Joseph Richard Bernal

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AREAS OF SPECIALTY AND COMPETENCE

AOS: Philosophy of Natural and Social Science, Philosophy of Physics, Metaphysics

AOC: Ethics, Feminist Philosophy, Philosophy of Technology

EDUCATION

2021   A.A.S. Information Technology Systems, El Paso Community College (EPCC)

2013   M.A. Philosophy, University of Texas at El Paso (UTEP)

2010   B.A. Psychology and Philosophy, University of Texas at El Paso (UTEP)

RELEVANT COURSE WORK

Philosophy:

Theories of Knowledge—with Dr. Luciana Garbayo (UTEP)

Memory and Extended Mind—with Dr. Sarah Robins (UTEP)

Philosophy of Science (General) — with Dr. Sarah Robins (UTEP)
        (General) — with Dr. Luciana Garbyo (UTEP)
Philosophy of Science (Philosophy of Physics: Foundations of Quantum Mechanics) — with Dr. Juan Ferret (UTEP)

Special Topics: Special and General Relativity — with Dr. Juan Ferrett (UTEP)

Special Topics: Special and General Relativity — with Dr. Vesselin Petkov (Concordia University)

Metaphysics—with Dr. John Symons (UTEP)

Emergence—with Dr. John Symons (UTEP)

Feminist Theory—with Dr. Caroline Arruda (UTEP)

Philosophy of Physics (Dual Major credit) —Dr. Juan Ferret (UTEP)

Logic—with Dr. John Symons (UTEP)

Philosophy of Mind: Artificial Intelligence-Concordia University

Psychology:

Sensation & Perception—with Dr. Stephen L. Crites (UTEP)

Psychobiology—with Dr. Donald E. Moss (UTEP)

Statistical Methods—with Dr. Donald E. Moss (UTEP)

Information Technology:

Java Programming
C++ Programming
Script Languages (Python)
Oracle SQL
Database Programming

Audited Courses:

Quantum Mechanics— with Dr. Ramon Ravelo (UTEP)
Automata, Computability, & Formal Languages—with Dr. Vladik Kreinovich (UTEP)

PROFESSIONAL EXPERIENCE

Consultant:

2021-   Strange Attractors Design| Founder
- Digital transformation consultant to small businesses.
- Utilize QA skills in developing chatbot prompts and prompt chains.
- Documented increased website user engagement by at least 30% for clients.

2020-2021   FabLab of El Paso| Professional Development & Curriculum Designer
- Researched and developed a digital transformation workshop series on local businesses utilizing best practices.
- Designed tutorials and interactive tools for a Python certification prep course for Microsoft's Exam 98-381 with a 90%+ success rate of passing certification.

Academic:

2015-2023   Adjunct Professor, New Mexico State University (NMSU)/Dona Ana Community College
- Led the development of faculty guidelines that proactively addressed the potential misuse of AI technology in online courses.
- Created and executed college-level research papers and exams with scrutinized questions and prompts that aimed to maintain academic honesty and prevent cheating, including measures to counteract AI-assisted chatbot technology like ChatGPT.
- Established a faculty committee dedicated to maintaining the integrity of online courses and proactively addressing emerging technological challenges.

2013-2022   Adjunct Professor, EPCC
- Instructor of logic, teaching students to translate natural language to formal language.
- Instructing, on average, 120 students per semester.
- Implemented and coordinated a $500 grant-funded pilot program utilizing LittleBits electronic modules as part of the Logic curriculum to bridge philosophy and STEM fields for underrepresented populations.

2012   Instructor, UTEP
- Taught a college-level hybrid ethics course five days a week for eight weeks as a graduate student.
- Designed the curriculum with sensitivity to equity requirements.
- Ensured full integration with the Blackboard educational platform for a seamless online learning experience.

RESEARCH COLLABORATIONS

2009-   Philosophic Systems Institute| Research with Dr. Juan Ferret

Assisting with various community-based initiatives on behalf of the institute. Also participated in research addressing issues in orthodox interpretations of science and logic systems to provide more profound explanatory value with real-world applications.

2018   Independent| Research with Dr. Vladik Kreinovich (UTEP)
Researching the applications of mathematical Sheaves to quantum systems in formulating a quantum topology. Presented research at the 23rd Joint UTEP/NMSU Workshop on Mathematics, Computer Science, and Computational Sciences.

