulation of testicular response to acute stress in adult rats. *Steroids*, 62: 703-708, 1997.
10. **Kostic T.**, Milin J., Maric D. The implication of the rat pineal gland in Leydig cells reactive response to acute immobilization. *Neuroendocrinol. Lett*, 18: 41-46, 1997.
11. Kovacevic R., **Kostic T.**, Andric S. Handbook of general physiology. Published by *University of Novi Sad*, 1997.
12. **Kostic T.**, Andric S., Maric D., Kovacevic R. The effect of acute stress and opioid antagonist on the activity of NADPH-P450 reductase in rat Leydig Cells. *J. Steroid Biochem. Molec. Biol.* 66: 51-54, 1998.
13. Kovacevic R., Andric S., **Kostic T.**, Lazetic B., Pekaric-Nadj N. The effects of chronic exposure of male rats to 50 Hz magnetic field: III steroidogenic capacity of whole testes and Leydig cells in vitro. *Exp. Biol. Med.* 45: 135-138, 1998.
14. Andric S., **Kostic T.**, Sakac M., Medic-MijacevicLj., Gasi K and Kovacevic R. Biological characterization of some novel 5-androstene derivatives as potential antiandrogens. *Proc. Nat. Sci Matica Srpska* 94: 43-51, 1998.
15. **Kostic T.**, Andric S., Kovacevic R., Maric D. Is nitric oxide involved in stress impaired testicular steroidogenesis? *Proc. Nat. Sci Matica Srpska* 94: 53-62, 1998.
16. **Kostic T.**, Andric S., Kovacevic R., Maric D. The involvement of nitric oxide in immobilization stress impaired testicular steroidogenesis. *Eur J Pharmacol* 346, 267-273, 1998.
17. Andric S., **Kostic T.**, Lazetic B., Pekaric-Nadj N., Kovacevic R. The effects of chronic exposure of male rats to 50 Hz magnetic field on the steroidogenic capacity of whole testis and Leydig cells in vitro. *Proc Nat SciFac* 27-28: 46-50, 1999.
18. **Kostic T.**, Andric S., Kovacevic R., Maric D. The effect of short term immobilization stress on rat Leydig Cell steroidogenesis. *Proc Nat Sci Fac* 27-28: 58-63, 1999.
19. **Kostic T.**, Andric S., Kovacevic R., Maric D. Stress and paracrine regulation of Leydig cell function. *Basic and clinical aspects of the theory of functional systems*. Eds. B. Lazetic & K.V. Sudakov & P.K. Anokhin: 215-221, 1998.
20. Andric S., **Kostic T.**, Vojinovic-Miloradov M., Dragisic S.M., Stojilkovic S.S., Kovacevic R. Acute effects of PCB- and Mineral Oil based dielectric fluids on antioxidant enzyme activities in adult rat testis. *International Symposium Interdisciplinary Regional Research, Proceeding part II* : 915-918, 1999.
21. **Kostic T.S.** Andric S.A., Dragisic S.M., Kovacevic R., Maric D. Nitric oxide is involved in down regulation of testicular steroidogenesis in stress conditions. *International Symposium Interdisciplinary Regional Research, Proceeding part II*: 483-486, 1999.
22. **Kostic T.S.** Andric S.A., Maric D., Stojilkovic S.S., Kovacevic R. Involvement of inducible nitric oxide synthase in stress-impaired testicular steroidogenesis. *Journal of Endocrinology* 163, 409-416, 1999.
23. Andric S.A., **Kostic T.S.**, Stojilkovic S.S., Kovacevic R. Inhibition of rat testicular androgenesis by polychlorinated biphenyl mixture Aroclor 1248. *Biol Reprod* 62: 1882-1888, 2000.
24. Andric S.A., **Kostic T.S.**, Dragisic S.M., Andric N.L., Stojilkovic S.S., Kovacevic R.Z. Acute effects of polychlorinated biphenyl-containing and -free transformer fluids on rat testicular steroidogenesis. *Environ Health Perspect* 108: 955-959, 2000.
25. Grubor-Lajsic G., Andric S.A., Andric N., Dragisic S., Taski K., Stanic B., **Kostic T.**, Kovacevic R. Changes on antioxidant enzymes in aquatic biota – an answer to oil refinery spills. *Central European Journal of Occupational and Environmental Medicine* 6 (2-3): 189-193, 2000.
26. **Kostic T.S.**, Andric S.A., Maric D., Kovacevic R.Z. Inhibitory effects of stress-activated nitric oxide on antioxidant enzymes and testicular steroidogenesis. *J Steroid BiochemMolecBiol*75 (4-5): 299-306, 2000.
