Teachers As Scholars

2012-2013
Seminar Offerings
Swarthmore College
What is Teachers As Scholars?

Teachers As Scholars (TAS) offers K-12 teachers the opportunity to participate in small two-day seminars at Swarthmore College, led by leading researchers and professors. Teachers are released from their regular duties to immerse themselves in the study of new ideas and current research. Any K-12 teacher may apply for a seminar and teachers are encouraged to explore topics outside of their areas of expertise.

During the 2012-2013 school year, three classes will be offered. Teachers may sign-up for one seminar (which will meet twice) from 9:00-3:00 at Swarthmore College. Participants are provided with readings and resources in advance of the first seminar, as well as substitute coverage for their classes. There is no cost for teachers as the program is funded by the participating districts and a grant from the Woodrow Wilson Foundation. Teachers earn Act 48 credits, but Swarthmore College does not grant academic credit. Each seminar has 16 spots, which are divided between Wallingford-Swarthmore and Rose Tree Media teachers.

TAS is driven by two beliefs. K-12 teachers are inherently interested in ideas and their transforming potential. Providing time for teachers to reflect with their colleagues and an experienced scholar on serious, thoughtful ideas and scholarship in the field is critical for a teacher’s sense of renewal.

The primary objective of TAS is to provide teachers with the opportunity to explore compelling ideas and to engage in scholarly pursuits with colleagues. By being students again, teachers also develop a better understanding of how their students learn. In addition, TAS hopes that all participants will develop innovative ideas for collaborating and partnering with each other and with Swarthmore College.

Past Participants Say . . .

“It rejuvenates you. It reminds you to be a lifelong learner. It inspires you to keep growing as a person and as an educator.”

“I loved being able to connect with other teachers from different buildings.”

“It was the best professional development experience I have had in 24 years. My brain is happy.”
Fossils provide our best direct evidence of ancient life forms and ecosystems. However, the fossil record is subject to numerous biases that can give rise to misleading conclusions. How then do paleontologists learn about the history of life on earth?

In this course, we will explore the fossil record and what it tells us about the history and evolution of life. The goals will be for participants to learn the fundamentals of paleontology and the fossil record, and then explore several areas of current research. For the first goal, we’ll meet the major groups that make up the fossil record (arthropods and mollusks and echinoderms, oh my!) and the major divisions of the geologic time scale, as well as reviewing the principles of natural selection and evolution. The focus will be on marine invertebrates (e.g., trilobites, brachiopods, etc.), which typically have the most complete fossil record — these groups are the "model organisms" of paleontology, akin to the fruit fly or lab mouse in biology. We’ll also explore other groups, including (of course) dinosaurs.

For the second goal, we will examine the primary literature and see what questions paleontologists are currently trying to answer. For instance, does evolutionary change generally occur gradually or in short bursts (the debate over "punctuated equilibria")? Or, what factors make some species more likely to go extinct and others more likely to survive? And are these factors the same for mass extinctions as for "regular" extinctions? Or, how many more kinds of dinosaurs remain to be discovered? Have we discovered most of them yet, or are there many more waiting to be dug up? How can we tell?

Much current research in paleontology has become predominantly quantitative rather than purely descriptive, so we will also learn about how statistics and mathematics are used to draw conclusions. No background in paleontology, biology, or statistics is assumed. The course will include a combination of lectures, group work, presentations by participants, discussion of research articles, and (tentatively) interviewing paleontologists via Skype.

Steve Wang is an Associate Professor of Statistics at Swarthmore College, where he teaches courses in statistics, probability, data visualization, and quantitative paleontology.

His research involves developing statistical methods for answering questions in paleontology and evolution, particularly the timing of mass extinctions. His current projects include investigating the evolutionary effects of the end-Permian extinction and the tempo of the Cambrian explosion.

He is also interested in sabermetrics, the use of statistics in baseball research, and his analysis of baseball managerial strategies was featured in the New York Times and the Philadelphia Inquirer.

He received his B.S. from Cornell University and his M.S. and Ph.D. from the University of Chicago. He has also taught at Stanford University, Harvard University, and Williams College. He was awarded the 2008 Waller Education Award by the American Statistical Association for innovation in elementary statistics instruction.
Poetry and Music

Spring 2013

We'll read, listen to, and discuss poetry set to music, with examples drawn from American poets and composers from the early twentieth century to the present. No formal training in poetry or music is required---just curious ears and an open mind.

