

PROMOTION RECOMMENDATION  
The University of Michigan  
College of Pharmacy  
Department of Medicinal Chemistry

Amanda L. Garner, assistant professor of medicinal chemistry, Department of Medicinal Chemistry, College of Pharmacy, is recommended for promotion to associate professor of medicinal chemistry, with tenure, Department of Medicinal Chemistry, College of Pharmacy.

Academic Degrees:

PhD	2008	University of Pittsburgh
BS	2003	Allegheny College

Professional Record:

2013 – Present	Assistant Professor, Department of Medicinal Chemistry, University of Michigan
2012 – 2013	Senior Research Associate, The Scripps Research Institute, La Jolla, CA
2010 – 2012	Research Associate, The Scripps Research Institute, La Jolla, CA

Summary of Evaluation:

Teaching: Professor Garner is a very dedicated, enthusiastic, and effective educator. Since joining the University of Michigan, she has devoted significant effort to teaching and has received very positive feedback from students and peers. Professor Garner is also an excellent mentor. She has trained three post-doctoral fellows, 10 PhD students, one MS student, one PharmD student, and three undergraduate students in her laboratory. Not only is she effective at mentorship in the laboratory, but she is very conscientious and proactive at promoting her mentees, who have received numerous competitive awards and fellowships, including NSF graduate fellowships and NIH T32 training grant appointments. Several of them have also been selected to give invited presentations at conferences and symposia. Five of her PhD graduates have moved on to positions at top academic and research institutions (Harvard, NIH, UCSF, UCSD) and industry (Sapient Therapeutics).

Research: Professor Garner is an outstanding scientist, with numerous research accomplishments. Her work is in the area of RNA targeted therapeutics for the treatment of cancer and other diseases. Her unique, innovative, and interdisciplinary approaches for creating new tools to control RNA translation are considered to be at the forefront of RNA processing and translation control in biomedical science. Her significant contributions have opened up new areas of investigation in her field, and she is considered to be a rising star in chemical biology. Her research productivity has been outstanding, with 16 peer-reviewed papers as corresponding author and two additional manuscripts under review. Several of her manuscripts have been featured as cover articles and highlighted in high profile journals. She has generated over \$3 million in direct costs in an era of scarce resources, most notably receiving three R01s from the NIH (one of which was funded after her tenure packet was sent out). This is rare for someone at her stage of career. She has also received a Catalyst Award from the Dr. Ralph and Marian Falk Medical Research Trust, a Discovery Grant from the American Brain Tumor Association, and

three internal pilot grant awards. Professor Garner's impact in the field is further reflected by the fact that she has delivered 47 invited talks (since coming to Michigan) at national and international conferences, universities, biotech companies, and venture capital groups. Notably, she has been nominated several times by students to be a featured lecturer, which further emphasizes her impact and reputation.

#### Recent and Significant Publications:

- Mitchell DC, Menon A, Garner AL. "Chemoproteomic Profiling Uncovers CDK4- Mediated Phosphorylation of the Translational Suppressor 4E-BP1." *Cell Chem. Biol.* 26 (7): 980–990, (2019).
- Gallagher EE, Song JM, Menon A, Mishra LD, Chmiel AF, Garner AL. "Consideration of Binding Kinetics in the Design of Stapled Peptide Mimics of the Disordered Proteins Eukaryotic Translation Initiation Factor 4E-Binding Protein 1 and Eukaryotic Translation Initiation Factor 4G." *J. Med. Chem.* 62 (10): 4967–4978, (2019).
- Lorenz DA, Kaur T, Kerk SA, Gallagher EE, Sandoval J, Garner AL. "Expansion of cat-ELCCA for the Discovery of Small Molecule Inhibitors of the Pre-let-7–Lin28 RNA- Protein Interaction." *ACS Med. Chem. Lett.* 9 (6): 517–521, (2018). [chosen for the journal cover and highlighted as an ACS Editors' Choice article]
- Lorenz DA, Vander Roest S, Larsen MJ, Garner AL. "Development and Implementation of an HTS-Compatible Assay for the Discovery of Selective Small Molecule Ligands for pre-microRNAs." *SLAS Discov.* 23 (1): 47–54, (2018). [Featured in *C&E News* and *The Scientist*]
- Lorenz DA, Garner AL. "A Click Chemistry-Based microRNA Maturation Assay Optimized for High-Throughput Screening." *Chem. Commun.* 52 (53): 8267–8270, (2016). [Featured in *The Scientist*]

Service: Professor Garner's service to her profession, the academy, and the University of Michigan is exemplary. In addition to other significant service at the department level, Professor Garner hosted the inaugural faculty candidate for the College of Pharmacy's Diversity, Equity, and Inclusion Sabbatical Connections Program, Professor Leyte Winfield of Spelman College, for one year. At the university, she was one of the founding members of the UM Center for RNA Biomedicine and currently serves on its executive committee. She is a member of several national organizations, including leadership roles in organizational efforts for symposia and sessions. She serves the international community as a member of the Singapore Ministry of Education Expert Panel on Chemistry and Chemical Engineering. Professor Garner has served as a reviewer for 10 NIH study sections and 22 journals. She has recently been named as an associate editor at RSC Advances and a series editor for Topics in Medicinal Chemistry. These activities are extensive and indicative of Professor Garner's reputation.