27. Andric S.A., **Kostic T.S.**, Tomic M., Koshimizu T., Stojilkovic S.S. Dependence of soluble guanylyl cyclase on calcium signaling in pituitary cells. *J Biol Chem* 276: 844-849, 2000.
28. **Kostic T.S.**, Andric S.A., Stojilkovic S.S. Spontaneous and receptor controlled soluble guanylyl cyclase activity in anterior pituitary cells. *Mol Endocrinol* 15 (6): 1010-1022, 2001.
29. Andric S.A., **Kostic T.S.**, Dragisic S.M., Stojilkovic S.S. Kovacevic R.Z. Acute in vivo and in vitro effects of Aroclors on rat testicular steroidogenesis. In: PCBs-Recent Advances in the *Environmental Toxicology and Health Effects*, edited by Larry W. Robertson and Larry G. Hansen. The University Press of Kentucky. 303-307, 2001.
30. Andric N.L., Andric S.A., **Kostic T.S.**, Dragisic M.D., Kovacevic R.Z. Inhibitory effects of L-arginine methyl ester on antioxidant enzymes and stress-impaired steroidogenesis in rat testes. *Review of Research, Faculty of Sciences, Biology Series*, 30: 43-57, 2001.
31. Andric N., Andric S., Zoric S., **Kostic T.**, Kovacevic R. Effects of commercial PCB mixture on rat testicular enzyme activities. *Proceedings of the 6<sup>th</sup> International Symposium Interdisciplinary Regional Research* (Hungary, Romania, Yugoslavia), University of Novi Sad, YU, CD 0103, 2002.
32. **Kostic T.S.**, Tomic M., Andric S.A., Stojilkovic S.S. Calcium-independent and cAMP-dependent modulation of soluble guanylyl cyclase activity by G protein-coupled receptors in pituitary cells. *J Biol Chem* 276: 16412-16418, 2002.
33. Andric S., Andric N., Zoric S., **Kostic T.**, Kovacevic R. Effects of polychlorinated biphenyl-containing and -free transformer fluids on testicular enzyme activities. *Fresenius Environ. Bull.* 12: 245-249, 2003.
34. Andric N. L., Andric S.A, Zoric S.N., **Kostic T .S.**, Stojilkovic S. S., Kovacevic R. Z. Paralelizam and dissociation in the actions of an Aroclor 1260-based transformer fluid on testicular androgenesis and antioxidant enzymes. *Toxicology* 194: 65-75, 2003.

35. **Kostic T.S.**, Andric S.A., Stojilkovic S.S. Receptor-controlled phosphorylation of alpha-1 soluble guanylyl cyclase enhances nitric oxide-dependent cGMP production in pituitary cells. *Mol Endocrinol* 18 (2): 458-470, 2004.
36. Mirkov S.M., Djordjevic A.N., Andric N.L., Andric S.A., **Kostic T.S.**, Bogdanovic G.S., Vojinovic-Miloradov M.B., Kovacevic R.Z. Nitric oxide-scavenging activity of polyhydroxylated fullerene, C<sub>60</sub>(OH)<sub>24</sub>. *Nitric Oxide*, 11: 200-206, 2004.
37. Andric N. L., **Kostic T. S.**, Zoric S.N., Stanic B. D., Andric S.A, Kovacevic R. Z. Effect of a PCB-based transformer oil on testicular steroidogenesis and xenobiotic-metabolizing enzymes. *Reproductive Toxicology* 22: 102-110, 2006.
38. Andric S.A., **Kostic T.S.**, Stojilkovic S.S. Contribution of multidrug resistance protein - MRP5 in control of cGMP intracellular signaling in anterior pituitary cells. *Endocrinology* 147 (7): 3435-3445, 2006.
39. Andric S.A., Janjic M.M., Stojkov N.J., **Kostic T.S.** Protein kinase G – mediated stimulation of basal Leydig cell steroidogenesis. *Am J Physiol Endocrinol Metab* 293 (5): E1399-1408, 2007.
40. Andric N., **Kostic T.**, Kaisarevic S., Fa S., Pogrmic K., Kovacevic R. *In vivo* and *in vitro* effects of PCB126 and PCB153 on rat testicular androgenesis. *Environmental Toxicology and Pharmacology* 25: 222-226, 2008.
