

PROMOTION RECOMMENDATION
The University of Michigan-Flint
College of Arts and Sciences
Department of Chemistry and Biochemistry

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

Academic Degrees:

Ph.D.	2005	Purdue University, West Lafayette, Indiana
B.S.	2000	University of Michigan-Flint

Professional Record:

2009-Present	Assistant Professor of Chemistry and Biochemistry, University of Michigan-Flint
2000-2005	Research and Teaching Assistant, Purdue University, West Lafayette, Indiana

Summary of Evaluation:

Teaching – As the only biochemist in the Department of Chemistry and Biochemistry at the University of Michigan-Flint, Professor Kelts has taught 14 different lecture and laboratory courses and has elevated the expectation for students to demonstrate scientific and information literacy within the program. As biochemistry is the most popular major in the department, the courses which Professor Kelts teaches make a substantial contribution to the curriculum. There is one consistent theme that stands out about Professor Kelts: whether in a lecture course, laboratory class, office hours, advising, or mentoring independent research, she cares deeply about student success and invests the time and effort necessary to facilitate that success. She is a reflective practitioner, seeking both campus and conference opportunities to expand her pedagogical tool kit, and both seeks and utilizes feedback from students and peers to improve her courses. Professor Kelts has demonstrated she is a fine teacher who is who is firmly committed to student success.

Research – Professor Kelts has been able to establish a productive human cell culture lab where she can carry out original research with our students. She has successfully developed a research program on the effects of vitamin D and various oxidants on breast cancer cells while mentoring undergraduate and graduate students and giving them meaningful research experiences. The publication and posters resulting from this work, demonstrates her ability to maintain an independent, quality research program that is positioned to expand as she moves to the associate professor level.

Recent and Significant Scholarly Activity:

Peer-Reviewed Publications

- Kelts, J. L., Cali, J. J., Duellman, S. J. and Shultz, J. (2015). "Altered Cytotoxicity of ROS-Inducing Compounds by Sodium Pyruvate in Cell Culture Medium Depends on the Location of ROS Generation." *SpringerPlus*, 4, 269-276.
- Richards, S. E.,* Weierstahl, K. A.* and Kelts, J. L. (2015). "Vitamin D Effects on Growth and Vitamin D Metabolizing Enzymes in Triple-Negative Breast Cancer." *Anticancer Research*, 35, 805-810.
- Larson, B., Kelts, J. L., Cali, J. J. and Banks, P. (2011). "Automation and Miniaturization of the Bioluminescent UGT-Glo™ Assay for Screening UDP-Glucuronosyltransferase Inhibition by Various Compounds." *Journal of the Association of Laboratory Automation*, 16(1), 38-46.

Papers Presented at Professional Conferences

- Khobeir, A. M.*, Shultz, J., Cali, J. J. and Kelts, J. L. "The Effect of Cell Treatment on Glutathione Levels and Cell Viability." Poster presentation at the 249th ACS National Meeting and Exposition, Denver, Colorado, March 22-26, 2015,.
- Coles, A. E.*, Khobeir, A. M.*, Richards, S. E.* and Kelts, J. L. "The Expression of Vitamin D Metabolizing Enzymes in Response to Vitamin D Treatments in Triple Negative Breast Cancer." Poster presentation at the University of Michigan-Flint Student Research Conference and Meeting of Minds Conference, Flint, Michigan, April-May 2013.
- Kelts, J. L. "Examination of Vitamin D Metabolizing Enzymes in Breast Cancer Cells." Poster presentation at the 244th American Chemical Society National Meeting and Exposition, Philadelphia, Pennsylvania, August 19-23, 2012.

* Undergraduate Students

Service – Professor Kelts' service commitments have been extensive and of the highest quality across the spectrum of the department, college, university, and community. Not only has she participated in shared governance activities within the university, but she has frequently assumed leadership roles and has proven herself to be highly effective. She has been elected to and served as chairperson of both the college's Summer Interim I and II Committee and the Admissions and Scholarships Committee, and the university's Admissions Standards Committee. In addition to departmental service which spans seven faculty and staff search committees and work on academic assessments reports, Professor Kelts has also lent her expertise to community engagement activities ranging from Science Olympiads and the Flint Regional Science Fair to the campus annual Super Science Friday and Curiosity Academy, events designed to interest students in science careers. Overall, she is committed to being a dedicated institutional citizen.

External Reviewers:

Reviewer (A): "The peer-reviewed publications are in respectable mid-tier journals (impact factors ~1.8)... ...I think that her work is solid, significant, and important... ... I am particularly impressed with Dr. Kelts' productivity, especially when considering her rather large teaching

load... ... It now seems like she is poised to secure larger grants with her recent paper in *Anticancer Research*.”

