

**EUROPEAN
CURRICULUM VITAE
FORMAT**



**PERSONAL
INFORMATION**

Surname(s) / First name(s)	Saraga-Babić Mirna
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Nationality(-ies)	Croatian
Date of birth	March 20, 1955
Identification number from Records of Scientific Workers	111141

WORK EXPERIENCE

• Dates (from – to)	1981-2011
Name and address of employer	School of Medicine, University of Zagreb (until 1981-1997) and University of Split (1997-2011)
Type of business or sector	Academic Institution, Full professor of Histology and Embryology
Occupation or position held	Head of the Department of Anatomy, Histology and Embryology
Main activities and responsibilities	Research and teaching

EDUCATION

Date	1974-1979
Place of education	Zagreb
Name and type of organization providing education	School of Medicine, University of Zagreb
Title or qualification awarded	Medical doctor

Date	1981-1983
Place of education	Zagreb, Croatia
Name and type of organization providing education	Postgraduate study in Biomedicine, Faculty of Natural Sciences, University of Zagreb
Title or qualification awarded	Master of science (1984)

Date	1989
Place of education	Zagreb, Croatia
Name and type of organization providing education	School of Medicine, University of Zagreb
Title or qualification awarded	Doctor of Philosophy

TRAINING

Year	1983, 1984
Place of training	Tubingen, Germany
Name and type of organization providing training	Department of Electron Microscopy, Max-Planck Institute

Principal subjects/Occupational skills covered	Training in electron microscopy
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Year	1988, 1991
Place of training	Helsinki, Finland
Name and type of organization providing training	Department of Electron Microscopy and Department of Pathology, University of Helsinki
Principal subjects/Occupational skills covered	Training in electron microscopy and immunohistochemistry

Year	1993
Place of training	Gottingen, Germany
Name and type of organization providing training	Department of Molecular Cell Biology, Max-Planck Institute of Biophysical Chemistry
Principal subjects/Occupational skills covered	Training of "in situ" hybridization technique

Year	2000
Place of training	Helsinki, Finland
Name and type of organization providing training	Department of Electron Microscopy, Institute of Biotechnology
Principal subjects/Occupational skills covered	Training in electron microscopy

PERSONAL SKILLS AND COMPETENCIES

Mother tongue(s)	Croatian
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Other language(s)

Language	English
Speaking	Excellent
Writing	Excellent
Understanding (listening and reading)	Excellent

MEMBERSHIPS AND ACTIVITIES IN PROFESSIONAL ASSOCIATIONS	<ul style="list-style-type: none"> - Croatian Association of Anatomists, Histologists and Embryologists - Croatian Association of Medical Doctors - Croatian Association of Medical Education - International Society of Developmental Biologists - European Cell Biology Organization - The Finnish Society for Cell and Developmental Biology
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ORGANIZATIONAL SKILLS AND COMPETENCIES	<p>2007- 2009. Vice Dean for Finances, School of Medicine, University of Split, Croatia 2003 – 2007. Vice Dean for Science, School of Medicine, University of Mostar; BIH 2001 – 2013. Head of the Department of Anatomy, Histology and Embryology, School of Medicine University of Split 2015.- Vice Dean of Science, School of Medicine, University of Split, Croatia</p>
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TEACHING ACTIVITIES

- Graduate education in Histology and Embryology
- Elective courses "Development and congenital kidney diseases", "Fertilization"
- e-teaching: Elective course "Development and anomalies of the head and neck"
- Postgraduate teaching- Postgraduate study, School of Medicine in Split, Croatia
- Postgraduate teaching – Postgraduate study, School of Medicine in Mostar, BiH
- Visiting professor - Postgraduate study in Biomedicine, School of Medicine in Rijeka, Croatia
- Visiting professor – School of Medicine in Mostar, BiH
- Teacher at Courses of Permanent Medical Education

RESEARCH EXPERIENCE

- Investigations in the field of normal and abnormal human development with special emphasis on the formation of axial structures (notochord, vertebral column, brain and spinal cord)
- Ultrastructural and immunohistochemical investigations of basic processes during development of human organs: cell proliferation and cell death, differentiation, growth-factors, BMP-s, intermediate filament proteins.
- Spatial and temporal expression of genes and their products in human tissues. Expression of highly conserved genes (PAX) in human development.
- Investigation on ultrastructural, histochemical and immunohistochemical characteristics on the axial organs of Amphioxus.
- Investigations on the role of primary cilia in kidney development and pathology (cystogenesis)
- Investigation on the role of different developmental factors (apoptotic, anti-apoptotic growth factors, transcriptional factors) in human jaw and tooth formation