41. **Kostic T.S.**, Stojkov N.J., Janjic M.M., Maric D., Andric S.A. The adaptive response of adult rat Leydig cells to repeated immobilization stress: the role of protein kinase A and steroidogenic acute regulatory protein. *Stress* 11 (5): 370-380, 2008.
42. **Kostic T.S.**, Stojkov NJ, Janjic MM & Andric SA Structural complexity of the testis and PKG-I/StAR interaction regulate the Leydig cell adaptive response to repeated immobilization stress. *Int J Androl* 33(5): 717-729, 2010.
43. Andric SA, Janjic MM, Stojkov NJ & **Kostic T.S.** Testosterone-induced modulation of Nitric Oxide-cGMP signaling pathway and androgenesis in the rat Leydig cells. *BiolReprod* 83(3): 434-442, 2010.
44. Andric SA, Janjic MM, Stojkov NJ & **Kostic T.S** Sildenafil treatment *in vivo* stimulates Leydig cell steroidogenesis via cAMP and cGMP signaling pathway. *Am J Physiol Endocrinol Metab* 299 (4): E544-E450, 2010.
45. **Kostic TS**, Stojkov NJ, Bjelic MM, Mihajlovic AI, Janjic MM, Andric SA. Pharmacological doses of testosterone up-regulated androgen receptor (AR) and 3-beta-hydroxysteroid dehydrogenase/delta-5-delta-4 isomerase (3bHSD) and impaired Leydig cells steroidogenesis in adult rat. *Toxicol Sci.* 121(2): 397-407, 2011.
46. Kojic Z, Scepanovic LJ, **Kostic T** Immobilization stress reduces oxygen consumption of the isolated interstitial rats' testes cells. *Acta Physiol Hung* 98 (1): 45-50, 2011.
47. Stojkov. NJ, Janjic MM, Bjelic MM, Mihajlovic AI, **Kostic TS**, Andric SA Repeated immobilization stress disturbed steroidogenic machinery & stimulated the expression of cAMP signaling elements & adrenergic receptors in Leydig cells. *Am J Physiol Endocrinol Metab* 302(10): E1239-E1251, 2012.
48. Janjic MM, Stojkov NJ, Bjelic MM, Mihajlovic AI, Andric SA, **Kostic TS** Transient rise of serum testosterone level after single sildenafil treatment of adult male rats. *J Sex Med* 10 (9): 2534-2543, 2012.
49. Janjic MM, Stojkov NJ, Andric SA, **Kostic TS** Anabolic-androgenic steroids induce apoptosis and NOS2 (nitric oxide synthase 2) in adult rat Leydig cells following *in vivo* exposure. *Reprod Toxicol* 34(4):686-693, 2012.
50. Andric SA, Janjic MM, Stojkov NJ, **Kostic TS** NO-cGMP signaling increases the mitochondrial membrane potential and affects androgenesis in Leydig cells. *Biol Serb* 34 (1): 12-16, 2012.
51. Andric SA, Kojic Z, Bjelic MM, Mihajlovic AI, Baburski AZ, Sokanovic SJ, Janjic MM, Stojkov NJ, Stojilkovic SS, **Kostic TS** The opposite role of glucocorticoid and alpha1-adrenergic receptors in stress-triggered apoptosis of Leydig cells. *Am J Physiol Endocrinol Metab* 304 (1): E51-E59, 2013.
52. Stojkov NJ, Janjic MM, **Kostic TS**, Andric SA Orally applied Doxazosin disturbed testosterone homeostasis and changed the transcriptional profile of steroidogenic machinery, cAMP/cGMP signaling and adrenergic receptors in Leydig cells of adult rats. *Andrology* 1 (2): 332-347, 2013.
53. Stojkov NJ, Janjic MM, Baburski AZ, Bjelic MM, Mihajlovic AI, Drljaca DM, Sokanovic SJ, **Kostic TS** & Andric SA Sustained *in vivo* blockade of alpha1-adrenergic receptors prevented some of stress-triggered effects on steroidogenic machinery in Leydig cells. *Am J Physiol Endocrinol Metab* 305 (2): E194-E204, 2013.
54. Sokanovic SJ, Baburski AZ, Janjic MM, Stojkov NJ, Bjelic MM, Lalosevic D, Andric SA, Stojilkovic SS & **Kostic TS** The opposing roles of nitric oxide and cGMP in the age-associated decline in rat testicular steroidogenesis. *Endocrinology* 154 (10): 3914-3924, 2013.
