

# ALFRED R. DEANGELIS

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## PHYSICIST, Ph.D.

### Teaching • Program Development • Research

Articulate, energetic physicist with a background in teaching and research in both academia and industry. Excels at communication, innovation, implementing solutions, experimentation and analysis, project management, and supervision.

Interested in opportunities to introduce college students from all walks of life to the power and importance of science and reason through exposure to physics, astronomy, and mathematics.

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## PROFESSIONAL EXPERTISE

- **Communication** – Development of instructional courses and programs in academia, business, and volunteer organizations. Implementation of research-based teaching practices.
  - **Knowledge** – Teaching physics and astronomy, statistics, and general science. Recognized “go-to” person in conducting and smart textiles, including electromagnetic and static control. Accomplished in experimentation, analysis, and simulations.
  - **Leadership** – Development of department and university programs, course curricula, establishment and supervision of community outreach programs, including hands-on participation. Supervisor for technology-driven development projects with experience managing teams of engineers and technicians. Proficient in project planning, execution, evaluation, and representation.
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## TEACHING EXPERIENCE AND ACCOMPLISHMENTS

### *Director of Instructional Labs*

### *Senior Instructor*

### *Instructor*

OREGON STATE UNIVERSITY – Corvallis, OR

Instructor

Spring 2019 – present

- Rewrote lab activities to address weaknesses identified by students and TA's. Redesigned labs and reorganized equipment storage to remove and replace unused, outdated, or unsafe equipment.
- Assumed responsibility for the student tutoring center for the department, reorganized staffing procedures, created a queuing and data collection system
- Addressed safety issues, especially around TA training on safety procedures, and posted information on emergency resources
- Created a series of student assistant positions to assist with lab, facility, and tutoring center maintenance; recruited and supervised assistants
- Created an updated set of TA manuals that provide equipment and procedure details as well as typical issues faced by students (both with equipment and content)



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- Elementary Statistics – General Education course for non-majors

SPARTANBURG COMMUNITY COLLEGE - Spartanburg, SC                      Fall 2009 – Spring 2012

- Rewrote Physical Science lab manual – Headed project to standardize lab offerings across two campuses. Rewrote labs and created student lab manual to match curriculum and meet instructional objectives without extensive equipment purchases. Negotiated agreement (buy-in) of multiple instructors.
- Developed Physical Science curriculum – Led a committee to revise the content of two-semester physical science course covering physics, chemistry, astronomy and geology; lecture and lab. Responsible for implementing changes across teaching faculty.
- Courses taught:
  - Solar System Astronomy – General Education course with lab
  - Physical Science lecture –with lab covering fundamentals of physics and chemistry

CONVERSE COLLEGE - Spartanburg, SC    INTERMITTENTLY 2005 – 2010

- Courses taught:
  - Astronomy – General Education with lab
  - Introductory Physics II – Calculus based, with lab; for pre-professional students

## ***Industrial Teaching***

MILLIKEN & COMPANY - Spartanburg, SC    1993 – 2009

- Built and led a Community Outreach Program that brought the excitement and opportunities of science to middle school students. Responsible for recruitment, planning, and reporting to upper management. Developed collaborative modules demonstrating scientific principles through real applications. Grew the program to reach over 1000 students each year throughout the Spartanburg County public school system.  
*Corporate Community Leader of the Year Award 2006*
- Created and taught Statistical Processes Course for technicians, including content, text, and demonstrations.
- Represented company technologies to existing and potential customers to demonstrate company expertise as well as generate customer-driven projects. Advised both customers and company employees on technical matters such as electrical activity, static electricity, and resin infusion.

## ***Postdoctoral Research Fellow***

HAHN MEITNER INSTITUTE – Berlin, Germany    1990 - 1992

- Supervised graduate students and research on Masters and Doctoral research.

