

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

Christine A. Aidala, 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.	2005	Columbia University
M.Phil.	2005	Columbia University
M.A.	2004	Columbia University
B.S.	1999	Yale University

Professional Record:

2012 – present	Assistant Professor, Department of Physics, University of Michigan
2012	Scientist II, Brookhaven National Laboratory, Fermi National Accelerator Laboratory, and Los Alamos National Laboratory
2009 – 2011	Frederick Reins Distinguished Post-doctoral Fellow, Los Alamos National Laboratory
2006 – 2008	Post-doctoral Research Associate, University of Massachusetts, Amherst

Summary of Evaluation:

Teaching – Professor Aidala is an admired and effective teacher. She has taught three different courses to a broad audience of physics concentrators and non-science concentrators in both the small classroom and large-lecture formats. She has shown a commitment to excellence and students have responded with a strong indication of satisfaction. Professor Aidala has brought significant innovation to Michigan, including her application and subsequent selection as a faculty fellow for the University Musical Society’s program for the integration of academics and the arts. One of the striking goals Professor Aidala set for herself and the class was to establish a sense of community, and she succeeded.

Research – Professor Aidala is an experimental nuclear physicist and a world-class expert on nucleon structure and parton dynamics in quantum chromodynamics. She is well-known for her work on unveiling the gluon contribution to the proton’s spin and aspects of transverse spin phenomena in the proton that may reveal the origin of the proton’s spin conclusively. Professor Aidala is also admired for her phenomenology work in collaboration with theorists in her field. This work is expected to lead to a better understanding of color entanglement of partons. Her funding is very strong with a National Science Foundation CAREER award, a Department of Energy grant, and an award from the Michigan Memorial Phoenix Project.

Recent and Significant Publications:

“Inclusive cross sections, charge ratio and double-helicity asymmetries for  $\pi^+$  and  $\pi^-$  production in  $p+p$  collisions at  $\sqrt{s}=200\sim\text{GeV}$ ,” with A. Adare, et al. (a PHENIX collaboration), *Physical Review D*, 91, 2015, p. 032001.

“Cross section and transverse single-spin asymmetry of eta mesons in p+p collisions at  $\sqrt{s}=200$  GeV at forward rapidity,” with A. Adare et al. (a PHENIX collaboration), *Physical Review D*, 90, 2014, p. 072008.

“Limits on transverse-momentum-dependent evolution from semi-inclusive deep-inelastic scattering at moderate Q,” with B. Field, et al., *Physical Review D*, 89, 2014, p. 094002.

“The spin structure of the nucleon,” with S.D. Bass, et al., *Reviews of Modern Physics*, 85 2013, p. 655 (invited submission).

Service – Professor Aidala has a strong record of service as a member of the Undergraduate Curriculum/Concerns Committee and as an advisor to the Society of Women in Physics, which has provided opportunities for underrepresented groups to engage in discussion about a possible career in physics or in fields related to physics. She has organized a number of workshops and is taking part in shaping the future research program for nuclear science. Finally, she serves on committees of the American Physical Society as well as the oversight group for the National User Facilities.

#### External Reviewers:

##### Reviewer (A)

“Among her papers...I admire in particular the review paper on *Reviews of Modern Physics* and the [2015] paper [in *Physical Review D*]... Such papers denote a wide knowledge of the field, with visions and an expertise which goes beyond the strict technical skills...”

##### Reviewer (B)

“Her current research plans are very well-conceived and outline both deepening and broadening vision of how to understand the spin structure of the nucleon. ...her recent work in PHENIX on the gluon polarization in the nucleon is an important part of the long-sought solution to the proton spin puzzle.”

##### Reviewer (C)

“...I can with great confidence state that someone with her achievements, publications, citations, invited talks, and stature in this field would easily get tenure at [my institution]. ...I am extremely impressed with her...”

##### Reviewer (D)

“External recognition for her work comes in the form of grants and a Sloan fellowship, which testify to her quality. ...I find her conference and seminar presentations to be of high quality.”

##### Reviewer (E)

“Dr. Aidala is well recognized in the field as an expert in the so-called ‘transverse structure’ of the nucleon. This can be easily substantiated. Not only is Dr. Aidala sought out by well-respected nuclear theorists to co-author articles...Dr. Aidala also coauthors review-like articles on *The Spin Structure of the Nucleon*...”

##### Reviewer (F)

“She is recognized as one of the leaders in physics with polarized beams and targets, from her original work at RHIC to her current work at FNAL.”

Reviewer (G)

“...what she has accomplished so far is very impressive. She has done everything that we would ask of an assistant professor: good external funding, high profile talks, awards...good publication record and an active research program that includes both phenomenology and detector R&D/construction. It’s not easy to balance major efforts in two different experiments, but from her record I would say that she has been successful.”

Reviewer (H)

“I have interacted with Prof. Aidala at international meetings and been impressed.”

Reviewer (I)

“Christine Aidala is one of the leading experts in the field of experimental investigation of the structure of the proton, especially its spin, one of the most intriguing areas of the physics of quantum chroma-dynamics.”

Reviewer (J)

“In her analysis-work Professor Aidala is highly independent and displays a sharp and critical intellect which has led her several times and successfully to the bottom of problems left unsolved by her colleagues.”

Summary of Recommendation:

Professor Aidala 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 Christine A. Aidala be promoted to the rank of associate professors of physics, with tenure, College of Literature, Science, and the Arts.



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Andrew D. Martin, Dean  
Professor of Political Science and Statistics  
College of Literature, Science, and the Arts

May 2016