Approved by the Regents
May 18, 2017

PROMOTION RECOMMENDATION
The University of Michigan
College of Engineering
Department of Climate and Space Sciences and Engineering

Susan T. Lepri, associate professor of climate and space sciences and engineering, without tenure, Department of Climate and Space Sciences and Engineering, College of Engineering, is recommended for the granting of tenure to be held with her title of associate professor of climate and space sciences and engineering, Department of Climate and Space Sciences and Engineering, College of Engineering.

Academic Degrees:

Ph.D.	2003	University of Michigan, Department of Atmospheric, Oceanic and Space Sciences, Ann Arbor, MI
M.S.	2001	University of Michigan, Atmospheric, Oceanic and Space Sciences, Ann Arbor, MI
B.S.	1999	University of Michigan, Physics, Astronomy and Astrophysics, Ann Arbor, MI

Professional Record:

2013 – present	Associate Professor (without tenure), Department of Climate and Space Sciences and Engineering, University of Michigan
2011 – 2013	Associate Research Scientist, Department of Climate and Space Sciences and Engineering, University of Michigan
2005 – 2011	Assistant Research Scientist, Department of Climate and Space Sciences and Engineering, University of Michigan
2004 – 2005	Post-Doctoral Fellow, Department of Climate and Space Sciences and Engineering, University of Michigan

Summary of Evaluation:

Teaching: Professor Lepri has distinguished herself in classroom teaching, course development, and advising and mentoring on both the undergraduate and graduate levels. Her student evaluations uniformly and overwhelmingly acknowledge her comprehensive grasp of the material, exceptional preparedness, and ability to make the material accessible. Professor Lepri's graduate students find her effort spent on writing and communication particularly helpful as they approach scientific publications. She has a distinguished history of including undergraduates in her research projects. Since her appointment to the tenure track, she has graduated four Ph.D. students (as chair or co-chair) and served as committee member for another three. She has four additional Ph.D. students in progress. She has conducted numerous public outreach and diversity activities, including work with elementary schools, the Detroit Tigers, and the NASA-funded Michigan Space Grant Consortium.

Research: The quality and impact of Professor Lepri's research are world-class. She has established herself as a leader in research on solar wind ion composition, solar physics, and the particular phenomenon of coronal mass ejections. Her successful instrumentation development and project management activities demonstrate her rise to leadership in the community. She has ten current research grants with her share totaling over $1.4M. She is the PI on five of these grants. Her successful funding profile exemplifies the respect and recognition of her expertise. Since 2014, she has published over 20 papers (including two in press) and given eight talks. At Michigan, she has been recognized with a CoE Distinguished Achievement Award (2003) and with the CoE Reese Outstanding Research Scientist Award (2013). A couple of evaluators noted her primary-author publication record is not as strong as others at her level, but this was explained by her focus on mission development work. The prevailing view of external reviewers is that her overall publication record is strong.

Recent and Significant Publications:

Lepri, S. T., Landi, E. and Zurbuchen, T. H., "Solar wind heavy ions over Solar Cycle 23: ACE/SWICS measurements," *Astrophysical Journal, 768*, 94, 2013.

Lepri, S. T., Laming, J. M., Rakowski, C. E. and von Steiger, R., "Spatially dependent heating and ionization in an ICME observed by both ACE and Ulysses," *Astrophysical Journal, 760*, 105, 2012.

Lepri, S. T. and Zurbuchen, T. H., "Direct observational evidence of filament material within interplanetary coronal mass ejections," *Astrophysical Journal Letters, 723*, L22, 2010.

Lepri, S. T., Nikzad, S., Jones, T., Blacksberg, J. and Zurbuchen, T. H., "The response of a delta-doped CCD to low energy protons and nitrogen ions," *Reviews of Scientific Instruments, 5*, 053301, 2006.

Lepri, S. T., Zurbuchen, T. H., Fisk, L. A., Richardson, I. G., Cane, H. V. and Gloeckler, G., "Iron charge distributions as an identifier of interplanetary coronal mass ejections," *Journal of Geophysical Research*, 106, 29,231, 2001.

Service: Professor Lepri's service contributions inside and outside the university are recognized as significant. Her public outreach and diversity record is exceptional. At the college level, her primary service role has been as a member of the Research Advisory Council, the faculty body that provides advice to the College of Engineering Associate Dean for Research. At the department level, she has been involved in alumni outreach, the internal review of proposals, the Space Physics Research Laboratory (SPRL) taskforce, the undergraduate curriculum committee and the departmental advisory committee, among others. At the professional level, she has served on proposal review panels and on an American Geophysical Union prize board, has reviewed articles for journals and co-organized sessions at conferences. In addition, she is active with general-public speaking engagements, such as the Detroit Tigers Space Day, elementary school classrooms, as well as her mentoring activities with the Women In Science /Engineering (WISE) and ADVANCE, and her active involvement with the College of Engineering NextProf program.

External Reviewers:

Reviewer A: "I am impressed by Lepri's substantial contributions to our understanding of the solar wind. I support her being granted tenure."

Reviewer B: "I believe that Prof. Lepri's accomplishments and impact merit promotion and tenure. …She is an asset to your program."

Reviewer C: "Dr. Lepri is clearly very well respected within our community, not just scientifically but as a leader [of her cohort] and as a great prospect for the future, particularly given her significant roles in instrument development and mission design."

Reviewer D: "She is a smart, productive scientist [of her cohort] working near the top of her cohort in an exciting field."

Reviewer E: "Dr. Lepri is one of the very few outstanding space scientists in her generation. The quality of her scientific presentations and papers is impeccable. She has published a number of outstanding papers."

Summary of Recommendation: Professor Lepri is an accomplished scholar and a dedicated educator. Her contributions to research and teaching are outstanding. She inspires and motivates undergraduate and graduate students though her research, teaching, and service to the academic community. Her publication record in the minor ion composition of the solar wind provides new insights into the fundamental physical processes that heat and accelerate the solar wind. It is with the support of the College of Engineering Executive Committee that I recommend the granting of tenure for Susan T. Lepri with her title of associate professor of climate and space sciences and engineering, Department of Climate and Space Sciences and Engineering, College of Engineering.

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Alec D. Gallimore, Ph.D.
Robert J. Vlasic Dean of Engineering
College of Engineering

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