

PROMOTION RECOMMENDATION
UNIVERSITY OF MICHIGAN
MEDICAL SCHOOL
DEPARTMENT OF PATHOLOGY

Anuska Andjelkovic-Zochowska, M.D., Ph.D., assistant professor of pathology, Department of Pathology, Medical School, is recommended for promotion to associate professor of pathology, with tenure, Department of Pathology, Medical School [also being promoted to research associate professor, Department of Neurosurgery, Medical School].

Academic Degrees:

Ph.D.	1999	University of Belgrade, Yugoslavia
M.Sci.	1995	University of Belgrade, Yugoslavia
M.D.	1990	University of Nis, Yugoslavia

Professional Record:

2005-present	Assistant Professor of Pathology, University of Michigan
2003-present	Research Assistant Professor, Department of Neurosurgery, University of Michigan
2003-2005	Research Assistant Professor, Department of Pathology, University of Michigan
2001-2003	Assistant Research Scientist, Departments of Neurosurgery and Pathology, University of Michigan
2001-2001	Assistant Professor of Pharmacology, University of Connecticut
1999-2001	Instructor, Department of Pharmacology, University of Connecticut
1991-1994	Lecturer, Department of Physiology, University of Pristina, Yugoslavia

Summary of Evaluation:

Teaching: Dr. Andjelkovic-Zochowska has taught in formal classes and in the laboratory setting. In the classroom, she organized and taught a graduate course in the neuroscience program on neuropathology and translatory models. This course analyzed diseases from both a clinical and basic science viewpoint and was literature based. For this course, Dr. Andjelkovic-Zochowska received very high marks from the students. She also taught a seminar on research responsibility and ethics for pathology and neuroscience graduate students. At the laboratory level, she has mentored postdoctoral fellows, graduate students, and undergraduate students, and she has served on five Ph.D. thesis committees since her appointment in pathology. It is clear that Dr. Andjelkovic-Zochowska has a strong commitment to education, predominantly graduate and postdoctoral education.

Research: Dr. Andjelkovic-Zochowska's areas of research include the cell biology of the blood brain barrier, neuroinflammation, cerebral vascular disorders and brain angiogenesis. She has defined the role of chemokines as regulators of blood brain barrier permeability, particularly the

molecule, CCL2, in both inflammation and ischemia reperfusion injury. Her laboratory showed that CCL2 signals through the Ets-1 transcription factor and its levels are dependent on the ERK cascade. She has also employed a knockout mouse model of CCL2 to study the regulation of the blood brain barrier. This is her major impact on the field of cerebral vascular circulation. Her work has been continually funded, including current R01 and R21 grants from the National Institute of Neurological Disorders and Stroke. She has been invited to present her work at national and international symposia in Japan, Canada, Spain, Germany, the Netherlands, the UK and at a Gordon Research Conference in 2010. Her work has been published in high-quality, peer-reviewed journals including the *Journal of Biological Chemistry*, the *Journal of Immunology* and *Stroke*. Since her appointment in pathology, she has co-authored 16 published manuscripts on which she is the senior author of a remarkable 12, indicating that these are clearly the products of her laboratory.

Recent and Significant Publications:

Stamatovic SM, Keep RF, Wang MM, Jankovic I, Andjelkovic AV: Caveolae-mediated internalization of occludin and claudin-5 during CCL2-induced tight junction remodeling in brain endothelial cells. *J Bio Chem* PMID:19423710 (In press).

Bradford ST, Stamatovic SM, Dondeti R, Keep RF, Andjelkovic AV: Nicotine aggravates the brain postischemic inflammatory response. *Am J Physiol Heart Circ Physiol* Jan 14, PMID: 21239632, 2011.

Dimitrijevic OB, Stamatovic SM, Keep RF, Andjelkovic AV: Absence of the chemokine receptor CCR2 protects against cerebral ischemia/reperfusion injury in mice. *Stroke* 38:1345-1353, 2007.

Stamatovic SM, Dimitrijevic OB, Keep RF, Andjelkovic AV: Protein kinase alpha-RhoA cross-talk in CCL2-induced alterations in brain endothelial permeability. *J Biol Chem* 281:8379-8388, 2006.

Stamatovic SM, Keep RF, Mostarica-Stojkovic M, Andjelkovic AV: CCL2 regulates angiogenesis via activation of Ets-1 transcription factor. *J Immunology* 177:2651-2661, 2006.

Service: Dr. Andjelkovic-Zochowska has been an ad hoc reviewer for numerous journals, including *Atherosclerosis*, *Experimental Neurology*, *Stroke* and *FASED Journal*. She is a member of editorial advisory boards of *Recent Patents on CNS Drug Discovery* and *Current Neuropharmacology*. She has been an ad hoc grant reviewer for the NIH covering challenge grants in health and science research and the Health Research Board in Ireland. She has been a member of special emphasis panel/scientific review groups for the NIH as well. At the University of Michigan, she has been a member of the University Senate Assembly, the Program in Biomedical Sciences (PIBS) Admissions Committee for both the Neuroscience Program and the Molecular Pathology Graduate Program, and a member of the steering committee of the Multiple Sclerosis Collaborative Research Center. Thus, it is clear that Dr. Andjelkovic-Zochowska has made a commitment to her profession and to her institution.

External Reviewers:

Reviewer A: "I would rank Anuska in the top 20% of her peer group at a similar number of years of training at any University....Anuska's manuscripts are clearly written and easy to

understand. Her lectures are clear, precise and easy to follow. I find her work to be first rate and as of the highest caliber.”

Reviewer B: “She and her group have set up the required techniques that allow her to address the research questions. Her work is characterized by the multidisciplinary approach which range from molecular techniques, in vitro models with state-of-the-art imaging techniques, and she then translates the findings to the in vivo situation. She does a great job in bridging these different disciplines.”

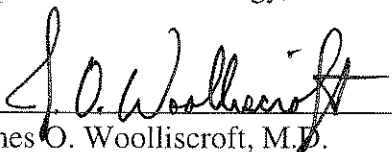
Reviewer C: “Dr. Andjelkovic made several seminal observations on regulation of tight junctions assuring structural integrity of BBB [blood brain barrier]....She clearly established herself as a leader in the field on brain vascular biology.”

Reviewer D: “She is a recognized expert in the field of BBB biology. Her work is in general very well cited and her productivity...is solid and sustained. The scientific contributions provided by Dr. Zochowska-Andjelkovic [sic] have never been challenged or refuted by scientists in the field. Rather, they are well accepted and have been used to move some of these concepts forward.”

Reviewer E: “Her contributions to [the] science field of brain endothelial cell biology and inflammatory remodeling has been exceptional and innovative, in particular her work on endocytic recycling of tight junctions. Her contribution to outreach and influence is evident from her visibility at international meetings and invitations to write review articles and participate in [the] peer review process.”

Summary of Recommendation:

Dr. Anuska Andjelkovic-Zochowska is an established scientist who has made numerous contributions to our understanding of the mechanisms defining the blood brain barrier in disease and in animal models. Her work has consistently been well funded from external sources, and she has been invited to present her work both nationally and internationally. Her work has been published in high-impact, peer-reviewed journals. She also has made a significant contribution to education at the University of Michigan and has developed a unique graduate course. She has made significant contributions to her profession nationally by her work on editorial boards, and as a reviewer of manuscripts and grants. I am pleased to recommend Anuska Andjelkovic-Zochowska, M.D., Ph.D. for promotion to associate professor of pathology, with tenure, Department of Pathology, Medical School.



James O. Woolliscroft, M.D.

Dean

Lyle C. Roll Professor of Medicine

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