PRESENTATIONS

Refereed:

2019   'Pedagogy & Maximizing Objectivity in Computer Science: From a Standpoint Analysis'
- Indiana University Department of History, Philosophy of Science, and Medicine, Women's Leadership Conference, Indiana University.

2018   'Reference Frame Dependence in Ontological Interpretations of Quantum Mechanics.'
- Co-authored with Dr. Kevin Vallejo (Materials Science and Engineering, Boise State University), American Physical Society (A.P.S.) March Meeting in Los Angeles, California.

2017   'Reference Frame Dependence in Ontological Interpretations of Quantum Mechanics.'
- Co-authored with Dr. Kevin Vallejo (Materials Science and Engineering, Boise State University). International Colloquium' What is a Physical Entity?' Centro de Filosofia das Ciências da Universidade de Lisboa.

2015   'Pedagogy in Computer Science: A Feminist Standpoint Analysis'
- The Naked Truth Women's Conference, UTEP.

2015   'Closing the Gap in Technology with Philosophy 2303'
- Boarder Learning Conference, EPCC.

2014   'Transcendental Scientific Explanations'
- The University of Kansas Second Annual Graduate Conference

2013   'Information Loss and the Constraints of Scientific Explanation: A 21st Century Issue.'
- Co-authored Crisol Escobedo (EPCC). Philosophy of Science in the 21st Century - Challenges and Tasks, Centro de Filosofia das Ciências da Universidade de Lisboa.

2012   'Quantum Information Processed'
- New Mexico West Texas Philosophy Conference

Comments:

2013   Comments on Jack Hansen's 'Dispositions as Causal Explanations.'
- New Mexico West Texas Philosophy Conference

2012   Comments on Elay Shech's 'What is the Paradox of Phase Transitions?'
- The University of Kansas Great Plains Graduate Conference

Academic Research Workshops:

2018   Philosophy and Physical Computing Workshop, Virginia Tech
- Attended a two-week skill-building workshop sponsored by the NSF, focused on theories of

inductive inference. Engaged in hands-on activities to measure atmospheric changes, demonstrating how machine learning aligns with scientific reasoning.

- Learned to use Python-based programs and SPI, l2C, and Raspberry Pi-based hardware.
- Identified how the theoretical results in formal epistemology and machine learning can provide concrete, practical benefits in practice. Program Director: Dr. Benjamin C. Jantzen (Philosophy, Virginia Tech)

2018   23rd Joint UTEP/NMSU Workshop on Mathematics, Computer Science, and Computational Sciences
- Workshop presentation titled, 'Towards a More Physically Adequate Description of a Quantum State' Co-authored by Olga Kosheleva (Teacher Education, UTE) and Vladik Kreinovich (Computer Science, UTEP)

2014   The Sixth Annual Workshop on the Philosophy of Information, Duke University.
- Workshop presentation titled, 'What does Feminist Epistemology Have to Do with Computer Science?' illustrates the overlap between feminist approaches to science and foundational concepts within computer science.

Faculty Development:

2018	'What are Cognitive Biases, and how can Students and Faculty Learn to Avoid Them? Ensuring Transparency and Fostering Good Habits for Better Retention' (EPCC)
2017	'Philosophy and Technology: Meeting STEAM and Logic 2303 Learning Outcomes with LittleBits Electronics' (EPCC)
2015	'Creating Pathways: Merging the Liberal Arts with STEM Disciplines through Logic' (EPCC)
2015	'How Logic 2303 can improve students' overall academic success' (EPCC)
2014	'Thinking Conceptually: Techniques to help student engagement with course material' (EPCC)

TEACHING

Professional Development Instructor:

2020   FabLab of El Paso/UTEP—Exam Prep for Microsoft's 98-381 Introduction to Python

Guest Instructor:

2018   UTEP—Systems Engineering Department Graduate Course: Systems Requirements Analysis: Evaluating Risk & Decision Making in Group Dynamics. (Integrated into the curriculum since)

Instructor:

2015-   New Mexico State University/Dona Ana Community College—Introduction to Philosophy
New Mexico State University/Dona Ana Community College—Informal Logic
New Mexico State University/Dona Ana Community College—Ethics

2013-   EPCC—Introduction to Philosophy
EPCC—Formal Logic
EPCC—Ethics
EPCC— Twentieth Century Philosophy: Philosophy of Science
2012   UTEP—Ethics

Teaching Assistant:
UTEP (Philosophy)

2011-2013   Ethics—Aleksandar Pjevalica
2009   Formal Logic—John Symons

SCHOLARSHIPS, HONORS, AND AWARDS

Grant Experience:

2018   Andrew W. Mellon's Humanities Collaborative Grant
- Co-authored a proposed project titled 'Addressing the Imagination of the Young Scientists: A Cross-College Collaboration between STEM and Philosophy' with Dr. Deepanwita Dasgupta from UTEP.
- Developed a Research Ethics Workshop program that established a cross-collegial platform between STEM fields and the philosophy of science.
- The program was designed for UTEP's Bridges to the Baccalaureate Program to promote research ethics and foster a deeper understanding of the interconnections between STEM and philosophy.

