

PROMOTION RECOMMENDATION
The University of Michigan
College of Literature, Science, and the Arts

Finn Larsen, assistant professor of physics, College of Literature, Science, and the Arts, is recommended for promotion to associate professor of physics, with tenure, College of Literature, Science, and the Arts.

Academic Degrees:

Ph.D.	1996	Princeton University
M.A.	1992	Princeton University
Cand. Scient.	1991	University of Aarhus

Professional Record:

2001 – present	Assistant Professor, Department of Physics, University of Michigan
1998 – 2001	Postdoctoral Research, University of Chicago
1996 – 1998	Postdoctoral Research, University of Pennsylvania

Summary of Evaluation:

Teaching – Professor Larsen has taught courses at every level, from introductory physics to advanced graduate seminars. In all areas his teaching has been thoughtfully planned, carefully organized, and appropriately rigorous. His graduate physics courses, especially courses on quantum field theory, have been truly extraordinary. Outside the classroom he has been an extremely effective graduate mentor both to his own research students and to others. His energy and the rigorous approach he takes toward research has been a model for all students in the high energy theory group.

Research – Professor Finn Larsen’s research is in the development of string theory in order to answer challenging physics questions primarily concerned with how strong gravity affects cosmology and cosmological objects, such as black holes and black rings. String theory is the only known self-consistent theory that combines gravity and quantum mechanics at all scales, enabling such correspondent investigations. Professor Larsen has clarified how quantum field theory behaves in our universe with its recently discovered positive cosmological constant. His research has also discovered insights into how black-hole backgrounds behave under small, destabilizing perturbations. The results forge new directions in the quest to understand the cosmological history of our universe.

Recent and Significant Publications:

- “Microscopic black hole entropy in theories with higher derivatives,” with P. Kraus, *Journal of High Energy Physics*, 0509:034, 2005, hep-th/0506176.
- “Heterotic strings in two dimensions and new stringy phase transitions,” with J. L. Davis and N. Seiberg, *Journal of High Energy Physics*, 0508:035, 2005, hep-th/0505081.
- “Interacting quantum field theory in de Sitter vacua,” with M. Einhorn, *Physical Review*, D67: 024001, 2003, hep-th/0209159.
- “Boundary string field theory of the D Anti-D System,” with P. Kraus, *Physical Review*, D63: 106004, 2001, hep-th/0012198.

Service – Professor Larsen has performed significant service for the Department of Physics and the theory community. He has organized the departmental colloquium series, the theory seminar series, and has served on the graduate qualifying exam committee. He has served on eight graduate thesis committees, chairing three. He has refereed papers for eight journals, and reviewed proposals for six different funding agencies. He has also helped organize eight conferences.

External Reviews:

Reviewer (A)

“The research of Finn made a fair amount of impact in the field. ...and the importance of his research is easily confirmed by considering the impressive number of citations he received to date. ...Finn is incredibly energetic and very devoted and precise. He writes papers with great care and puts a lot of time in making sure all details are correct.”

Reviewer (B)

“With his publication record to date, Finn now qualifies as one of the world’s experts in the quantum properties of black holes and, whatever the final outcome of this story, it look pretty sure that Finn will be among the most prominent of those that will tell the tale.”

Reviewer (C)

“In comparing Finn to others I would say that he is definitely among the top few researches in string theory in his age bracket. ... He has a well thought out research program and continues to make important progress on some of the most important areas in string theory and particle physics.”

Reviewer (D)

“...sixteen of Finn’s papers already have more than 50 citations (seven of which have more than 100). This is an unusually large number for a physicist [of his generation] and shows the broad impact that his work has achieved. ... I strongly support his promotion to Associate Professor with tenure.”

Reviewer (E)

“Finn Larsen...is close to the top of the group. ... There are many aspects of Larsen’s work on stringy black holes on which I have a very high opinion. ... I am absolutely positive that Finn Larsen should receive a promotion to tenure.”

Reviewer (F)

“Since going to Michigan, Larsen has shown continued growth, and has developed new research directions... Some of his work (e.g. on black hole entropy) is in popular areas of string theory, while other parts (such as the de Sitter quantum theory, and the holographic cosmology) is more distinctively his own.”

Reviewer (G)

“His high standing in the string community, which is manifest in the conferences he organized and spoke in, helps attract visitors, students and postdoctoral fellows to the Michigan Physics Department.”

Reviewer (H)

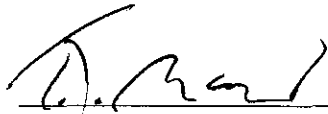
“Finally I must mention Prof. Larsen’s more recent work with Kraus on ‘Microscopic black hole entropy...’ and...‘Holographic gravitational anomalies.’ ... In my view these papers are among Prof. Larsen’s most important contributions to string theory. To summarize, I have no doubt that Prof. Larsen will continue to make important contributions to the field and I give him my strongest recommendation for being promoted...”

Reviewer (I)

“Finn should clearly be promoted to tenure. He is both versatile and deep. I am familiar with many of his papers... They are imaginative, interesting and influential.”

Summary of Recommendation:

Professor Larsen has shown the highest intellectual quality, productivity, and leadership in creating and disseminating knowledge in physics. The Executive Committee of the College of Literature, Science, and the Arts and I recommend that Assistant Professor Finn Larsen be promoted to the rank of associate professor of physics, with tenure, in the College of Literature, Science and the Arts.



Terrence J. McDonald
Arthur F. Thurnau Professor,
Professor of History, and Dean
College of Literature, Science, and the Arts

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