

PROMOTION RECOMMENDATION
The University of Michigan – Flint
College of Arts and Sciences
Department of Natural Sciences

Rebecca K. Tonietto, assistant professor of biology, Department of Natural Sciences, College of Arts and Sciences, is recommended for promotion to associate professor of biology, with tenure, Department of Natural Sciences, College of Arts and Sciences.

Academic Degrees:

Ph.D.	2015	Northwestern University, Plant Biology and Conservation, Chicago, IL
M.S.	2009	Northwestern University, Plant Biology and Conservation, Chicago, IL
B.A.	2005	Kalamazoo College, Biology, Kalamazoo, MI

Professional Record:

2017 - Present	Assistant Professor of Biology, University of Michigan-Flint, Michigan
2015 - 2017	David H. Smith Conservation Research Post-doctoral Fellowship, Saint Louis University, Missouri

Summary of Evaluation:

Teaching: Professor Tonietto achieves excellence in all aspects of teaching, including classroom and laboratory instruction, pedagogical reflection and development, student advising, and active engagement of students in undergraduate and graduate research. She teaches both lecture and laboratories with a scaffolded structure of student assessment that builds confidence as students move on to more complex materials, providing the ability to understand and synthesize concepts with greater success. Professor Tonietto also takes great care to provide an inclusive classroom environment that is rigorously grounded in the scientific method. By teaching students to “think like a scientist” she is infusing critical skills across a student’s academic experience.

Professor Tonietto’s course evaluations consistently demonstrate the high quality academic and student-focused experiences she provides in and out of the classroom. Her median “excellent course” score prior to 2019 was 4.63 and improved to 4.82 after 2019. Her median “excellent teacher” score prior to 2019 was 4.9 and improved to 4.99 after 2019. These are exceptional evaluations, especially considering the pandemic.

Professor Tonietto has also engaged in curricular reform and assessment with a variety of courses in the Biology curriculum. She won a TCLT course design fellowship which resulted in improvements in student outcomes at the upper level. Her commitment to student research at the graduate and undergraduate level is impressive. She has served as a faculty advisor for more than 50 undergraduate and graduate students, and since her second year at UM-Flint, has supervised at least eight undergraduate students in research as well as served on graduate degree committees at institutions such as Northwestern and Michigan State.

Research: Professor Tonietto’s research focuses on plant and pollinator conservation primarily with a secondary focus on advancing inclusion in the STEM disciplines. Over the past five

years, she has been an author on five peer-reviewed publications in prestigious journals. Additionally, in 2020, Professor Tonietto received the prestigious *Conservation Biology Journal* Award for her article “The city as a refuge for insect pollinators.” Compared with others in her field at this stage of her development, Professor Tonietto has published more articles in top journals that have attracted wide interest and that are highly influential in her specific field and beyond. She has applied to 19 funding opportunities related to her research and scholarship, including an NSF CAREER Award, and has been awarded over \$350,000 in her role as PI, co-PI, or collaborator.

Another key facet of her research is its interdisciplinary character, including ecology, conservation, sustainability, and social science, as well as her commitment to public scholarship. Professor Tonietto and her students advance community-engaged research by “listening to community needs first, designing a project around community goals then securing funds, allowing for compromise in experimental design to maintain the best relationship with the community, yet still provides wonderful undergraduate research opportunities with meaningful individualized projects.” Her projects, such as The Porch Project, urban agriculture and pollinator conservation, native lawn alternatives, and the Flint River restoration study, have provided and will continue to provide multiple opportunities for undergraduate and graduate students to get involved with research and for Professor Tonietto and her students to make meaningful contributions to the community and the field of ecology with these current and planned research directions.

Recent and Significant Publications:

- Tonietto, R.K., L.K. O’Brien, C.A. Van Haitisma, C. Su, N.L. Blankertz, H. Mosiniak, C.A. Short, H.A. Dawson. 2021. Toward a carbon neutral campus: A scalable approach to estimate carbon storage and biosequestration, an example from University of Michigan. *International Journal of Sustainability in Higher Education*. 22:5, 1108-1124
- Anderson, S.C., P.R. Elsen, Brent B. Hughes, R.K. Tonietto, M.C. Bletz, D.A. Gill, M.A. Holgerson, S.E. Kuebbing, C. MacDonough MacKenzie, M.H. Meek, and D. Verissimo. Trends in ecology and conservation over eight decades. 2021. *Frontiers in Ecology and the Environment*. 19:5, 274-282.
- Nocco, M.A., B.M. McGill, C. McDonough, MacKenzie, R.K. Tonietto, J. Dudley, M.C. Bletz, T. Young, and S.E. Keubbing. 2021. Mentorship, equity, and research productivity: lessons from a pandemic. *Biological Conservation*. 255:108966