RESEARCH GRANTS

- 1981-1990 Participation in the project "Analysis of developmental processes in animal and plants", supported by the Croatian Ministry of Science and Technology, no 2.3.4.
- 1991-1991 Main investigator of the project "Formation of the head, axial and uro-genital structures in man", supported by the Croatian Ministry of Science and Technology, no 3-01-069
- 1996-2001 Main investigator of the project "Development of the human central nervous system and the vertebral column", supported by the Croatian Ministry of Science and Technology, no 108-194.
- 1997- participation in the ALIS project "Programmed cell death in the axial structures of the human embryo", Leicester, Great Britain
- 2002-2005- Main investigator of the project "Development and diseases of axial organs in man" supported by Croatian Ministry of Science, Education and Sports, no 021-6002
- 2003- main investigator of the project "Conserved, apoptotic and mitotic genes in development and disease", supported by the Croatian Ministry of Science, Education and Sports
- 2007/2010 - main investigator of the Croatian-Slovenian project "Biomekrers of normal and abnormal development and associated multifactorial disorders".
- 2007/08- collaborator on the project "Development of the human peripheral nervous system", Federal Ministry of Education and Science, BIH
- 2007-2013- main investigator of the project "Gene expression during early human development"

COMPUTER SOFTWARE

Saraga- Babić M, Sapunar D "Atlas of Human Embryology", Chronolab, Chrono Educa, 1996
Sapunar D., Saraga-BabićM "Atlas of Histology", School of Medicine, University of Split, 2008

EDUCATIONAL TEXTS

Saraga-Babić M., Švajger A., Sapunar D., Pintarić I., Andelinović Š., Saraga M.:Development and congenital kidney diseases", University of Zagreb, Medical School-Split Branch, 1992
Banović I, Peruzović M., Saraga-Babić M., Sapunar D.: Fertilization, University of Zagreb, Medical School-Split Branch, 1992
Saraga-Babić M: Respiratory system. In Junqueira LC, Carneiro J. and Kelly RO. Basic Histology (Croatian edition), pp.338-358 (7th edition), Školska knjiga, Zagreb, 1995
Saraga-Babić M.: Adrenals, Islets of Langerhans, Thyroid, the Parathyroid glands, the Pineal body. In Junqueira LC, Carneiro J. and Kelly RO. Basic Histology (Croatian edition), pp.305-424 (7th edition), Školska knjiga, Zagreb, 1995.
Saraga-Babić M: With game through anatomy 5 Embryology, Sobotta: Atlas of Anatomy- cards for learning. (Croatian edition), Naklada Slap, Jastrebarsko, 2002.
Mirna Saraga-Babić et al. "Human Embryology and Histology"University of Split, 2015.

BOOK REVIEWS

Sobbota "Atlas of Histology" (Croatian edition), Naklada Slap, Jastrebarsko, 2004