## ***Teaching Assistant – Introductory Physics***

RUTGERS UNIVERSITY - Piscataway, NJ    1983 – 1985

- Chosen as select Teaching Assistant for Advanced Recitation Sections in physics.
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## EDUCATION

RUTGERS UNIVERSITY - New Brunswick, NJ                      1983 – 1989

- Ph.D. in Physics  
Thesis: Thermodynamical Models of Multifragmentation in Nuclear Systems
- M.Ph. in Astronomy awarded for academic excellence

WASHINGTON UNIVERSITY - St. Louis, MO                      1979 – 1983

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- B.S. in Engineering Physics
- CONVERSE COLLEGE – Spartanburg, SC                      2011
- Graduate certificate in Mathematics (18 hours)
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## PROFESSIONAL DEVELOPMENT IN EDUCATION

- *AAPT OR Regional Meetings (multiple)*
  - *AAPT NC Regional Meetings (multiple)*
  - *APS PhysTEC Conference, Baltimore, MD, March 11-13, 2015*
  - *AAPT Introductory Physics for the Life Sciences, Arlington, VA, March 14-16, 2014*
  - *Queens Workshop on Effective and Efficient Teaching, Queens University of Charlotte, Fall 2013*
  - *AAPT SE Regional Meeting, Furman University, Greenville, SC, Oct 25-26, 2013*
  - *APS Workshop on Distance Education, College Park, MD, June 1-2, 2013*
  - *Symposium on Horizons in Astronomy and Physics Education, University of North Carolina at Chapel Hill, March 2, 2013*
  - *AAPT Summer meeting, Philadelphia, PA, July 28-Aug 1, 2012*
  - *Teaching Online, University of South Carolina Upstate, June 20-July 1, 2011*
  - *Palmetto Bug (Blackboard), Limestone College, October 2010*
  - *Upstate Research Symposium, Spartanburg, SC 2010, 2011*
  - *Multiple workshops on teaching methods and principles*
    - Queens University of Charlotte, 2012-present
    - University of South Carolina Upstate, 2009-2011
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## OTHER EXPERIENCE IN EDUCATION

- Middle School Science and Engineering Outreach Program– Milliken & Company (2004-2007, Program coordinator 2005-2007)
  - Scholars Academy PTSO (Vice-President 2008-09)
  - Scholars Academy Advisory Board (2011-2012)
  - Westview Elementary School Improvement Council (Pres. 1999-2000, Vice-Pres. 1998-99)
  - Adopt-a-Physicist (electronic forum with high school physics classes, charter member)
  - Spartanburg Science Center – Physics exhibit consultant
  - K-12 Science Fair judge
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## PROFESSIONAL MEMBERSHIPS

- American Physical Society
  - American Association of Physics Teachers
  - Charlotte Amateur Astronomers Club (Vice President)
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## RELATED EXPERIENCE

**Senior Development Physicist** (2007 -2009)

**Senior Research Physicist** (2002-2007)

**Research Physicist** (1993-2002)

MILLIKEN & COMPANY, Spartanburg, SC                      1993-2009

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- Created a company technology base in electronically active textiles, forming the basis of over \$30 million a year in business and resulting in over 20 personal patents.
- Built a leading industrial lab for research on electronic textiles.
- Coordinated product designers, production managers, and chemists to satisfy conflicting requirements in developing a color palette for a \$100+ million / year carpet business. Personally responsible for creating a computer algorithm to scientifically guide color choices.
- Conceived, built, and helped certify a test apparatus to measure static build-up. Accepted by automobile manufacturers as a standard and used throughout Milliken & Company for characterizing static properties.
- Managed technology and development teams of engineers, technicians, and interns.
- Recognized as company expert in electronic textiles, radar absorption, and static electricity.
- Invited to speak at inaugural and subsequent Smart Fabrics conferences.

### ***Postdoctoral Research Fellow***

HAHN-MEITNER INSTITUTE, Berlin, Germany      1990 – 1992

UNIVERSITY OF PARIS XI, Orsay, France      1989 – 1990

- Research in nuclear physics, computational & analytical solutions, computer simulations.
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### **HONORS AND AWARDS**

- 2021 Howard Hughes Medical Institute (HHMI) IE@OSU Inclusive Excellence Fellow recognizing commitment to creating and sustaining inclusive STEM education
  - Community Leader of the Year Award for education outreach program, Milliken & Company
  - Dacey Award for outstanding individual technical innovation, Milliken & Company
  - Kuhn Award for outstanding commercialization of technology, Milliken & Company
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### **ASSOCIATIONS AND COMMUNITY ACTIVITIES**

- Room at the Inn (provides shelter for homeless individuals)
- SPIHN (non-profit helping homeless families get a fresh start) – Board member
- American Youth Soccer Organization – League Commissioner, Referee Administrator & Instructor
- Boy Scouts of America – Cub Master, Assistant Scoutmaster, Den Leader
- Religious Education Instructor
- Youth sports coach (basketball, baseball, soccer)

**A list of publications, patents, and presentations is available on request.**