

PROMOTION RECOMMENDATION

The University of Michigan

College of Pharmacy

Gustavo R. Rosania, assistant professor of pharmaceutical sciences, Department of Pharmaceutical Sciences, College of Pharmacy, is recommended for promotion to associate professor of pharmaceutical sciences, with tenure, Department of Pharmaceutical Sciences, College of Pharmacy.

Academic Degrees:

Ph.D. 1996 Harvard University

B.S. 1989 Stanford University

Professional Record:

2001-present Assistant Professor of Pharmaceutical sciences, Department of Pharmaceutical Sciences, College of Pharmacy, University of Michigan

1999-2001 Research Scientist, Cellomics, Inc., Pittsburgh, PA

1997-1999 Research Associate, Howard Hughes Medical Institute, University of California, Berkeley

Summary of Evaluation:

Teaching: Professor Rosania is a very dedicated, effective and innovative teacher who participates in both the Doctor of Pharmacy degree program, as well as the College of Pharmacy's graduate program. His contributions to our teaching programs are exceptional, particularly given the new and rapidly developing area of pharmacogenomics in which he teaches and has developed new course materials and curricula. He has graduated one doctoral student and has mentored three postdoctoral fellows, a visiting scientist, and six professional pharmacy students, and he is currently mentoring three graduate students in his laboratory. Professor Rosania has devoted a significant amount of time and effort to the development of his courses, as well as his teaching methods, and he consistently receives very good teaching evaluation scores. His commitment to teaching is outstanding.

Research: Professor Rosania's research productivity is outstanding. Since joining the faculty of the University of Michigan, he has produced 16 peer-reviewed articles and six review articles/commentaries as an independent investigator at this institution, and is the first and/or corresponding author on 13 of these 16 publications. Professor Rosania's real strength, however, lies with his superb training in cell and chemical biology and his incredible vision and drive as a scientist. He is establishing himself as a pioneer in three different but related fields: subcellular drug transport, chemical address tags, and cheminformatics/mathematical modeling. Professor Rosania has published in all three areas in high quality journals. His talents are being recognized at the highest levels of science, nationally and internationally, as evidenced by his 38 invited lectures in scientific symposia and academia. Most notable, however, is his recent accomplishment as a recipient of a 2007 PECASE (Presidential Early Career Award for Scientists and Engineers), an award that is intended to "recognize and nurture some of the finest scientists and engineers who, while early in their research careers, show exceptional potential for leadership at the frontiers of scientific knowledge." The PECASE is the highest honor bestowed by the U.S. government on outstanding scientists and engineers beginning their independent careers. Professor Rosania has been very successful in attracting extramural grants and currently is the PI on an NIH R21 grant and an NIH R01, in addition to serving as a co-investigator on an NIH P20 grant, which showcases his commitment to interdisciplinary research. He is an outstanding scientist with limitless potential.

### Recent and Significant Publications

Chen, VY, Posada, MM, Zhao, L, and Rosania GR (2007). Rapid doxorubicin efflux from the nucleus of drug resistant cancer cells following extracellular drug clearance. *Pharm Res* 24(11): 2156-2167.

Xinyuan Zhang, Kerby Shedden, and Gus Rosania. (2006). A cell-based molecular transport simulator for pharmacokinetic prediction and cheminformatic exploration. *Mol Pharm* 3(6): 704-716.

Vivien Y. Chen, Maria M. Posada, Levi L. Blazer, Tong Zhao, and Gus R. Rosania (2006) The role of the Vps4a-exosome pathway in the intrinsic egress route of DNA-binding anticancer drug. *Pharm Res* 23(8): 1687-1695.

Shedden K, Xie XT, Chandaroy P, Chang YT, and Rosania GR. (2003) Expulsion of small molecules in vesicles shed by cancer cells: association with gene expression and chemosensitivity profiles. *Cancer Res* 63(15): 4331-4337.

Rosania G.R, Ding L, Yoon H-S, and Chang, YT (2003) Combinatorial approach to organelle-targeted fluorescent library based on the styryl scaffold. *J Am Chem Soc* 125(5): 1130-1131.

