CURRICULUM VITAE

Name: Steven Howard Mellema **Birth Date**: December 7, 1950

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EDUCATION

B.A.	Gustavus Adolphus College St. Peter, MN	Physics, Mathematics	1972
Ph.D.	Ohio University Athens, OH	Physics (Nuclear Physics)	1983

Title of Dissertation: *Microscopic and Collective Model Analysis of Nucleon Scattering from* $^{54\text{-}56}Fe$

PROFESSIONAL MEMBERSHIPS

1983 - present Member - American Physical Society
1986 - present Member - American Association of Physics Teachers

EXPERIENCE

September 2002 – present Professor of Physics
(September 1991 – September 2002 Associate Professor of Physics)
(February 1986 - September 1991 Assistant Professor of Physics)
Gustavus Adolphus College

RESPONSIBILITIES: Teaching undergraduate courses in physics at all levels including both lectures and laboratory exercises; student advising; curriculum development; participation in faculty organization and committees. Active participation in faculty-student research including several outside research grants. Specific courses taught in physics: introductory general physics for the liberal arts and courses for physics majors including Astronomy, introductory Classical Physics, Modern Physics theory, Electronics, advanced Experimental Modern Physics, Advanced Mathematical Methods, Advanced Mechanics, Astrophysics, Electromagnetic Theory, Nuclear

Physics, Thermal and Statistical Physics, and Quantum Mechanics. Taught travel courses on Asian cultures and religions based in Malaysia during January Term 1990, Fall Semester 1991, January Term 2004 and Spring Semester 2014. Principal investigator for four National Science Foundation laboratory development projects. Chair, Physics Department, 2000-2002, 2007-2009, 2014-2016

January 2017 – July 2017

Fulbright Visiting Professor
School of Physics
Universiti Sains Malaysia
Penang, Malaysia

RESPONSIBILITIES: Lead a team of three lecturers teaching the first-year introductory Electricity and Magnetism course, using the different sections of the class to implement and evaluate active-learning techniques in the classroom. Give presentations and conduct workshops related to physics education, specifically the use of Just-in-Time Teaching (JITT) techniques, Peer Instruction, and Cooperative Group Problem Solving.

October 2002 – March 2003

Fulbright Visiting Professor
School of Physics
Universiti Sains Malaysia

RESPONSIBILITIES: Teaching one course bilingually in Malay and Englsih (advanced undergraduate electromagnetic theory); give presentations and conduct workshops related to physics education, specifically the use of the Just-in-Time Teaching (JITT) techniques and the development of web-based materials for teaching.

April 1997 – September 2005

Member, International Advisory Board
Physics Education, IOP Publishing
Bristol, England

RESPONSIBILITIES: Advise the Honorary Editor and Editorial Board on the content of issues and on the subject coverage in general, and make constructive suggestions on editorial policy; suggest topics/authors for suitable commissioned articles; referee articles submitted to the journal; make occasional contributions to sections of the journal.

LANGUAGE SKILLS

Languages spoken fluently:	English, Bahasa Malaysia (Malay)
Languages read:	English, French, Spanish, Malay (in Roman or Arabic script)
Other languages studied:	Arabic, Chinese

RECENT GRANTS

1. J. William Fulbright Foreign Scholarship Board: *Lecturing/Research Fulbright Scholar Award* ($22,278), School of Physics, Universiti Sains Malaysia (2017)

2. National Science Foundation Academic Research Infrastructure Grant: Laboratory and Ancillary Space Upgrade to Support Undergraduate Faculty-Student Research in Physics, (co-Principal Investigator, $253,150) Gustavus Adolphus College (2010-2013)

3. Presidential Faculty/Student Research Collaboration: *Study of Optical Imaging by Reflection through Random Media* ($6,000), Gustavus Adolphus College (2008)

4. Presidential Faculty/Student Research Collaboration: *Study of Optical Imaging by Reflection through Random Media* ($7,440), Gustavus Adolphus College (2005)

5. J. William Fulbright Foreign Scholarship Board: *Lecturing/Research Fulbright Scholar Award* ($26,680), School of Physics, Universiti Sains Malaysia (2002-2003)

6. National Science Foundation Major Research Instrumentation Grant: *Acquisition of Equipment for Acoustical, Optical and Computational Scattering Studies* (co-Principal Investigator, $145,628), Gustavus Adolphus College (1997-2000)

RECENT CONTRIBUTED PAPERS

1. *New Introductory Physics Major Sequence,* AAPT Summer Meeting (2015)

2. *Superstrings: A Theory of Everything for Everyone?,* AAPT Summer Meeting, (2007).

3. *Bilingual Physlet Pages to Aid the Language Transition in Malaysia,* AAPT Announcer, Vol. 33, No. 2 (2003) p.159

4. *Using Physlets© to Enhance Physics Teaching,* PERFIK 2002, Kuala Lumpur, December 21, 2002.

5. *Incorrect Results from Weighted Fits to Experimental Data,* AAPT Announcer, Vol. 31, No. 2 (2001) pp. 109-110

6. *The Physlet Virtual Pre-Laboratory,* AAPT Announcer, Vol. 31, No. 2 (2001) p. 93

7. *Pre-Lab Exercises Using Physlets and the World Wide Web,* AAPT Announcer, Vol. 30, No. 2 (2000) p. 119

8. *Low-Coherence Optical Reflectometer,* Bull. Am. Phys. Soc., Vol 45, No. 1 (2000), p. 999

RECENT PUBLICATIONS

1. *Using physlets© to enhance physics teaching,* Steven H. Mellema, Jurnal Fizik Malaysia (Malaysian Journal of Physics) , Vol 24, No. 2 (2003).

2. *Companion Website (and CD-ROM) for 'Astronomy – A Beginner's Guide to the Universe',* by E. Chaisson and S. McMillan, Prentice Hall ©2003

3. *Companion Website (and CD-ROM) for 'College Physics 5th Edition',* by J. Wilson and A. Buffa, Prentice Hall ©2003
   http://www.prenhall.com/wilson5/

4. *Companion Website (and CD-ROM) to 'Physics' by James Walker*, D. Reid, G. Novak, A. Gavrin, W. Christian, C. Niederriter, S. Mellema, C. Adler, G. Terrell, T. O'Kuma, D. Maloney, C. Hieggelke and J. Walker, Prentice-Hall, ©2001,
   http://cwx.prenhall.com/bookbind/pubbooks/walker2/

5. *A Physics Lecture for the 21st Century*, Physics Education, Vol. 36, No. 4, July 2001, pp. 306-311.

6. *People in Physics - Interview with Steve Mellema*, Physics Education, Vol. 35, No. 6, November 2000, pp. 463-468.