55. Stojkov NJ, Baburski AZ, Bjelic MM, Sokanovic SJ, Mihajlovic AI, Drljaca DM, Janjic MM, **Kostic TS** & Andric SA *In vivo* blockade of alpha1-adrenergic receptors mitigates stress-disturbed cAMP & cGMP signaling in Leydig cells. *Mole Hum Reprod* 20 (1):77-88, 2013.
56. Bjelic MM, Stojkov NJ, Baburski AZ, Sokanovic SJ, Mihajlovic AI, Janjic MM, **Kostic TS**, Andric SA Molecular adaptations of testosterone-producing Leydig cells during systemic *in vivo* blockade of the androgen receptor. *Mol Cell Endocrinol* 396(1-2):10-25, 2014.
57. Sokanovic SJ, Janjic MM, Stojkov NJ, Baburski AZ, Bjelic MM, Andric SA, **Kostic TS** Age related changes of cAMP and MAPK signaling in Leydig cells of Wistar rats. *Exp Gerontol* 58:19-29, 2014.
58. Bjelic MM, Stojkov NJ, Radovic SM, Baburski AZ, Janjic MM, **Kostic TS**, Andric SA Prolonged *in vivo* administration of testosterone-enanthate, the widely used and abused anabolic androgenic steroid, disturbs prolactin and cAMP signaling in Leydig cells of adult rats. *J Steroid Biochem Mol Biol* 149:58-69, 2015.
59. Stojkov-Mimic NJ, Bjelic MM, Radovic SM, Mihajlovic AI, Sokanovic SJ, Baburski AZ, Janjic MM, **Kostic TS**, Andric SA Intratesticular alpha1-adrenergic receptors mediate stress-disturbed transcription of steroidogenic stimulator NUR77 as well as steroidogenic repressors DAX1 and ARR19 in Leydig cells of adult rats. *Mol Cell Endo* 412:309-319, 2015.
60. Baburski AZ, Sokanovic SJ, Janjic MM, Stojkov NJ, Bjelic MM, Andric SA, **Kostic TS** Melatonin replacement restores the circadian behavior in adult rat Leydig cells after pinealectomy. *Mol Cell Endo* 413:26-35, 2015.
61. Gak IA, Radovic SM, Dukic AR, Janjic MM, Stojkov-Mimic NJ, **Kostic TS**, Andric SA Stress stimulates mitochondrial biogenesis to preserve steroidogenesis in Leydig cells of adult rats. *BBA Mol Cell Res* 1853:2217-2227, 2015.
62. Baburski AZ, Sokanovic SJ, Radovic SM, Bjelic MM, Andric SA, **Kostic TS** Circadian rhythm of the Leydig cells endocrine function is attenuated during aging. *Exp Gerontol* 73:5-13, 2016.
63. Baburski AZ, Sokanovic SJ, Andric SA, **Kostic TS** Aging has the opposite effect on cAMP and cGMP circadian variations in rat Leydig cells. *J Comp Physiol B* 187(4):613-623, 2017.
64. Kaisarevic SN, Andric SA, **Kostic TS** Teaching Animal Physiology: a 12-year experience transitioning from a classical to interactive approach with continual assessment and computer alternatives. *Adv Physiol Educ* 41(3):405-414, 2017.
65. Baburski AZ, Medar MLJ, Andric SA, **Kostic TS** Circadian rhythm patterns of NO-cGMP signaling are moderately synchronized by melatonin in testosterone-producing Leydig cells. *Biologia Serbica* 39(2):17-24, 2017.
66. Starovlah IM, Radovic SM, Marinovic MA, **Kostic TS**, Andric SA (2017) Circadian rhythm patterns of NO-cGMP signaling are moderately synchronized by melatonin in testosterone-producing Leydig cells. *Biol Serbica* DOI 10.5281/zenodo.827157.

**Books/Scripts:**

1. Kovacevic R, **Kostic T** & Andric S (1997): Handbook of General Animal Physiology. *Ed. University of Novi Sad, Faculty of Sciences.*
2. Kovacevic R, **Kostic T**, Andric S & Zoric S (2005): Script of General Animal Physiology. *Ed. WUS Austria.*
3. Matavulj M, **Kostic T** & Andric S (2005): Script of Endocrinology. *Ed. World University Service (WUS) Austria.*
4. Andric S, **Kostic T**, Andric N & Zoric S (2005): Script of Comparative Animal Physiology. *Ed. WUS Austria*
5. **Kostic T** & Andric S (2007): Script of Molecular and Cellular Immunology. *Ed. WUS Austria.*
6. Andrić S & **Kostić T** (2007): Script of Mechanisms of Cell Communication. *Ed. WUS Austria.*