We'll begin with famous works from early twentieth century musical theater (like the Gershwins, Cole Porter, and Jerome Kern/Dorothy Fields). Great lyrics, which could stand on their own as poetry, become doubly interesting when paired with music. We will also examine examples of poetry in the great blues songs by the men and women from this era (including Billie Holiday).

Next, we’ll survey memorable examples of country, R&B, and rock songs from the 1950s-1970s. We’ll end with a few examples of rap at its best (Eminem, Lauryn Hill) and inventive contemporary music theater (Stephen Sondheim and Lin-Manuel Miranda, both Tony winners for Best Broadway Musical). Following in the tradition of Cole Porter, who wrote both the music and lyrics himself, Miranda’s musical In the Heights bridges Gershwin and Porter with contemporary modes, including witty rap mixing English and a little Spanish. Miranda’s wonderfully melodic songs also pay homage to Cuban and Puerto Rican/Dominican traditions and American jazz.

The seminar will provide online resources and videos of performances to enhance appreciation and understanding of the songs. Participants can expect an overview of general poetic and musical terms, as well as introductory remarks for each segment of class discussion. As a final activity, participants will also be encouraged to share and discuss their own favorite examples of poetry paired with music.

Peter Schmidt is the William R. Kenan, Jr., Professor of English Literature at Swarthmore College. He teaches courses in U.S. literature and literary history, with a particular focus on fiction and poetry in the twentieth century. He has a book on William Carlos Williams’ poetry and experimental prose, one on Eudora Welty's short fiction, and an anthology co-edited with Amrjit Singh entitled Postcolonial Theory and the U.S.: Race, Ethnicity, and Literature. His most recent book is Sitting in Darkness: New South Fiction, Education, and the Rise of Jim Crow Colonialism, 1865-1920. It looks at authors who critiqued the post-Reconstruction U.S. racial order that emerged at the same time as the U.S. began ambitious new colonial development projects in its newly acquired colonies. The authors considered include Twain, Du Bois, Cable, Harper, Dixon, and many other authors from that era who should be better known, including Griggs, Ingraham, McClellan, Wister, W. H. Page, and Tolentino.

Professor Schmidt’s new research projects focus on contemporary fiction and poetry (1980s and after) and their implications for reconsidering the history of family, nation, and cosmopolitanism.
Great advances have been made in recent years in understanding how we make decisions—about saving, our health, and a range of other topics—and why we so often make decisions that are inconsistent with what we say we want to do. We say we want to save for retirement yet take our tax refunds and spend the money on a vacation; we say we want to exercise more but watch a movie rather than going for a walk on a beautiful spring day. The field of behavioral economics combines insights from economics and psychology to understand why we make decision errors. Inattentiveness, procrastination, and a long list of heuristics and biases have been shown to offer explanations for why we do what we do, even when we say we won’t.

The field doesn’t stop at identifying the problems; there is a great deal of research effort going into understanding how to overcome these errors. Researchers are exploring the ways in which even relatively small changes in the environment or in incentives can call forth big changes in behavior: Putting healthy food at eye level can shape the choices schoolchildren make in cafeterias; making savings a default option when choosing employee benefits at a new job can generate big increases in retirement savings; and offering a chance at a lottery to patients who complete their medication regimens can cause a big improvement in treatment adherence. All of these behavioral changes have been documented through laboratory and field experiments that test whether changing the context in which decisions are made can help us all engage in the behaviors that are in our best interest.

This field is getting a great deal of attention both in the academic community but also in the popular press and through books such as *Nudge, Predictably Irrational,* and *Thinking Fast and Slow.* Part of what is so appealing is that it is really about the very fundamentals of how we think. We can use its insights to make changes in our own lives and in the lives of our families and students.

This seminar will explore these issues through a combination of reading and in-class experiments. We will focus on decision errors related to financial behavior and health behavior but will also explore other areas in which behavioral economics can shed light on how to help change behavior. These topics include recycling, voting, and childrearing.

**Ellen Magenheim** is Professor of Economics at Swarthmore College. She teaches courses in microeconomic theory, health economics, behavioral economics, and industrial organization. Her current research focuses on applying insights from behavioral economics to improve outcomes in health, nutrition, and financial behavior. In this research, she employs field and laboratory experiments. She is also conducting research on the relationship between health care worker density and treatment for cardiovascular disease in a global context. Her earlier research explored economic and policy issues in the child care industry and the motivations for and effects of corporate mergers. Professor Magenheim, who earned her Ph.D. from the University of Maryland, has served as a visiting scholar at Child Trends, Inc., in Washington, DC.
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