Reviewer (B): “The work itself [*Springer Plus*, 2015] is reasonably competent. She draws correct conclusions from the work... ... Again, the work [*Anticancer Research*, 2015] is reasonably competent and demonstrates that Dr. Kelts is able to design and carry out the process of scientific research... ... [Regarding the *Journal of Laboratory Automation* (2011) publication] According the [six] SJR, of the 30 journals published dedicated to Medical Laboratory Technology, this journal is ranked 11th for its impact... ...this article is in my opinion the one that has the potential for the most impact.”

Reviewer (C): “Her 2011 paper [in the *Journal of Laboratory Automation*]... ... moves Dr. Kelts’ discipline forward significantly since, up until its publication, no simple assay for UGT activity existed... ... The paper [*Springer Plus*, 2015] is ... a solid piece of research, making a significant contribution to the oxidative stress and cell-culture knowledge-base... ... Overall, Dr. Kelts’ research is having a clear, positive impact on her discipline... ... As well, she is taking a systematic approach to exploring the details of specific systems... ... It is important to note that Dr. Kelts is working on a variety of targets involved in cytotoxicity... ... This indicates that, though she is very focused, Dr. Kelts does not place all her eggs in one basket; her efforts are spread over a range of related but independent projects... ...I find that Dr. Kelts has built a solid foundation for ongoing research projects.”

Reviewer (D): “All three of Dr. Kelts’ publications (since 2009) are of good quality as they are peer-reviewed and published in known journals (*Anticancer Research* and *JALA*) by established publishers (Springer) in our scientific field... ... Furthermore, I consider this publication [*Anticancer Research*] outstanding because it includes two student co-authors. I consider a hallmark in a junior faculty’s research and mentoring when the first student co-authored manuscript is published, with the faculty as the senior corresponding author... ... Dr. Kelts is on par with her peers working at similar institutions in the area of reactive oxygen species and cancer research... ... Dr. Kelts’ service contributions to STEM activities is [sic] good and adequate for the time she has been in the community.”

Reviewer (E): “This paper [*Anticancer Research*] appears to be of much higher quality... ... The main conclusion of the paper is that vitamin D does *not* inhibit cell growth of three ‘triple-negative’ breast cancer ... but does inhibit the growth of a ‘typical’ breast cancer cell line (the control experiment)... ... This [*Journal of the Association of Laboratory Automation*] is certainly the best of the three papers and the one I believe most likely to have a high impact.”

Reviewer (F): “...I would rate Jessica’s performance on the research-related activities as being slightly above average. [Service] I would rate her significantly above average...”

Reviewer (G): “Overall, I view the application favorably. Given the teaching responsibilities at UM-F, I think three peer-reviewed articles are adequate... ... The article I find to be most essential in this application for tenure is the article she wrote independent of Promega (*Anticancer Research*) because it represents Dr. Kelts’ ability to do research on her own.”

Reviewer (H): "The scholarly impact of the writing is appropriate for this stage of Dr. Kelts [sic] career. The papers are laying the groundwork for future studies in her chosen area of research, and fit well into her overall research plan... ..I suspect that the data presented in the papers that Dr. Kelts has published will be just what she needs to become competitive for future grants from NSF or NIH, so I see good future potential for Dr. Kelts in this area."

Summary of Recommendation:

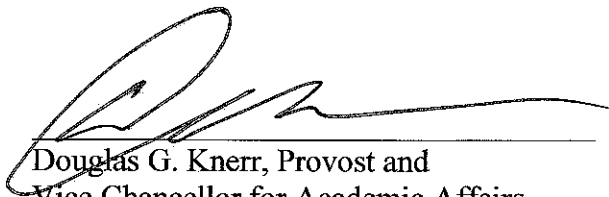
Professor Kelts has demonstrated high standards and a strong commitment to quality and innovative teaching. Her establishment of a productive human cell culture lab where she has carried out original research with undergraduate students resulting in publications and poster presentations demonstrates her ability to maintain an independent, quality research program that is positioned to continue to expand. She has been a leader in the department in regards to service and has had meaningful service and leadership roles across the university. With enthusiasm and great pride, I recommend that Jessica L. Kelts be promoted to associate professor of chemistry and biochemistry, with tenure, Department of Chemistry and Biochemistry, College of Arts and Sciences.

Recommended by:

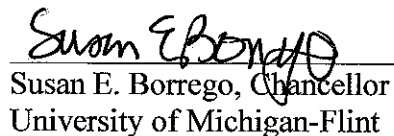


Susan Gano-Phillips, Dean
College of Arts and Sciences

Recommendation endorsed by:



Douglas G. Knerr, Provost and
Vice Chancellor for Academic Affairs



Susan E. Borrego, Chancellor
University of Michigan-Flint

May 2016