Pavan K Pillalamarri Ph. D.

Associate Teaching Professor

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College of Integrative Sciences and Arts
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Summary

- Fifteen plus years of college level teaching experience (12 years full-time)
- Experience teaching Physics, Engineering, Computer Science courses at various levels
- Chaired and served on several crucial departmental, college level, state level committees
- Chaired, served on several faculty hiring committees and successfully mentored new faculty
- Several high enrollment courses developed, resulting in increased revenue for the school
- Worked successfully with students of varied backgrounds and special learning needs
- Used a variety of active learning techniques to satisfy learning outcomes and increase student retention
- Effectively used technology in the classroom to enhance learning experience
- Effectively used Supplemental Instructors, Tutors, Instructional Professionals, TA's, Achievement coaches to maximize learning
- Ability to lead student research projects at various levels (Honors projects, course projects and Individualized Instruction).
- Research/Project based assessment built into courses
- Excellent knowledge of laboratory methods to achieve efficient and precise outcomes
- Extensive experience in new curriculum development (Online, face-2-face and hybrid delivery modes) and curriculum revision using active learning strategies
- Courses designed to promote Self-Efficacy and help develop a Growth mindset
- Trained in Mental health first aid
- Developed Learning Outcomes and actively served on Program level Assessment Committees
- Mentor students as a Physics club and Health Care Compass club faculty advisor

Courses Taught

Physics: Calculus based Physics (Physics –I, II, III), Algebra based Physics (Physics – I, II), Intro to Physics, Physics labs – I & II

Engineering/Applied Physics: Engineering Statics, Engineering Dynamics (Vector Mechanics and vibration), Engineering Thermodynamics, Electricity and Magnetism (300 level), Electronics Circuits and Measurement, Intro to Engineering

Computer Science: Scientific Programming using MATLAB

Curriculum Development

- Created and taught PHY 321 icourse (2025)
- Created high enrollment PHY 112 lecture icourse (2024)
- Created and taught high enrollment online PHY 101 lectures and labs (2024)
- Developed and taught the Intro to Engineering online course (2013) (Online project-based)
- Developed and taught the Electronics Circuits and Measurement Lecture (2019) (Project based)

- Developed and taught the Electronics Circuits and Measurement Lab (2019)
- Developed and taught Scientific Programming in MATLAB course (2014) (Project based)
- Continually revise curriculum in all courses based on formative and summative assessments and student/peer feedback
- Revised lab curriculum, to suit delivery via distance learning.

Committees Served

- Vice representative for the Polytechnic campus for the Career Faculty Association (2025 onwards)
- University Senate (2026 onwards)
- School level Faculty performance evaluation/review committee (2025 onwards)
- Department level Faculty performance evaluation/review Committee (2023-2024)
- College level Grade appeals committee (2024 -2026)
- Chair of the Peer Teaching evaluation committee (2023 onwards)
- Peer Teaching evaluation committee member (2022 onwards)
- Faculty mentor to new faculty at our school as part of the yearlong mentorship program (2024-2025)
- Chaired and served on multiple full time and adjunct faculty and technical staff hiring committees in the fields of Physics, Mathematics, Chemistry, Dental sciences and Applied biology.
- College Curriculum Development Committee (6 years in the past and 2025 onwards)
- Physics/Astronomy/Engineering Program Assessment Committee (2 years)
- Engineering Course Coordinator (4 years)
- New Mexico State Level Course Standardization Committee (1 year)
- Grand Awards Judge at the International Science and Engineering (ISEF) (19, 21, 25)

Student Engagement/Success

- Faculty Advisor: Physics club (5 years at CNM and ASU)
- Faculty Advisor: Healthcare compass (2024 onwards)
- Organized Student Physics demonstrations for High school students and the public
- College liaison to the Santa Fe Institute in Organizing the "Computational Thinking" symposium for STEM students (2013)
- Certified in Mental Health First Aid (2015)
- Mentor: Emerging Scholars program