2015 $500 EPCC Mini-Grant (Philosophy Department)
- Co-authored with Associate Professor Gabriel Camacho in implementing and coordinating LittleBits electronic modules as part of the Phil 2303 Logic courses' curriculum to bridge philosophy and STEM fields for underrepresented populations.

Faculty Awards:

2014-2015   EPCC Leadership Academy Graduate: Fundamentals and Advanced Track

2015   Recipient of the EPCC Adjunct Faculty of the Year Award

Student Scholarship:

2009   North American Mobility Project, University of Concordia (Montreal, Quebec, CA)
- Awarded UTEP's first scholarship to facilitate study-abroad opportunities between universities in Canada, Mexico, and the United States.
- Enrolled in courses on various topics, including Nietzsche, Bioethics, Theory of Relativity, and Artificial Intelligence.

Student Awards:

2011   College of Liberal Arts Dean's List (UTEP)

2012/2013   Dodson Award Recipient (UTEP)

SERVICE

To the Profession:

2009-2010   Philosophic Systems Institute| Researcher with Dr. Juan Ferret
- Assisted with a K-12 curriculum, highlighting philosophical inquiry with science and art education.

University/College:

2018   UTEP's ACM-W Women in Computer Science (ACM-W WICS) |Advisor
- Collaborated with student members to develop a reformist statement of purpose for the organization, focusing on community outreach and leadership development.
- Designed workshops that directly incorporated ethical concerns in computing from the statement of purpose.

2013-2018   EPCC Philosophy Club| Co-Faculty Advisor
- Co-established multiple community outreach programs with students, coordinating 20+ volunteers at a time to support local non-profit organizations such as El Paso Opportunity Center, El Pasoans Fighting Hunger, and El Paso Humane Society.

- Co-created and managed a monthly workshop series for students called 'Philosophy & Computer Science' in collaboration with colleague Marie Espinoza.
- Developed and integrated LittleBits circuit-based logic modules into the workshops to illustrate the interconnections between philosophy-based formal logic courses and computer science.
- Successfully fostered interest and participation in both fields among a predominantly low-income Hispanic student body.

Departmental:

2013-2018	EPCC Philosophy Department Faculty Textbook Committee Member

2013-2018   EPCC Philosophy Department
Faculty Textbook Committee Member

2017   EPCC Faculty Senate
Adjunct Representative

2016   EPCC Steering Committee
Faculty Member

Community:

2001-2022   The Chenrezig Tibetan Buddhist Cultural Center (Non-Profit)—Member
- Contributed to various outreach programs to support the local homeless community, organized self-care and meditation classes, and arranged presentations celebrating Tibetan art, dance, and culture in collaboration with the University of Texas at El Paso.
- Demonstrated a solid commitment to community service and promoting cross-cultural understanding through participation in various initiatives organized by the center.
- Researched philosophical concepts of mind and intentional actions.

2013-2016   Velo Paso (Non-Profit)—Member
- Act as an advocate for educational programs prioritizing safety training and bicycle skills courses, public awareness campaigns, and initiatives promoting biking and walking accessibility.
- Drive efforts to build support for a bike- and pedestrian-friendly infrastructure and culture through effective communication and collaboration with stakeholders, community leaders, and government officials.
- Demonstrate a solid commitment to promoting sustainable and healthy transportation options that enhance community well-being and promote environmental sustainability.

2013-2016   Eco-El Paso (Non-Profit)—Member
- Serve as an advocate for eco-sensitive and energy-efficient community planning, building design, and construction by conducting educational seminars and presentations for design, construction, and building maintenance professionals.
- Collaborate with experts from various trades to develop and deliver training programs focused on sustainable residential, commercial, and institutional projects.
- Successfully promote adopting environmentally conscious practices and technologies through effective communication and collaboration.

REFERENCES

Available upon request