

LACC STEM Pathways: Faculty Mentors

Chemistry

Professor Yanwei Cai (caiy@lacitycollege.edu):

My interests are in synthesizing, purifying, characterizing supramolecular organic compounds and analyzing the binding behaviors of the compounds to mimic biological processes. I would like to engage students in hands-on chemistry research projects or other chemistry related researches through cooperating with CSULA and UCLA research groups. I would plan field trips to UC or CSU campuses so that students can visit research teams and scholar programs. I also like to guide students in attending bio-chemistry and chemistry seminars at CSULA to broaden their interest in bio-chemistry and chemistry fields.

Availability: Fridays 9:30 am – 4:00 pm

Computer Science

Professor Mohamad Pashazadeh (pashazmb@lacitycollege.edu):

My areas of interest are in computer science, statistics and data science. I would like to help students develop mathematical model building skills for data mining projects. I will work with students to write computer programs which extract information from a database. I also like to engage students in undergraduate research activities by having them to work and compare different software packages available in data mining.

Prof. Munir Samplewala: (samplewm@lacitycollege.edu)

My interests are in :

(a) Computer Science -

- Artificial Intelligence (AI) as in Deep Learning/Machine Learning.
- Block chain technology upon which Cryptocurrency (such as BitCoin, Ethereum) is based.
- Quantum Computing.

(b) Modern Physics -

- Theory of Relativity example of twin paradox.
- Quantum Mechanics -
- Einstein's reservations about it (God does not play dice).

- Action at a distance - EPR experiments and Bell's Theorem.
- Properties of Helium near absolute zero etc.

(c) Mathematics -

- Four color theorem.
- Prime numbers and their application to cryptography and their distribution
- I can meet with the students on Fridays from 2:00 pm to 4:00 pm.

Geography

Professor: Michael Farrell (farrelmj@lacitycollege.edu)

As a Physical Geographer with broad science training, I enjoy investigating how fundamental sciences interact in natural landscapes. Utilizing Gold Creek, a district-owned 250-acre ecological reserve in the San Gabriel Mountains, I plan to use 2-3 Fridays per semester to undertake fieldwork. Significant results will be synthesized in scientific journal article format, with an option to present findings at an annual meeting of the California Geographical Society. Several Mon-Thurs afternoons (times can be flexible) will be utilized as needed to inspect scientific equipment prior to fieldwork, or to use Geographic Information Systems or other computer software to visualize results.

Life Sciences

Professor Martin Garcia (garciamj@lacitycollege.edu):

My interests are in Genetic engineering, Life Sciences, and guide them towards medical school. I would provide professional guidance and coach students develop their scientific vocabulary and skills through hands-on lab experiments following the scientific method and/or scientific instrumentation. I will also enrich their understanding of critical thinking to engage students in undergraduate research activities by organizing tours of research labs and guiding students to participate in conference presentations.

Availability: Thursdays from 10:00 am to 11:00 am and Fridays from 08:00 am to 10:00 am.

Professor Sean Phommasaysy (phommas@lacitycollege.edu)

I have an interests in all Biological disciplines, but particularly in the subject of Microbiology, Botany, Zoology, and Medicine. I would like to help prepare students for careers in medicine (Physician Assistant and Medical Doctor) as well as careers in field biological research and laboratory research. I would like to offer workshops and presentations on topics that are directly useful to students including: How to Write an Effective Personal Statement Letter, Careers in the Biological Sciences, and Medical School 101.

Professor Adam Welday (weldaya@lacitycollege.edu)

I started as a community college student, transferred to UC Berkeley to major in molecular and cell biology and then received my Ph.D. in neuroscience from UCLA. I am interested in brain and behavior, learning and memory, philosophy of mind as well as computational modeling of biological systems. Knowing firsthand the difficulties of trying to figure out the correct steps to take at each academic stage, I am excited to help new students discover the academic trajectory best suited to their interests and career goals. More than just wanting to help students build a better transfer application, I want to help students develop as independent thinkers with a broad range of academic and intellectual interests through participating in local field trips and attending various local events. I am also specifically interested in helping students find research opportunities at local campuses including UCLA, USC, CSULA and CSUN by arranging campus and lab tours.

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My availability would be Tues and Thurs 5-6:30pm, however, I can be available for a range of hours from around 12-6:30 Tues and/or Thurs if it works out having earlier hours would be better.

Mathematics

Professor Roger Wolf (wolfrw@lacitycollege.edu)

- Elegant (Simple and Obvious) proofs of Mathematical Theorems
- Physical demonstrators of Mathematical Theorems e.g.
 - Brachistochrone Demonstrator
 - Normal Distribution Demonstrator
 - Golden Ratio in the Pentagon
 - Volume Theorems with blocks
 - Dandelin's Spheres
- Visual Manipulatives on computer monitor
 - Changing graphs by varying parameters in an equation
 - Fractals
- Applications of Linear Algebra Theorems
- Graduate work was done in Stochastic Processes (decades ago)

Professor Megan (Mojgan) Khatoonabadi (khatoom@lacitycollege.edu):

My interests are in mathematics and statistics. I would like to help students understand and realize the importance of mathematics in STEM field. As a mentor, my specific proposal is to identify students for research programs. I would help and prepare them for critical thinking by assigning interesting research questions to showcase and have them present their summer research at an appropriate venue. I will provide them with an outlook and overview of what they should expect in their future major and guide them in taking courses that would make them successful in their field in a four-year institution.

I will also have the opportunity to make the connection between faculty members at California State University, Fullerton (CSUF) and LACC for our students to attend a summer research program in statistics at CSUF. I believe that this research program would be very successful if students are targeted and mentored prior to attending the program.

I am available Mondays and Wednesdays 9:15- 10:15 a.m.

Monday - Thursday 7:00 - 8 :00 a.m.

Professor Naeemah Payne (PayneN@lacitycollege.edu)

My background is in Applied Mathematics (BS/MS). I would like to work with students who are pursuing a degree in Mathematics and Computer Science. I would like to provide students with resources that will benefit their success obtaining their degree when they transfer. I also, would like to take students to activities such as seminars, museums, and conferences that are related to their disciplines.

My availability to meet with students are Monday/Wednesday 2:00 pm to 3:00 pm or Tuesday/Thursday 1:00 pm to 2:00 pm.

Physics

Dr. Derrick Kiley (kileydt@lacitycollege.edu)

I'm very interested in different branches of physics, but specifically the areas of gravitational and quantum physics. I've published research papers on black holes, extra dimensions, and field theory, and I've also conducted research on cosmological inflation (which is my main focus these days). Gravitational physics is entering a golden age with discoveries like the detection of gravitational waves, and there are many fascinating areas to investigate. Among other things, I hope to provide students with research opportunities in different areas of physics, but also help them to learn research methods (such as how to write a paper using LaTeX, or how to give research talks, for example).