Awards

- Teaching Excellence award, Central New Mexico Community College (2016)
- Outstanding Student Organization Advisor (Physics League), Central New Mexico Community College (CNM) (2015)
- Outstanding Recitation Teaching Assistant, Oklahoma State University (2006 - 2007)

Professional Development

- **Organizer** and **Facilitator**: Radical Teaching Co-operative at CNM to help faculty solve issues related to pedagogy using a structured tuning protocol. (3 years)
- Successfully completed a yearlong training course at the "New Faculty Institute", Central New Mexico community college
- Earned Credits towards Teaching and Learning Online Certificate (CNM)
- Attended the Conference for teaching and learning (2013, 2014, 2015) organized by CNM
- Attended the Winter conference organized by AAPT (2013)
- Participated in CAT training workshop (2015) Developed CAT instruments to enhance critical thinking among students
- Mentor to new faculty (3 years at CNM)
- Earned the Global Advocacy Certificate to create a globally diverse campus at ASU (2019)
- Completed the Self efficacy, growth mindset plus creating a culturally responsive pedagogy program as part of the "Faculty Leadership and Professional Development Institute" (organized by NMEPSCoR, NAPE) (2016)

Research Projects

- ***Director of research for Innovation***- Agriculture project (Summer 2014): Lead a group of students and performed research and provided recommendations on implementing an Agriculture (Campus as a living lab) project at Central New Mexico community college
- ***Co-Investigator*** in a research project to improve Critical thinking skills in Community College students via the CAT instrument (Critical Thinking Assessment Test)
- ***Research Interests:*** Physics Education, Condensed Matter Physics, Monte Carlo methods, Numerical techniques, Computational Science, Image processing
- Experience guiding Honors projects, over 40 course projects and projects at the PHY 400 level. (In fields related to Diffusion limited growth: tumor models, Image processing, game development, solid state physics, statistical mechanics, electronics, and many more)

Teaching Experience

- **Associate Teaching Professor** Aug'25 onwards
  Arizona State University, Polytechnic Campus
- **Assistant Teaching Professor** Aug'17- Aug' 25
  Arizona State University, Polytechnic Campus
- **Physics/Engineering Full Time Instructor**
  Central New Mexico Community College Aug '13 – Aug'17
- **Physics Recitation Instructor**
  Oklahoma State University Jan' 12 – May '13, Aug '06 – May '07
- **Physics Lab Instructor**
  Oklahoma State University Jan '10 – May '10, May '11 – Dec '11
  Colorado State University Aug'04 – May '05

Education

PhD (Physics) May 2013
Oklahoma State University, Stillwater, OK
Dissertation: "*Electronic Structure Simulations of Inorganic Nanowires"*

M. Tech. (Computational Techniques in Physics) May 2004
University of Hyderabad, India
Thesis: "*Computational modeling of Bio-physical growth processes"*

M. Sc. (Physics) March 2002
Sri Satya Sai Institute of Higher Learning, India
Thesis: *"Efficiency Calibration of a Large Volume HPGe Detector"*

Outreach

- Organized Physics experiments and demonstration events for students of several Chandler area A+ rated gifted and specialized schools to motivate/encourage and inculcate passion towards science and engineering.
- Volunteer at Career Technical Education open house for high school students
- Volunteer at events encouraging women from choosing STEM careers
- Judge at INTEL ISEF ('19), ('21), ('25)
- Organized high school visits to demonstrate and explain Physics concepts
- Volunteer to organize new student orientation at Oklahoma State University
- Volunteer at Project share: Cook and serve meals to the homeless (Albuquerque)
- Member, Disaster & Rescue Management group Sri Satya Sai Organization, Hyderabad, India
- Secretary at the SPS local chapter at Oklahoma State University
- Member of AZ Chapter of the American Association of Physics Teachers

Publications

- Thushari Jayasekera, **Pavan K Pillalamarri,** J.W. Mintmire and Vincent Meunier, "Effect of Phase-Breaking Events on Electron Transport in Single -Wall Nanotubes", Int J Quantum Chem **108**, 2896 (2008)