Homepage 🔗:	luriam.net/~wibble/	Mobile 📞:	1.802.659.4447
Linked-**in**:	linkedin.com/in/mpdombrowski	Email ✉:	mpd@luriam.net
Mastodon 🐘:	hachyderm.io/@wibble	Discord 🎮:	wibble#2601
Physical 📍:	Lancaster, PA	Libera Chat 🌿:	wibble

Education

Ph.D. Physics, 2016, Dartmouth College

M.S. Physics, 2010, Dartmouth College

B.A. Physics, 2007, Franklin & Marshall College

A.A. Social Science (History), 2003, Harrisburg Area Community College

Skills

► Languages: English (native), German (basic)

► Communications:

  ▷ Experienced in creative, technical, and scientific writing
      …and strategic combinations thereof

  ▷ Proofreading, typesetting, and editing

  ▷ Creation of infographics and promotional materials

  ▷ Facilitation of negotiations between conflicting organizations

► Administration and Leadership:

  ▷ Accounting and funding of small groups and activities

  ▷ Administration of small groups and coordination between groups

  ▷ One-on-one and group training and teaching

► Computer & Technical Skills

  ▷ Fluent in Python, Mathematica, Matlab, TI DSP Assembly, RegEx, BASH script

  ▷ Competent with Julia, R, LaTeX, C, C++, Fortran, HTML, CSS, PHP, SQL

  ▷ Selecting, building, troubleshooting PC & Mac Hardware

  ▷ Experienced with dev environment construction, build engineering, library/framework
    conflict resolution

  ▷ Basic knowledge of Tensorflow, Keras, PyTorch

  ▷ User Interface/User Experience QA Testing

  ▷ Linux system installation, administration, server administration, driver debugging

  ▷ Mac OS X system installation, administration, server administration, development

  ▷ Windows system installation, administration

  ▷ Some experience with AWS, DigitalOcean, and Scaleway, Chef, PBS/Torque, SWIG, Elixir,
    Labview, PERL, IDL, Javascript, Clojure, jQuery, Knockout.js, Java, CDF, HDF5

► High-speed, multichannel data acquisition system development

► Basic circuit board/wiring diagram analysis, testing, & debugging

► Storage, processing, and reduction of large data sets

► Numerical simulation development and cluster deployment

Work Experience

Writer, Coder, Tester   nextjournal.com, 2017-2021

Creation and maintenance of development environments for myriad languages, writing and coding of runnable science and technical articles. Dev and UX tester for a vertically integrated platform supporting prose and code writing and running, focusing on long-term full-stack reproducibility and reuse.

Research Assistant to Jim LaBelle   Dartmouth College, 2008-2016

Sounding rocket research in the auroral ionosphere centered on the NASA TRICE, ACES, and CHARM II missions. Rocket science instrument testing and calibration, data acquisition, data analysis, and development of theories of plasma wave generation and propagation. Support for ground-based operations involving various remote radio receiver stations, including analog-to-digital PC data acquisition system development and DSP-based software radio receiver development. Numerical modeling of plasma-wave microphysics, deployed on Dartmouth PBS/Torque compute cluster.

Teaching Assistant   Dartmouth College, 2007-2015

Support for numerous classes, grading of graduate and undergraduate problem sets and exams, typesetting of solutions, teaching of undergraduate laboratory sessions, grading of lab reports.

Research Assistant to Ken Krebs   Franklin & Marshall College, 2006-2007

Synthesis of alumina (Al_2O_3) solids and thin films using a Sol-gel process. Design and implementation of a system for laser-densifying alumina, and spectroscopic analysis of results, towards evaluating its potential use to create channel waveguides.

Research Assistant to Elizabeth Praton   Franklin & Marshall, 2005

Analysis of universe-simulation data with Fortran programs towards disproving a simple path-length-ratio method of quantifying the 'Bullseye' distortion effect in redshift-space maps. Research into new methods of quantification, including a simulated annealing approach to path drawing.

Physics Tutor   Franklin & Marshall College, 2005-2007

Tutor for intro-level Physics classes.

Biology Lab Prep Assistant   Franklin & Marshall College, 2004–2005

Miscellaneous lab prep work: cleaned and sorted lab glassware, prepared growth media and stains, setup and teardown of lab sessions.

Student Government Secretary Harrisburg Area Community College, 2003–2004

Coordination with group leaders and Student Life Director. Event scheduling, planning, promotion, and setup. Promotion, member recruitment, and leadership training.

Student Government Treasurer Harrisburg Area Community College, 2002–2003

Budget management and coordination with campus Student Life Director and student group leaders. Event planning, funding, promotion, and setup. Student group leadership training.

Mathematics Tutor   Harrisburg Area Community College, 2002–2004

Tutoring in everything from Beginning Algebra to Intro Calculus.

Library Assistant   Harrisburg Area Community College, 2001–2002

Basic library work and design work. Front-desk check-in, check-out, inventory. Design of promotional and informational fliers and posters, and standard library forms.

Office Assistant   Harrisburg Area Community College, 2000–2001

General office assistant work: filing, data entry.

References

Jim LaBelle   Physics Professor, Dartmouth College
✉ jlabelle@aristotle.dartmouth.edu   📞 1.603.646.2973 (office)

Collaborations: Sounding rocket instrumentation and data analysis, high-speed data acquisition system development, digital signal processing radio receiver development, numerical plasma simulations.

Doug Rowland   Space Scientist, NASA GSFC
✉ douglas.e.rowland@nasa.gov   📞 1.301.286.6659 (office)

Collaborations: Analysis of three-dimensional HF wave data, theoretical considerations of Langmuir wave detection and propagation.

Ken Krebs   Physics Professor, Franklin & Marshall College
✉ ken.krebs@fandm.edu   📞 1.717.291.4283 (office)

Collaborations: Synthesis of sol-gel alumina thin-films, laser CNC system development for controlled film densification, spectral analysis of results.