

PROMOTION RECOMMENDATION
The University of Michigan – Flint
College of Innovation and Technology

Jessica L. Kelts, associate professor of chemistry and biochemistry, with tenure, Department of Chemistry and Biochemistry, College of Innovation and Technology, is recommended for promotion to professor of chemistry and biochemistry, with tenure, Department of Chemistry and Biochemistry, College of Innovation and Technology.

Academic Degrees:

Ph.D.	2005	Purdue University, Chemistry
B.S.	2000	University of Michigan-Flint, Chemistry

Professional Record:

2016-present	Associate Professor, with tenure, University of Michigan-Flint, Flint, MI
2009-2016	Assistant Professor, University of Michigan-Flint, Flint, MI
2005-2009	Research Scientist 4, Promega Corporation, Madison, WI

Summary of Evaluation:

Teaching: Professor Kelts is an accomplished teacher and is clearly committed to student learning as evidenced by her ongoing investment towards evolving instructional approaches that provide the best learning environments for students. One of her stated goals is to create opportunities for students to take a much more active role in their educational development by building crucial skills in reading and evaluating scientific articles. Thus, it is often the case that student questions drive much of the class period with each day containing a discussion of chemical literature. This methodology has drastically reduced the amount of time she spends in a traditional lecture setting, which has resonated with students. Professor Kelts has taught a wide array of courses across the curriculum, including upper division courses required for majors, such as Biochemistry I and II along with their associated labs, as well as the elective courses, Enzyme Kinetics and Proteomics. Additionally, she had taught introductory courses for non-majors and health science majors, such as Chemistry and Society and Fundamentals of Organic Chemistry. She has been instrumental in catalog revisions to better serve pre-professional program students, and those students form the bulk of her advisees. She mentors them on the medical school admission process and works to continually build upon the alumni network.

Research: Professor Kelts has focused her recent research on vitamin D and its role in breast cancer cells. External reviewers also recognize the extent to which she has mentored undergraduate students in research with every one of her recent publications listing at least one undergraduate student as a coauthor. Professor Kelts is an excellent example of a faculty member who has reinvigorated their research following an administrative appointment. As the recipient of the Reconnect2Scholarhsip award, she has been quite successful in producing recent articles. She has been very successful in garnering internal grant funding with over \$225,000 secured through the Bryer Instrument fund. She is using this momentum towards the development of an R15 grant to expand and extend her current investigations surrounding vitamin D and its role in breast cancer cells.

Recent and Significant Publications:

Kotob, S., Kelts, J.L., “PRIMA-1^{MET} does not restore vitamin D sensitivity to MDA-MB-231 and MDA-MB-468 triple-negative breast cancer cells.” 2023 *ACS Omega* 8(33), 30500-30507.

Massing, J.O, Almounajed, L., Minder, K., Lange, J., Eltahir, L., and Kelts, J. “An ¹⁹F magnetic resonance probe for detecting formaldehyde” 2022 *Tetrahedron Letters* 98, 153796.

Fayyad, D., Kelts, J.L., Monear, N.C., Nielson, T.H., Strawn, M.T.G., and Xhabija, B. “COVID-19: A Systematic Review of Transmissibility, Pathogenesis, Entry Factors, and Signature Immune Response” 2022 *BioChem* 2, 115-144.

Service: Since her last promotion, Professor Kelts has demonstrated a high level of service to her program, department, college, university, and professional community. As the chair of the Department of Chemistry and Biochemistry during the COVID lockdown, she was faced with unprecedented challenges. Her leadership was central towards moving quickly to remote instruction, but more importantly, she was instrumental in developing plans to teach during the pandemic and to teach chemistry labs face-to-face in this environment. She has served on numerous search advisory committees for faculty. She has served her discipline by reviewing numerous manuscripts for high-impact journals and she has served her community by serving as a judge for the Flint Regional Science Fair.

External Reviewers:

Reviewer (A): “...Dr. Kelts has undergraduate and graduate students as co-authors. She also has mentored several undergraduate students in their research projects... This is a clear indication that Dr. Kelts is committed to contributing to the field, by providing opportunities for the new generation of scientists in the field of Chemistry.”

Reviewer (B): “...Dr. Kelts is clearly a talented scientist with an impressive pedigree and accomplishments...Her career is clearly on an upward trajectory... I also appreciate how difficult the studies she is doing could be in a chemistry department without PhD students (or postdocs) to help.”

Reviewer (C): “Professor Kelts has clearly established a research agenda that is interesting but also doable for inexperienced undergraduates and that results in solid, quality publications in peer-reviewed journals.”

Reviewer (D): “She has an excellent research project with a recent focus on triple negative breast cancer targeting with vitamin D and chemotherapeutic agents. ...her recent research project is making a good impact in the field of drug combination and breast cancer treatment.”

Reviewer (E): “Using vitamin D as an approach to enhance cancer treatment is a promising method to increase the efficacy of cancer drugs without increased side effects. Her research contributes to the therapeutic development in breast cancer treatment.”

Reviewer (F): “...Dr. Kelts should get high marks for the number of undergraduates who are co-authors on these publications.”

Summary of Recommendation:

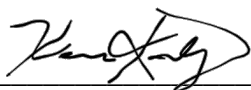
Professor Kelts is an accomplished educator who continues to reflect and refine her teaching craft. Her research has made an impact on the therapeutic developments in breast cancer treatments, and she has been successful in resuming a research program that was affected by administrative appointments. Her service contributions are extensive and varied. In concurrence with her promotion committee, I recommend Jessica L. Kelts for promotion to professor of chemistry and biochemistry, Department of Chemistry and Biochemistry, College of Innovation and Technology.

Recommended by:



Christopher Pearson, Dean
College of Innovation and Technology

Recommendation endorsed by:



Yener Kandogan, Interim Provost and
Vice Chancellor for Academic Affairs



Donna Kay Fry, Interim Chancellor
University of Michigan – Flint

May 2024