**PUBLICATIONS
(CC, SCI)**

1. **Saraga-Babić M.:** Relationship between the notochord and the bursa pharyngea in early human development. *Cell Differ Dev* 32: 125-130, 1990
2. **Saraga-Babić M.:** Development of the notochord in normal and malformed human embryos and fetuses. *Int J Dev Biol* 35: 342-352, 1991.
3. **Saraga-Babić M, Saraga M.:** Role of the notochord in the development of cephalic structures in normal and anencephalic human fetuses. *Virchows Arch A* 422: 161-168, 1993.
4. Sapunar D., **Saraga-Babić M.**, Peruzović M., Marušić M.: Effects of hyperbaric oxygen on rat embryos. *Biol Neonate* 63: 360-369, 1993.
5. **Saraga-Babić M.,** Sapunar D., Stefanović V.: Histological features of axial structures during embryonic and fetal stages of human craniorachischisis. *Acta Neuropathol* 86: 289-294, 1993.
6. **Saraga-Babić M.,** Stefanović V., Wartiovaara J., Lehtonen E.: Spinal cord - notochord relationship in normal human embryos and in a human embryo with double spinal cord. *Acta Neuropathol* 86: 509-514, 1993.
7. **Saraga-Babić M.,** Lehtonen E., Švajger A., Wartiovaara J.: Morphological and immunohistochemical characteristics of axial structures in the transitory human tail. *Ann Anat* 176: 277-286, 1994.
8. Stefanović V., **Saraga-Babić M.,** Wartiovaara J.: Cell contacts in early human pituitary development. *Acta Anat* 14: 169-175, 1993.
9. Lehtonen E., Stefanović V., **Saraga-Babić M.:** Changes in the expression of the intermediate filaments and desmoplakins during development of the human notochord. *Differentiation* 59(1): 35-43, 1995.
10. **Saraga-Babić M.,** Sapunar D., Wartiovaara J.: Variations in the formation of the human caudal spinal cord. *J Brain Res* 36(3): 341-347, 1995.
11. **Saraga-Babić M.,** Stefanović V., Lehtonen E., Sapunar D., Saraga M., Wartiovaara J.: Neurulation mechanisms in the human development. *Croatian Med J*, 37(1):7-14, 1996.
12. **Saraga-Babić M.,** Krolo M., Sapunar D., Terzić J., Biočić M.: Differences in origin and fate between the cranial and caudal spinal cord during normal and disturbed human development. *Acta Neuropathol* 91: 194-199, 1996.
13. Sapunar D., Vilović K., Vrdoljak E., Petri N., **Saraga-Babić M.:** Effects of maternal hyperoxygenation on the experimentally produced uteroplacental insufficiency in rat. *Reproduction Fertility and Development* 8: 379-381, 1996.
14. Terzić J., Muller C., Gajović S., **Saraga-Babić M.:** Expression of PAX2 gene during human development. *Int J Dev Biol* 42(5): 701-707, 1998.
15. Krolo M., Vilović K., Sapunar D., Vrdoljak E., **Saraga-Babić M.:** Fibronectin expression in the developing human spinal cord. *Croatian Med J* 39: 386-391, 1998.
16. Terzić J, **Saraga-Babić M.:** Expression pattern of PAX3 and PAX6 genes during human embryogenesis. *Int J Dev Biol* 43: 501-508, 1999.
17. Shintani S, Terzić J., Sato A., **Saraga-Babić M.,** O'hUigin C., Tichy H., Klein J.: Do lampreys have lymphocytes? The Spi evidence. *PNAS* 97(13): 7417-7422, 2000.
18. Vilović K., Sapunar D., Ilijić E., Mimica M.D., England M., **Saraga-Babić M.:** Morphological characteristics of dying cells in axial structures of developing human embryos. *Cells Tissues Organs* 169: 347-354, 2001.
19. Sapunar D., Vilović K., England M., **Saraga-Babić M.:** Morphological diversity of dying cells during regression of the human tail. *Ann Anat* 183: 1-6, 2001.
20. Mayer W.E., O'hUigin C., Tichy H., Terzić J., **Saraga-Babić M.,:** Identification of two Ikaros-like transcription factors in lamprey. *Scand J Immunol* 55(2): 162- 170, 2002.
21. **Saraga-Babić M.,** Stefanović V., Saraga M., Wartiovaara J., Lehtonen E.: Expression of intermediate filaments and desmosomal proteins during differentiation of the human spinal cord. *Acta histochemica*, 104(1):157-166, 2002
22. Biočić M., Saraga M., Mašković J., Vukić-Košuljandić Đ., **Saraga-Babić M.,** Budimir D.: A nephron-sparing surgical procedure for Fraley's syndrome. A case report. *Eur J Pediatr Surg*, 12: 1-4, 2002.
23. Božanić D., Tafrā R., **Saraga-Babić M.:** Role of apoptosis and mitosis during early stages of human eye development. *Eur J Cell Biol*, 82-421-429, 2003
24. Božanić D. and **Saraga-Babić M.:** Cell proliferation during the early stages of human eye development. *Anat.Embryol. Anat Embryol*, 208(5):381-388, 2004.
25. Glamočlija V., Vilović K., **Saraga-Babić M.,** Baranović A. Sapunar D.: Apoptosis and active caspase-3 expression in human granulosa cells. *Fertility&Sterility*, 83(2): 426-431, 2005
26. Vilović K., Ilijić E., Glamočlija V., Kolić K., Bočina I., Sapunar D., **Saraga-Babić M.:** Cell death in developing human spinal cord. *Anat Embryol*, 211(1):1-9, 2006.
27. Carev D., Krnić D., Saraga M., Sapunar D., **Saraga-Babić M.:** Role of mitotic, pro-apoptotic and anti-apoptotic factors in human kidney development. *Pediatric*

