

PROMOTION RECOMMENDATION

The University of Michigan  
School of Public Health  
Department of Epidemiology

Rafael Meza Rodriquez, assistant professor of epidemiology, Department of Epidemiology, School of Public Health, is recommended for promotion to associate professor of epidemiology, with tenure, Department of Epidemiology, School of Public Health.

Academic Degrees:

Ph.D.	2006	University of Washington, Seattle, WA
B.Sc.	2000	ITAM (Mexico)

Professional Record:

2016 – Present	Co-Leader, Cancer Epidemiology and Prevention Program, University of Michigan Comprehensive Cancer Center (UMCCC)
2011 – Present	Assistant Professor, Department of Epidemiology, School of Public Health, University of Michigan
2008 – 2011	Post-Doctoral Fellow, Division of Mathematical Modeling, University of British Columbia Centre for Disease Control
2006 – 2008	Post-Doctoral Fellow, Program in Biostatistics and Biomathematics, Fred Hutchinson Cancer Research Center
2002 – 2006	Research Associate, Fred Hutchinson Cancer Research Center
2002	Research Assistant, Radiology Department, University of Washington
1998 – 2000	Risk Analyst, Mexican Pension Funds Regulation Agency (CONSAR)

Summary of Evaluation:

Teaching: Professor Meza Rodriquez has played a critical role in the development of our department's growing core set of courses on complex systems and predictive modeling. This is an emerging area of study in epidemiology that has increasingly gained interest in the field and from our students. He has both been an integral contributor to our mathematical modeling core and has helped to put our department on the map as one of the premiere programs in systems modeling within epidemiology. Professor Meza Rodriquez co-developed one course on Systems Modeling of Behavior, Social Processes and Chronic Disease and developed another course on Cancer Risk and Epidemiology Modeling. He has also participated in our core course curriculum by teaching cancer epidemiology when he first arrived. His Q1/Q2 scores are consistently over 4, and often over 4.5.

Research: Professor Meza Rodriquez is a leader in research on mathematical modeling of policies in relations to tobacco control and lung cancer rates among other topics. The overall goal of his research program is to use predictive models to characterize the impact of disease prevention and control interventions, informing stakeholders and policy makers as to the most effective and efficient ways to improve population health. His research is innovative in that he applies mathematical models of disease processes to assess the efficacy of prevention strategies, such as tobacco control, cancer screening, or vaccination, on population disease burden.

Professor Meza Rodriguez has characterized the impact of prevention and screening strategies on lung cancer, as well as conducted high impact studies of cancers with infectious origin, particularly HPV-related cancers. He has extended this research to address the effect of public policies on the growing population burden of diabetes in Mexico. These activities have taken advantage of his expertise in mechanistic modeling of disease, age-period-cohort models, and the analysis of time trends in epidemiology. Professor Meza Rodriguez's expertise has been recognized with membership of two national US disease-modeling consortiums, the Cancer Intervention and Surveillance Modeling Network (CISNET), where he serves as coordinating principal investigator of the lung group, and the Models of Infectious Disease Agent Study (MIDAS) Network.

Professor Meza Rodriguez has published 46 peer-reviewed papers (36 since his appointment to the rank of assistant professor), the majority as first (10), senior (10), or second author (10), in leading scientific and public health journals including *American Journal of Preventive Medicine*, *Annals of Internal Medicine*, *Cancer*, *Cancer Research*, *CEBP*, *Epidemiology*, *JAMA*, *Nicotine and Tobacco Research*, and *PNAS*. In 2013-14, Professor Meza Rodriguez was a member of the IOM Committee on the Health Implications of Raising the Minimum Age for Purchasing Tobacco Products. The report has been widely cited and has been critical to support efforts to increase the minimum age to 21. As a result, many localities and states are already implementing new policies.

Professor Meza Rodriguez's work has had significant impact on policy and research. In addition to his research being widely cited, several of his papers have received widespread coverage in the international press media. His work on lung cancer screening supported the development of new guidelines by the US Preventive Services Task Force (USPSTF) and Centers for Medicare and Medicaid Services (CMS), and the decision web tool he developed has been critical to make lung cancer screening implementation a reality. Professor Meza Rodriguez's work estimating the impact of changes in smoking trends on overall mortality and lung cancer rates has highlighted the continuing importance of tobacco control policies, and has shifted the perspectives to focus on the impact on specific birth-cohorts or generations. This work was predominantly showcased in the 50th year anniversary issue of the Surgeon General's Report. Internationally, Professor Meza Rodriguez's work has supported major public health legislation changes in Mexico, including the implementation of a tax on sugar-sweetened beverages. His participation was recognized with an honorary appointment at Mexico's National Institute of Public Health.

Professor Meza Rodriguez has been awarded two large U01 grants as the contact PI, one R01 as a co-I, and two more U01s as a co-I, in addition to internal funding from the University of Michigan. He has the honor of being the contact PI and coordinator of the CISNET Lung Group. In addition, Professor Meza Rodriguez has served as a reviewer in NIH/NCI study sections and as an ad-hoc reviewer to many journals.

