

How to Know When You Don't Know

New OLLI class at LLC traces evolution of knowledge and thought

By Franette Armstrong



From left: Didier de Fontaine, Ph.D., and Yan Linhart, Ph.D., teaching for OLLI

What does it mean that earth is not the center of the universe? That our universe is 14 billion years old? That the environment and its inhabitants are constantly changing? Why should we care?

According to Didier de Fontaine, professor emeritus in materials sciences at UC Berkeley, "90 percent of what the average person knows about any field of science is pure rubbish," and that, he says, is dangerous. "It leads to big mistakes we can't afford to make. None of us can know everything but we can know what makes sense and what doesn't. We can know how to find out and we can know what questions to ask."

In his new UC Berkeley Osher Lifelong Learning Institute course, "Scientific Revolution and Evolution," beginning Jan. 26 at Lafayette Library and Learning Center, participants examine the changing thinking in fields as far-flung as cosmology and evolutionary biology with the goal of understanding how any of it relates to problems facing human survival.

"What do new technologies like gene splicing mean to the individual? To society? To the human race?" Dr. de Fontaine asks. "And does knowing about it matter?"

In the class, co-taught with Yan Linhart, professor emeritus in biology at the University of Colorado, the simple processes of evolution of knowledge as well as species are examined to see their complicated consequences.

Dr. de Fontaine was born in

the Belgian embassy in Cairo and didn't go to school until he was 9, when he and his father came to Washington, D.C. Before that he was home-schooled, which gave him the freedom to explore his early bent toward science.

After returning to Belgium for high school, college and a master's degree in engineering, he realized he didn't enjoy engineering and wanted to do research. "I was never interested in building the better mousetrap," he said. "I was a theoretician, not an inventor. I believe if you know more, you can do more and understand more, which eventually might

lead to better mousetraps.

"A friend said, 'Come to the Congo. We need a metallurgy professor,' and off my wife and I went." There he learned of a position at Northwestern University in the brand-new field of materials science. "They replied to my letter with 'When can you start,'" and that gave him his Ph.D. and a 30-year career that spanned Bell Labs, Lawrence Berkeley Lab and teaching positions at UCLA and then UC Berkeley.

After he retired from teaching at UC Berkeley, de Fontaine found himself attending astronomy seminars "just for fun," and his OLLI lectures grew out of that fascination. He met Linhart at a French Club dinner in Berkeley and convinced him to collaborate. This will be their second OLLI course.

In addition to teaching, de Fontaine is writing a book on thermodynamics. He travels to Belgium each year to visit family and attend the Queen Elisabeth competition in classical music.

New OLLI Classes in Lafayette

Four new six-week courses from UC Berkeley's Osher Lifelong Learning Institute begin Jan. 26 at Lafayette Library and Learning Center. There will be a free Info Session with faculty from 3 to 4:30 p.m. Thursday, Jan. 7 in the Library's Community Room.

Short Stories of Franz Kafka analyzes and interprets the horrific and comic short stories of Franz Kafka, one of the most enigmatic writers of his time. Taught by poet and UC Berkeley professor John Campion. Tuesdays from 10 a.m. to noon.

Scientific Revolution and Evolution explores the revolutionary nature of what we know today using examples from astronomy (the notion of the multiverse), anthropology (human evolution), and evolutionary biology. Co-taught by professors Yan Linhart and Didier de Fontaine. Tuesdays from 1 to 3 p.m.

How the Brain Works and When It Doesn't, Part 2 describes how nerve cells and neural networks affect both normal and diseased brain function and how new technologies are improving our understanding. No prerequisite. Taught by Peter Ralston, professor emeritus in anatomy at UCSF. Thursdays from 10 a.m. to noon.

Italy and Ideas looks at great literary works from Syracuse, Florence, Ferrara, Venice, Milan, and Naples to understand their rich history and heritage as well as the cultural formation of individual Italians. Taught by author, playwright and professor Beverly Allen. Thursdays from 1:15 to 3:45 p.m.

For more information, visit olli.berkeley.edu or call (510) 642-9934.

Student Loans That Make Sense

By Elizabeth LaScala, PhD

Student loans are often viewed negatively because they are associated with the rising cost of higher education. Yet many students could not go to college without the help of a loan. If you choose and use a loan judiciously, it can build a sound credit history, add value to your life now and help you prepare for your future. It is common for many families who have the ability to pay full college costs to include a loan in their plan to fund college so the student can be a stakeholder in his or her own education. Other families do so to relieve the strain of high tuition payments, even if they do not qualify for need-based financial aid.

Federally-funded student loans come in two forms: Direct Subsidized Loans and Direct Unsubsidized Loans. Direct Subsidized Loans are available only to undergraduate students with "demonstrated financial need." Direct Unsubsidized Loans are available to all undergraduate students, regardless of need. With Direct Subsidized Loans, the federal government pays the interest while a student is in school. With Direct Unsubsidized Loans students and parents must pay the interest while the student is in school.

According to the U.S Department of Education, dependent undergraduate students and their families may not borrow more than \$31,000 in total in Direct Subsidized and Direct Unsubsidized Loans as they pursue their degree. No more than \$23,000 of this amount may be in Direct Subsidized Loans.

The interest rate on the Direct Student Loan Program is fixed for the

current year at 4.29 percent. Student loan interest rates are tied to the 10-year Treasury bill and are expected to rise in future years. A handy tool to estimate the annual salary one needs to pay back a specific amount of loan can be found at <http://www.finaid.org/calculators/loanpayments.phtml>. For example, if a student accrued a debt of \$27,000, he or she would have to earn just over \$33,000 annually to make a monthly payment of about \$280 over a 10-year time span.

The Department of Education provides very clear guidelines to the affordability of college and reasonable levels of college debt at <https://studentaid.ed.gov/sa/types/loans/subsidized-unsubsidized%20-%20subsidized-vs-unsubsidized>.



Elizabeth LaScala, Ph.D. is an independent college advisor who draws upon 25 years of higher education experience to help guide and support the college admissions process for students and their families. Dr. LaScala is a member of NACAC, WACAC and HECA. She can be contacted at (925) 891-4491 or elizabeth@doingcollege.com. Visit www.doingcollege.com for more information about her services.

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