### Service:

Professor Rosania is a valuable citizen of the College of Pharmacy, having served on several important committees, including the Computer Advisory and Curriculum Committees, and managing the graduate seminar program in the Department of Pharmaceutical Sciences. He is a member of several professional organizations, is on the editorial advisory board of *Molecular Pharmaceutics*, and serves as an ad hoc reviewer for over a dozen scientific journals and two funding agencies (NSF and Burroughs-Wellcome Fund).

### External Reviewers:

Reviewer A: "Dr. Rosania's performance and accomplishments as a pharmaceutical sciences faculty are considerable and outstanding. ... These publications ... represent meticulous, thoughtful and extremely very well executed work of high scientific merit and practical significance. ... Dr. Rosania has made outstanding contributions to the area of cellular transport, distribution and pharmacokinetics of chemical compounds. ... I believe that he made seminal and pioneering contributions in this area... Dr. Rosania's excellence in research has been recognized nationally and internationally... Dr. Rosania has demonstrated considerable success in teaching."

Reviewer B: "I have always been impressed with the rigor of his work and the statistical thoroughness. ... I think that Gus Rosania will be viewed as one of the true leaders in his field, both nationally and internationally."

Reviewer C: "The strongest case for tenure is based on my assessment that Gus has pioneered in both academia and research. On the academic side, the most significant achievements are the courses that he has developed in pharmacogenomics. Only the top pharmaceutical science programs nationally are starting to introduce this area into their graduate curriculum."

Reviewer D: "Gus has been very productive with 27 peer reviewed articles, 7 reviews/commentaries, 38 invited lectures, and 6 patents. This is a very impressive achievement as an Assistant Professor. ... Gus is on his way of becoming a major player in the Pharmaceutics field. ...his current teaching is nothing short of excellent."

Reviewer E: "Gus has identified an interesting and potentially significant area of pharmacology that has yet to be systematically explored... He has established an interdisciplinary research program that has produced novel methods and identified new transport phenomena. Moreover, Gus appears to be well-funded (impressive in the current climate) and is recognized in the community (lectures, awards, etc.)...he has laid a very solid foundation on which he is building an exciting research program that addresses a novel and significant aspect of modern pharmacology."

Reviewer F: "... he has built an impressive research program and several successful collaborations. ...Dr. Rosania steadily publishes in high-impact, high visibility journals...and maintains high productivity and visibility by publishing in more specialized journals. ...his work has been steadily cited by other investigators...which indicates that he is well-respected in his field. ... I envision his research productivity to increase even more significantly over the next few years. ...shows evidence of a highly productive research program that is clearly accelerating. ...his selection for the highly prestigious Presidential Early Career Award is a clear indication of his recognition as a truly outstanding scientist. ... His level of commitment indicates that he is an exceptional academic citizen. ... He is clearly at the top of his field and this has been widely recognized by his peers."

Reviewer G: "...I have been struck by the novelty of Gus's research. I believe the research Gus is pursuing is the next frontier in 'drug disposition'. ... Gus...has garnered not only excellent NIH funding..., but he has also convinced the scientific community of the importance of his work. The latter is reflected by his recent PECASE award and the numerous invitations he has received to present his data and ideas. I would venture to say that the number of invitations he has received is more typical of a senior Associate Professor rather than an Assistant Professor. ... Gus has clearly demonstrated that his heart is in interdisciplinary research and it is refreshing to see a faculty member [of his generation] taking a lead in developing such programs...These are truly laudable achievements and are those normally expected of more senior faculty members. ... With respect to service, Gus's record is exemplary."

Summary of Recommendation:

Professor Rosania is an outstanding scholar whose performance as an assistant professor has been exemplary. He is an extremely energetic, enthusiastic, and successful teacher, scientist, and citizen who is recognized as a leader in his field. It is with the enthusiastic support of the College of Pharmacy Executive Committee that I recommend Gustavo R. Rosania for promotion to associate professor of pharmaceutical sciences, with tenure, in the Department of Pharmaceutical Sciences, College of Pharmacy.



Frank J. Ascione  
Dean, College of Pharmacy

May 2008