28. Bočina I. and **Saraga-Babić M**: The notochordal sheath in Amphioxus – an ultrastructural and histochemical study. *Collegium Antropologicum*, 30(2):315-319, 2006.
29. Božanić D., Bočina I., **Saraga-Babić M.**: Involvement of cytoskeletal proteins and growth factor receptors during development of the human eye. *Anat Embryol (Berlin)*, 211(5):367-377, 2006.
30. Bočina I., **Saraga-Babić M.**: Immunohistochemical study of cytoskeletal and extracellular matrix components in the notochord and notochordal sheath of amphioxus. *Int J Biol Sci*, 2(2): 73-78, 2006.
31. Bazina M., Stefanović V., Božanić D., **Saraga-Babić M.**: Ultrastructural and immunohistochemical characteristics of developing human pituitary gland// *Acta Histochemica*. 109(5): 366-376,2007.
32. Carev D., Saraga M., **Saraga-Babić M.**: Expression of intermediate filaments, EGF and TGF- α in early human kidney development. *Journal of Molecular Histology*, 39(2): 227-235, 2008.
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34. Vukojević K, Carev D, Sapunar D, Petrović D, **Saraga-Babić M**: Developmental patterns of caspase-3, bax and bcl-2 proteins expression in the human spinal ganglia. *J Mol Histol*. 39(3): 339-349, 2008.
35. **Saraga-Babić M.**, Bazina M., Vukojević K., Bočina I, Stefanović V.: Involvement of pro-apoptotic and anti-apoptotic factors in the early development of the human pituitary gland. *Histology and Histopathology*, 23: 1259-1268, 2008.
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37. Bazina M, Vukojević K, Roje D, **Saraga-Babić M**. Influence of growth and transcriptional factors, and signaling molecules on early human pituitary development. *J Mol Histol*. 40(4):277-86, 2009.
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40. Aljinović J, Vukojević K, Košta V, Marinović Guić M, **Saraga-Babić M**, Grković I. Histological differences in healing following experimental transmural infarction in rats. *Histol.Histopathol* 25(12): 1507-17, 2010.
41. Kalibović Govorko D, Bečić T, Vukojević K, Mardešić-Brakus S, Biočina-Likenda D, **Saraga-Babić, M**. Spatial and temporal distributions of Ki-67 proliferation marker, Bcl-2 and Bax proteins in the developing human tooth. *Arch Oral Biol*, 55 (12): 1007-16, 2010.
42. Mardešić Brakus S, Kalibović Govorko D, Vukojević K, Jakus I, Carev D, Petričević J, **Saraga-Babić M**. Apoptotic and anti-apoptotic factors in early human mandible development. *Eur J Oral Sci*, 118(6): 537-46, 2010.
43. Petričević J, Forempoher G, ostojić Lj, Mardešić Brakus S, Andjelinović Š, Vukojević K, **Saraga-Babić M**. Expression of nestin, mesothelin and epithelial membrane antigen (EMA) in developing and adult human meninges and meningiomas. *Acta Histochem*, 113(7): 703-11, 2010.
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45. Bočina I, Ljubešić N, **Saraga-Babić M**. Cilia-like structures anchor the amphioxus notochord to its sheath. *Acta Histochem*, 113(4): 49-52, 2011.
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47. **Saraga-Babić M**, Vukojević K, Bočina I, Drnasin K, Saraga M. Ciliogenesis in normal human kidney development and post-natal life. *Pediatr Nephrol*. 27(1):55-63, 2012.
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52. Baguma-Nibasheka M, Gugic D, **Saraga-Babic M**, Kablar B Role of skeletal muscle in lung development. *Histol Histopathol.*, 27(7):817-26, 2012.
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64. Kero D, Kalibovic Govorko D, Vukojevic K, Cubela M, Soljic V, **Saraga-Babic M**. Expression of cytokeratin 8, vimentin, syndecan-1 and Ki-67 during human tooth development. *J Mol Histol.*, 45(6):627-40, 2014.
65. Agnić I, Filipović N, Vukojević K, **Saraga-Babić M**, Vrdoljak M, Grković I. Effects of isoflurane postconditioning on chronic phase of ischemia-reperfusion heart injury in rats. *Cardiovasc Pathol.*, 24(2):94-101, 2015.
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