Service: Professor Tonietto has contributed substantially to her department and to the university. She chairs the Greenhouse Committee and serves as Herbarium manager, two significant departmental roles. Moreover, she has revitalized both spaces and created research and teaching opportunities. She transitioned from COVID protocols to provide in-person teaching opportunities in this space, led the utilization of the greenhouse as teaching/lab space for “The Plant Lab,” and is currently working with CIT on a student project to automate the opening and closing of the greenhouse windows to ensure utilization of this space in spring/summer as a teaching and research resource.

Professor Tonietto has served on the search committee for a faculty member in the department and has represented the department at multiple open house and other events. At the college

level, she has served as a reviewer for students seeking science scholarships, an Honors Program Graduation Presenter, a Faculty Roundtable leader at first-year orientation for CAS faculty, a Girls in Engineering Math and Science summer camp activity leader and Curiosity Academy session leader, and presenter of a Research Fundamentals Workshop with her community partner for all university faculty organized by the Office of Research.

Her service extends to all campuses and is particularly commendable. Professor Tonietto served as the co-lead of the Biosequestration Internal Analysis Team for the President's Commission on Carbon Neutrality leading a team of six students which resulted in multiple presentations, a 78-page report to the PCCN, and the establishment of methods for the evaluation of land-cover type for the purposes of determining baseline biosequestration. She has also served on the UM-Flint Sustainability Committee, supporting the launch of the Planet Blue Ambassador Program on our campus, and contributing biosequestration-related input such as bioswale plant community and lawn alternatives for the CIT Building Planning Team. Professor Tonietto also co-chaired the Common Read Committee in 2021 and lead the book selections and event coordination for the past two years.

External Reviewers:

Reviewer A: "I am impressed with what she has been able to accomplish despite a heavy teaching load, and I am inspired to see what appears to be an intentional integration of scholarship/teaching...because I find the combination of research and teaching to be at the heart of novel and exciting science."

Reviewer B: "Tonietto and Larkin (2018) is likely the most impactful to the field...I can see government agencies, land practitioners and environmental organizations in particular referring to this paper to inform current and future programming."

Reviewer C: "It should be noted that Professor Tonietto and others in this 'cohort' have dealt with hugely increased workloads...that were driven by the COVID pandemic. Despite this, she has...maintain[ed] her research program and support her students which bodes well for future potential."

Reviewer D: "Professor Tonietto has produced an impressive body of work that is an example that I would hold up for other young ecologists of how to do research that is collaborative, of interest to basic science, and addresses a number of key problems facing biodiversity in the Anthropocene."

Reviewer E: "Professor Tonietto has produced an impressive portfolio of scholarly work covering a range of topics relevant to (1) contemporary ecology, (2) teaching and learning in higher education, and (3) community outreach."

Reviewer F: "Professor Tonietto's scholarship expanded to current, topical issues, including diversity, equity, and inclusion, as well as mentoring scientists from underrepresented groups. As an early-career ecologist [she] produced several outstanding contributions that resonate within the field of applied ecology."

Reviewer G: “Professor Tonietto has placed herself in an enviable position with regard to her scholarly efforts. She has a well-established publication record, and she has a range of co-authors who can potentially act as her scholarly support (this is especially important given the lack of faculty at UM-Flint in her research field.”

Reviewer H: “All of the example publications submitted were excellent and aim to improve understanding of native ecosystems and processes. I also appreciated the involvement of graduate and undergraduate students on these works.”

Reviewer I: “Considered as a full body of work...Dr Tonietto’s scholarship stand[s] out as particularly meritorious.”

Summary of Recommendation: It is with support of the College of Arts and Sciences Executive Committee that I enthusiastically recommend Rebecca K. Tonietto for promotion to associate professor of biology, with tenure, Department of Natural Sciences, College of Arts and Sciences.

Recommended by:



Douglas Knerr, Interim Dean
College of Arts and Sciences

Recommendation endorsed by:



Sonja Feist-Price, Provost and
Vice Chancellor for Academic Affairs



Debasish Dutta, Chancellor
University of Michigan – Flint

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