J.C. Sanders
Curriculum Vitæ

Contact Information

Current Position: Professor of Physics and Director of Institutional Research
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Employment

University of Science and Arts of Oklahoma

- Professor of Physics, 2022 - Present
- Director of Institutional Research, 2022 - Present
- Associate Professor of Physics, 2016 - 2022
- Division Chair/Dean, Division/School of Science and Physical Education, 2013 - 2022
- Assistant Professor of Physics, 2011 - 2016

Education

Ph.D. Physics, University of Connecticut, 2011
M.S. Physics, University of Connecticut, 2007
M.S. Mechanical and Aerospace Engineering, The George Washington University, 2004
Metals and Thermal Structures Branch at NASA's Langley Research Center
B.S. Physics, Magna Cum Laude, The College of New Jersey, 2002

Awards

University of Science and Arts of Oklahoma

- Leadership in Action Award, 2025
- Outstanding Employee, Employee Awards and Recognition, 2023
- Regents Award for Faculty Service, 2020
- Gladys Anderson Emerson Research Stipend, 2015

University of Connecticut

- Marshall Walker Teaching Award, Department of Physics, 2009
- Roy Lawrence Faculty Award for Excellence in Teaching, Upward Bound/ConnCAP, 2008

Professional Societies

- American Physical Society (APS)
- American Association of Physics Teachers (AAPT)

Selected Teaching Experience

University of Science and Arts of Oklahoma

- Foundations of Physical Science, IDS 2013, Fall 2011 - 2012 and 2014 - 2017, Spring 2012 - 2013, and Summer 2012 - 2013, 2018 - 2019, 2025
- World Thought and Culture III, IDS 4333, Summer 2015 - 2017, 2021, 2023
- General Physics I, PHYS 2113 (algebra based course), Fall 2011 - 2013, 2018, 2020 - 2025
- General Physics I with Calculus, PHYS 2214, Fall 2012 - 2013, 2018, 2020 - 2025
- General Physics I Laboratory, PHYS 1301, Fall 2011 - 2012, 2020 - 2024
- General Physics II, PHYS 2123 (algebra based course), Spring 2012 - 2020, 2022 - 2026
- General Physics II with Calculus, PHYS 2224, Spring 2013 - 2020, 2022 - 2026
- General Physics II Laboratory, PHYS 1401, Spring 2012 - 2013, 2020, 2022, 2024, 2025
- Modern Physics, PHYS 2513, Fall 2012, 2014, 2016 - 2018, Summer 2013
- Mathematical and Computational Methods in Physics, PHYS 3013, Spring 2013 - 2014, 2018
- Physical Mechanics, PHYS 3113, Fall 2013, 2015, 2017, 2021, 2023, 2025, Summer 2022
- Electricity and Magnetism, PHYS 3213, Summer 2014, Spring 2016, 2018, 2022, 2024, 2026
- Quantum Mechanics, PHYS 4003, Fall 2014, 2016, 2018
- Wave Motion and Physical Optics, PHYS 4113, Spring 2015, 2017, 2021, 2023, 2025
- Advanced Lab, PHYS 4102, Spring 2015, 2017, 2019, 2021
- Physics Independent Study - Propelling Projectiles, PHYS x125, Independent Study 2012
- Trigonometry, MATH 1613, Spring 2012
- Next Step Preparation, NSCI 3710-3711, Spring 2016

University of Connecticut

- General Physics I, PHYS 1201Q (algebra based course), Summer Session I 2010
- General Physics II, PHYS 1202Q (algebra based course), Summer Session II 2010
- Physics for Engineers I, PHYS 1501Q (calculus based course), Fall 2008

Chemistry Instructor

Chemistry instructor for Upward Bound at the University of Connecticut during the summer of 2007, 2008, and 2009. Taught introductory chemistry course and laboratory during the six-week summer program to high school students.

Laboratory Instructor

- Introduction to Modern Physics, PHYS 1600Q, Fall 2007
- General Physics with Calculus I, PHYS 1401Q, Fall 2006
- Physics for Engineers I, PHYS 1501Q, Spring 2006
- General Physics I, PHYS 1201Q, Spring, Summer, and Fall 2005
- General Physics II, PHYS 1202Q, Fall 2004
- Physics for Engineers I, PHYS 1501Q, Fall 2004

Publications

- J. Javanainen, O. Odong, **J.C. Sanders**, "One- and two-atom states in a rotating ring lattice", Phys. Rev. A **85**, 033637 (2012), http://link.aps.org/doi/10.1103/PhysRevA.85.033637
- O. Odong, **J.C. Sanders**, J. Javanainen, "Heterodimer of two distinguishable atoms in a one-dimensional optical lattice", Phys. Rev. A **84**, 033613 (2011), http://link.aps.org/doi/10.1103/PhysRevA.84.033613
- **J.C. Sanders**, O. Odong, J. Javanainen, M. Mackie, "Bound states of two bosons in an optical lattice near an association resonance", Phys. Rev. A **83**, 031607(R) (2011), http://link.aps.org/doi/10.1103/PhysRevA.83.031607
- J. Javanainen, O. Odong, **J.C. Sanders**, Phys. Rev. A Kaleidoscope Images: April 2010, image from Phys. Rev. A **81**, 043609 (2010), http://pra.aps.org/kaleidoscope/pra/81/4/043609
- J. Javanainen, O. Odong, **J.C. Sanders**, "Dimer of two bosons in a one-dimensional optical lattice", Phys. Rev. A **81**, 043609 (2010), http://link.aps.org/doi/10.1103/PhysRevA.81.043609
- **J.C. Sanders**, "Nonlinear, Transient Conduction Heat Transfer Using A Discontinuous Galerkin Hierarchical Finite Element Method", M.S. Thesis, The George Washington University (2004)

Mentored Undergraduate Research

- Nicholas Harwood, "From Earth to the Moon: Orbital Transfer Simulations", presentation at Research Day at the Capitol, March 28, 2023
- Hunter Hamby, "A Closed Form Electrical Energy Approximation for an N-Particle Ring", presentation at Oklahoma Research Day, March 4, 2022
- Connor Cheek, "As the World Turns: Construction of a Magnetically Driven Foucault's Pendulum", presentation at the Texas/Oklahoma Regional Undergraduate Symposium, February 25, 2017
- Laura Bennett, "Variable Stars, Astrophotography, and Photometric Analysis", presentation at the North Texas Area Student Conference, April 18, 2015
- Dao Thong Lim, "The Challenges Associated with Variable Star Observations", presentation at the North Texas Area Student Conference, April 18, 2015

Selected University and Community Service

- Director of the USAO Scholastic Meet, an academic competition for high school students that attracts over 500 participants every spring and is held in conjunction with Montmartre Chalk Art Festival and the Droverstock Music Festival
- Chickasha's Rock Island Ride, a charity bicycle ride featuring routes of varying distance, route designer, facebook page and online registration manager, SAG support, and event photos, 2017 - 2025