### Recent and Significant Publications:

- Meza R, Barrientos-Gutierrez T, Rojas-Martinez R, Reynoso-Noverón N, Palacio-Mejia LS, Lazcano-Ponce E, Hernández-Ávila M. (2015) Burden of type 2 diabetes in Mexico: Past, current and future prevalence and incidence rates. *Preventive Medicine*, 81: 445-450.
- Lau YK\*, Caverly TJ, Cao P\*, Cherng ST\*, West M\*, Gaber C\*, Arenberg D, Meza R. (2015) Evaluation of a personalized, web-based decision aid for lung cancer screening. *American Journal of Preventive Medicine*, 49(6): e125–e129.
- de Koning H, Meza R, Plevritis S, ten Haaf K, et al. (2014) Benefits and harms of CT lung cancer screening strategies. A comparative modeling study for the U.S. Preventive Services Task Force. *Ann Intern Med*, 160(5): 311-320.
- Meza R, ten Haaf K, Kong CY, Erdogan A, Hazelton WD, Black W, et al. (2014) Comparative Analysis of Five-Lung Cancer Natural History and Screening Models that Reproduce Outcomes of the NLST and PLCO Trials. *Cancer*, 120(11): 1713-24.
- Meza R, Jeon J, Moolgavkar SH and Luebeck EG. (2008) The Age-specific Incidence of Cancer: Phases, Transitions and Biological Implications. *Proc. Natl. Acad. Sci. (PNAS)*, 105(42): 16284-9.

Service: Professor Meza Rodriguez's national reputation has resulted in him being asked to serve as a member of two important committees, the steering committee of the CISNET consortium, and the IOM committee on the Health Implications of Raising the Minimum Age for Purchasing Tobacco Products. He was a junior member of the committee, which included a former surgeon general, two presidents of National Academic Societies, and three university department chairs.

Professor Meza Rodriguez has reviewed grant applications as an ad hoc study section member for NIH/NCI, and has also served on university level review committees such as UM SPH Global Health, and the UM International Institute. He has reviewed articles for several journals including: *AJE*, *Bulletin of Mathematical Biology*, *Canadian Journal of Infectious Diseases* and *Medical Microbiology*, *Cancer Causes and Control*, *Cancer Research*, *Epidemiology*, *JAMA*, *JAIDS Epidemiology*, *Lancet Infectious Diseases*, *Nature Scientific Reports*, *PLOS Computational Biology*, *PLOS One*, *Preventive Medicine*, *Proceedings B Roc Soc.*, and *Risk Analysis*.

Within the School of Public Health, Professor Meza Rodriguez has served on the epidemiology doctoral, master's admission, and global health program committees. He is a member of the UM SPH global public health steering committee and the biennial symposium committee.

### External Reviewers:

Reviewer A: "Dr. Meza has established a strong track record of peer-reviewed funding. Overall, (he) is an exceptionally skilled scholar with the potential to become a leader in his field. Dr. Meza's record of scholarly productivity to date represents the career of a scholar who is on the rise and well-poised to become a research star of the future. Dr. Meza is unquestionably a rare talent who is already a strong asset to your institution."

Reviewer B: “Dr. Meza has shown an outstanding level of productivity in peer-reviewed publications as well as related scholarly chapters, presentations, and leadership within the CISNET research team. (His) selection as the Coordinating Principal Investigator of the CISNET lung group reflects [the] high regard that his peers have for his work and his scientific leadership. I am confident that Dr. Meza similarly would be recommended for promotion to associate professor with tenure at [my institution].”

Reviewer C: “I am impressed by Dr. Meza’s scholarship. His papers are cited at high frequency. In considering his body of scholarship, I would give particular weight to his papers with the Cancer Intervention and Surveillance Modeling Networks (CISNET) and also his collaborative work around modeling of infectious diseases. ... Several of the papers have been quite high profile.”

Reviewer D: “Dr. Meza had a key role in the paper describing results provided to the U.S. Preventive Services Task Force (USPSTF). ... Results have an enormous impact on clinical care in the US, since insurers (Medicare) cover screening tests that receive an ‘A’ or ‘B’ rating by the USPSTF, and the USPSTF heavily weighs the evidence provided by CISNET modeling groups. Dr. Meza has demonstrated achievement in all essential facets of a faculty position and has received national recognition.”

Reviewer E: “I strongly believe Dr. Meza’s academic achievements coupled with his integrity, vision, graciousness, and passion [are] what make him an exceptional candidate. He is a forward thinker and advocate for disadvantaged populations. His range of skills allows him to bring evidence-based research to local communities and national policy, and make real impact to lives everywhere.”

Summary of Recommendation:

Professor Meza Rodriguez has an excellent research record, outstanding success as a teacher and mentor, and an exceptional record of service to the department, school, and profession. Therefore, with the support of the Executive Committee, I enthusiastically recommend Rafael Meza Rodriguez for promotion to associate professor of epidemiology, with tenure, Department of Epidemiology, School of Public Health.



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Martin A. Philbert, Ph.D.  
Dean, School of Public Health

May 2017