

CURRICULUM VITAE, 2019

Robert B. Dorsett, MD

Most Recent Position:

Math and science tutor, Meeker High School, Meeker, CO, and member Meeker RE-1 School Board, 2015 – present.

Previous Academic Positions:

Instructor of Science and Mathematics, Colorado Northwestern Community College, concurrent enrollment classes with Meeker High School, Meeker, CO, 2014-2015

Instructor of Science and Mathematics, Meeker High School, Meeker, CO, 2001-2014

Instructor of Science and Mathematics, Part-time faculty 1981-86 and 1993-99
Colorado Northwestern Community College, Meeker Campus

Instructor in Chemistry, Temporary faculty, Spring semesters 1998 and 2000
Western State College of Colorado

Assistant Professor of Natural Science and
Director of the Natural Science Program, Providence College, RI, 1987-1993

Academic and Professional Degrees:

B.A. (Biology, 1971), Stanford University

M.D. (1975), Stanford University School of Medicine

University of Utah Family Practice Residency (1975-1978)

Board Certified, Family Practice (1982)

Professional Qualifications:

Colorado Professional Teaching License, Endorsements in Science and Mathematics
Qualified for Tenure at Providence College

Wesleyan University / Coursera. 2017. Introduction to Complex Analysis.

UC Davis / Coursera. Spanish Vocabulary. 2018.

Stanford University / Coursera. 2019. Machine Learning.

Stanford University / Coursera. 2019. Neural Networks and Deep Learning.

Stanford University / Coursera. 2019. Improving Deep Neural Networks:

Hyperparameter tuning, Regularization and Optimization

Courses of Instruction:

At Meeker High School:

At various times, I taught college level (concurrent enrollment) Physics, Anatomy and Physiology, Calculus, AP Calculus BC, Multivariable Calculus, Statistics, College Algebra, Linear Algebra (in progress), Chemistry, introductory Biology, advanced Biology courses, Algebra 2, Computer Applications, and Computer Programming (C++).

At Western State College of Colorado:

Organic Chemistry, Spring semester 2000

Introduction to Organic and Biological Chemistry, Spring semester 1998

At Providence College:

From Fall semester 1987 through Spring 1993 I was Assistant Professor of Natural Science at Providence College, Rhode Island. My various course offerings included general Biology, Modern Physics, Physical Science, Astronomy, and Physical Geology.

At Colorado Northwestern Community College (CNCC):

Over the years at CNCC I taught many and various courses in science and math, including Algebra I, College Algebra, Probability and Statistics, Astronomy, Botany, Pharmacology, and Ornithology.

Medical School Instruction in Kenya:

As a Peace Corps volunteer from 1978-81 in Kenya, East Africa, I taught basic medical science, clinical medicine and surgery to medical students at the Rift Valley Provincial Medical Training Center.

Research:

Anti-oxidant therapy for bronchopulmonary dysplasia, mouse model, with Dr. William H. Northway, Jr., Stanford University School of Medicine (1973-75).

I maintain an ongoing research program, studying the chemical ecology of the subalpine plant, *Polemonium foliosissimum*, including its chemical interactions with pollinating insects and insect herbivores.

I maintain an ongoing research program in aspects of quantum gravity.

Publications:

Dorsett, R.B., and Pike, A. 1995. Partition of fragrances between calyx and corolla in *Polemonium foliosissimum*. *American Midland Naturalist* 134: 236-243.

Irwin, R.E., and R. Dorsett. 2002. Volatile production by buds and corollas of two sympatric, confamilial plants, *Ipomopsis aggregata* and *Polemonium foliosissimum*. *Journal of Chemical Ecology* 28:565-578.

Dorsett, R.B. and Alison K. Brody. 2014. Gynodioecy in *Polemonium foliosissimum*: protection from a predispersal seed predator? (ms in prep.)

Dorsett, R.B. 2016. Strings: an introduction for high school students (and beyond).

<http://dorsett-edu.us/Strings/StringHome.html>

Dorsett, R.B. 2014. Essentials of modern physics: an introduction for high school students.

<http://dorsett-edu.us/PhysicsText/PhysicsTextHome.html>

Dorsett, R.B. 2018. Physics since AdS/CFT. http://dorsett-edu.us/FeynmanCircuits/PhysicsSinceAdSCFT_PDF.pdf

Dorsett, R.B. 2019. Climate science. http://dorsett-edu.us/Climate/ClimateCompendium_PDF.pdf

Dorsett, R.B. 2019. Climate change in the White River basin. http://dorsett-edu.us/White%20River/ClimateChangeWhiteRiverBasin_PDF.pdf

Scholarship:

I have written and published online a physics text, *Essentials of Modern Physics*, including chapters on special and general relativity, quantum mechanics, particle physics, unified theories, and cosmology appropriate for introductory courses. I used selections from the text in my courses at Providence College and in courses including high school students enrolled at CNCC. I wrote a number of self-teaching computer programs to accompany the text.

I have also written and published online an *Introduction to String Theory*, based on the Stanford lecture series by, and with permission of, Prof. Leonard Susskind. See www.dorsett-edu.us for links.

Curriculum Development:

In fifteen years at Meeker High School, I added eight new courses to the science curriculum and re-structured two others. New courses include Biochemistry, Human Anatomy and Physiology, Ecology, Aquatic Biology, Zoology, Botany, Computer Programming, and Research Methods. I also re-structured the high school courses in Biology, Physical Science, and Computer Applications. I developed and maintain the Project Calculus web resource for the Western Colorado Math Consortium, and I developed resources to improve math teaching across the curriculum at Meeker High School. Presently I am leading development of a technology curriculum for the Meeker School District.

Science Fair:

I initiated a Science Fair program at Meeker High School. Several of my students won honors at the Colorado State Science Fair, and five qualified for International Science Fair.

International Education:

With Ecology Project International I lead student groups in field research, conservation and cross-cultural programs in Costa Rica, Galapagos, Belize, and the Sea of Cortez. More than ninety of my students have participated in these life-changing programs. See www.ecologyproject.org for detailed information.

Administration:

I served as Director of the Natural Science Program at Providence College for the academic year 1992-'93, coordinating science instruction to fulfill the PC Natural Science requirement. In the Fall, 2015, I was elected to the School Board of Meeker District RE-1.

Awards and affiliations:

I am a member of the American Association for the Advancement of Science and of the Union of Concerned Scientists.

Several organizations have recognized me for contributions to education and for teaching excellence. My awards include the Amgen Award for Excellence in Science Teaching, the Jared Polis Award for Teaching Excellence, and the Boettcher Teacher Recognition Award.

Other Interests:

I have extensive experience in outdoor leadership including mountaineering, back-country skiing, whitewater kayaking and rafting. During the summer I teach basic kayak skills, river safety and rock climbing to interested high school students and adults in Meeker. Several years ago I completed the North Cascades wilderness course with National Outdoor Leadership School (NOLS), and in the Fall of 2015 I completed the NOLS Baja Coastal Sailing course. In the Fall of 2018 I was co-leader on a rim-to-rim Grand Canyon expedition with The Grand Canyon Conservancy.

Contact:

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