#### External Reviewers:

Reviewer A: "She is one of the pioneers in this field...Dr. Garner developed a novel, highly innovative, and potentially generally applicable approach...I am very impressed by this methodology...Dr. Garner is working in a very important and emerging research area... Dr. Garner has an excellent trajectory..."

Reviewer B: “The quality of her work is excellent...her areas of research are important and have had a major impact in our understanding of miRNA mediated gene silencing mechanisms. The rationally designed 4E-BP1-based stapled peptides are very novel and may lead to new anti-cancer therapeutics...Her trainees have received numerous competitive awards and fellowships...The amount of service that she gives is commendable.”

Reviewer C: “...she has established herself as a very talented early career researcher... With 1 article in press, 2 submitted and 3 articles awaiting review, Dr. Garner has published 42 original research articles, 19 from her independent career, the majority of which have appeared in many of the most prestigious journals in the fields of medicinal chemistry and interdisciplinary drug discovery research...One cannot do much better than Dr. Garner at her stage of career.”

Reviewer D: “I was impressed by the scope of her research program...For the size of her group and level of funding...this is an impressive productivity...it seems that she is quite active in her student’s training. The success of these individuals in acquiring external funding is also a testament to that commitment...She has been invited to give an impressive number of seminars, at regional, national and international meetings...She has displayed the leadership, educational commitment and research acumen that could make her a cornerstone of the Medicinal Chemistry Department for many years.”

Reviewer E: “Dr. Garner has established a highly innovative chemical biology program...has established a research program that puts her at the forefront of this emerging area...it is highly impressive that she has been able to fund all of the major research efforts in her lab with major federal research grants...Amanda is a rising star in the chemical biology field. She has established a multi-disciplinary research program that has already made a number of exciting discoveries that are major contributions...”

Reviewer F: “... it is most impressive and significant that the work that Dr. Garner is presently focused on...has been developed since she began her faculty position at University of Michigan in 2013... Dr. Amanda Garner is a talented, productive and innovative investigator...has established her lab as a leader in the development of chemical biological assays to discover novel mechanisms for drug targeting.”

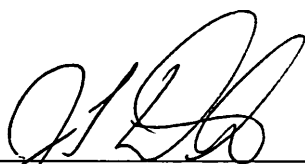
Reviewer G: “Amanda’s research program takes a creative new approach... This approach has not been broadly attempted yet but has the potential to evolve into a powerful tool, leading to outstanding discoveries...To the best of my knowledge, Garner is the only one with such capabilities...these early accomplishments are outstanding and reflect a great start for a long, productive and successful academic career...The discoveries have clearly attracted attention...Her professional visibility is rapidly increasing and her record of accomplishments indicates she clearly is on an upward trajectory.”

Reviewer H: “Dr. Garner has clearly demonstrated an ability to create an outstanding research program...Many of her graduate students have gone on to receive awards and fellowships... Dr. Garner’s strengths as a researcher are truly impressive...Dr. Garner’s unique approach has offered a breath of fresh air to the field...the identification of alternative kinases...is truly ground

breaking...Dr. Garner's new finding...opens up a new area of investigation in the field...that could result in an expanded understanding of the role of these processes on aberrant translation by both cancer and viral diseases...her laboratory is poised to be a leader in translational biology and drug development...She has obtained three NIH R01 as PI, which is highly laudatory and very rare for a junior faculty member.”

Summary of Recommendation:

Professor Garner has demonstrated significant commitment and excellence in all aspects of her work and is a recognized pioneer in her field. Her outstanding research is opening up new areas of investigation toward drug discovery, especially for the treatment of cancer, and she is extremely dedicated to teaching and to serving her profession and university. It is with the support of the College of Pharmacy Executive Committee that I recommend Amanda L. Garner for promotion to associate professor of medicinal chemistry, with tenure, Department of Medicinal Chemistry, College of Pharmacy.



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James T. Dalton  
Dean, College of Pharmacy

May 2020