Quantum Mechanics is Weird  
Peter Lewis, Professor of Philosophy  
Richard Feynman famously claimed that nobody understands quantum mechanics. It’s not that the math is hard: unlike, say, general relativity, the theory itself is pretty straightforward. Rather, the quantum world is weird, and we (still!) have no idea how to conceptualize it. We will look at some central instances of quantum weirdness and also think about ways the world might accommodate that weirdness, including the possibility that there are many parallel universes and the possibility that the future influences the past.

Follow the BLUE balloons—Location: Carpenter Hall, Room 013

How Great Authors Really Worked: Understanding 19th-Century Writers’ Notebooks as Creative Tools  
Petra McGillen, Assistant Professor of German Studies  
The Romantics promoted the image of the writer as original genius: they claimed that literary creativity is essentially a question of inspiration. We will confront this myth by examining writers’ notebooks from the 18th and 19th centuries, cracking open the black box and figuring out what really drove inventive minds. With an approach that combines methods of material media analysis and literary studies, we will read notebooks as creative tools and explore how they enabled writers to think on paper. Case studies will include the literary ‘lab notes’ of the physicist/writer G. Ch. Lichtenberg, the working notes of Charles Dickens, and the doodles of Fyodor Dostoevsky. We will conclude by discussing what we can take away from these historical sample cases for our own note-taking practices in the college classroom and beyond.

Follow the WHITE balloons—Location: Wilder Hall, Room 111

Staging Antigone: Theater and Human Rights  
Laura Edmondson, Associate Professor of Theater and Department Chair  
In Sophocles’ startling play, Antigone answers the ethical call to bury her brother’s body and is buried alive by an authoritarian state as punishment. We’ll explore how this ancient Greek tragedy about civil disobedience and the aftermath of war has been reimagined in the context of Peruvian civil war, South African apartheid, the Syrian refugee crisis, and Black Lives Matter. The richness of its dramatic structure enables audiences across the globe to see themselves in Antigone and draw inspiration from her timeless struggle against injustice. No need to have read the play in advance—just come to enjoy the conversation!

Follow the YELLOW balloons—Steele Hall, Room 006

Underground Astronauts and the Search for Fossils of Human Ancestors in South Africa  
Jeremy DeSilva, Associate Professor of Anthropology  
In November 2013, six women scientists squeezed through the twisting passages of Rising Star cave, South Africa, descended to a depth of 100 feet, and there excavated over 1,500 fossils from a previously unknown human ancestor. This unprecedented collection of ancient human bones—the largest ever discovered on the continent of Africa—represents at least 15 individuals from a new species of early human named Homo naledi. Professor Jeremy DeSilva is a member of the study team and will present what we know about these fossils, how Dartmouth students have been involved, and how these finds are changing not only our science, but how we define what it means to be human.

Follow the PURPLE balloons—Location: Moore Hall, Filene Auditorium

Learning Human: An Artificial Intelligence Odyssey  
Eugene Santos Jr., Professor of Engineering  
I’ve been texting with a chat bot?! Unexpected surprises keep coming up where we suddenly find ourselves face to face with AI instead of a human, and it is getting much harder to distinguish between the two. Who’s driving that car?! Or, that receptionist looks like a doll... Wait! It is a robotic doll! How do we do it? What is the basic idea behind programming an AI? We will start by exploring some simple techniques that can make seemingly smart decisions, and techniques where the machine learns what to do on its own. We will end with a general discussion on how AI can learn how we as humans do things.

Follow the RED balloons—Murdough Center, Cook Auditorium

Detecting Past Environmental and Climate Changes from Occom Pond Mud  
Meredith Kelly, Associate Professor of Earth Science  
If you want to understand how the environment and climate have changed over time, mud provides a great record. Specifically, mud deposited in lakes and bogs worldwide affords a treasure trove of information – from evidence for rapid climate changes at the end of the last ice age, to warm Arctic conditions during the current interglacial period, and landscape changes due to European settlers in New England. One special aspect of Dartmouth is the occurrence of nearby lakes and bogs formed when this area was uncovered by a large ice sheet 14,000 years ago. While most people think of Occom Pond as a pretty place to walk around or go ice skating, Dartmouth Earth Sciences classes and student research projects have obtained sediment cores from the pond and developed records of past environmental and climate conditions in Hanover. This class will explore information derived from lake and bog sediments worldwide and focus on what we know about how Hanover has changed over the past ~14,000 years.

Follow the PINK balloons—Location: Class of 1978 Life Science Center, Oopik Auditorium
The Morality of Capitalism
J. Russell Muirhead; Chair, Department of Government

The Great Depression marked the last time large numbers of people questioned the future of our economic system. Young people at that time had a fundamental choice to make between ideologies of fascism and communism, while a third alternative—one that might be called "liberalism"—stood for democracy in politics and a capitalist economy, but had been discredited by political incapacity, boom to bust economic cycles, and mass unemployment. Sixty years later, the fall of the Berlin Wall and the end of Communism made liberalism look triumphant: Francis Fukuyama called it “the end of history,” since democracy in politics and markets in the economy seemed to represent the best way to organize politics and the economy. But today, rising inequality and a growing sense that political power has been bought by wealthy interests raise questions about the formula for the “end of history.” Many young people find the promise of socialism more satisfying than capitalism. This class will explore whether or not capitalism is an ethically defensible way to organize economic life.

Location: Moore Hall, Filene Auditorium

Medical Devices: Defining Success When Surrounded By Failure
Douglas Van Citters ’99, Associate Professor of Engineering

Sometimes the financial and regulatory discussion around healthcare evolves faster and in different directions than the life changing medical devices coming to market. How can scientists and engineers prioritize the definition of “value” in medicine given the divergence of stakeholder motivations? This lecture will explore the opportunity to use failure analysis of medical devices to motivate objective “success analysis” and best practices in artificial joint design.

Location: Murdough Center, Cook Auditorium

Learning to Look – Using the Hood Museum Collection to Understand Why and How We Make Things
Jack Wilson – Senior Lecturer in Studio Art and Engineering Science

Since the beginning of human history people have made things for many compelling reasons ranging from basic survival to ceremonial and religious purposes. We will study objects from the collection of the Hood Museum of Art as the basis for a discussion of why people make things, where they originated, how they have been used, why they are of interest and what we can learn from them. We will engage in the process of serious observation and hopefully advance our capabilities of Learning to Look. We will end the class with an exercise focused on Mystery Objects, challenging ourselves to identify the origin and purpose of a selected group of objects.

Location: Hood Museum, Bernstein Center for Object Study

On the Transformative Power of Learning a New Language
Tania Convertini; Language Program Director, Departments of French and Italian

Learning a language changes the way we look at the world around us, bringing respect and understanding for other cultures, new emotions, and even happiness. This interactive class will explore the language learning experience of Pulitzer winner author Jhumpa Lahiri. After falling in love with Italian, Lahiri decided to write an entire book in Italian. She often felt inadequate and imperfect, but the result is a compelling memoir - In Other Words - that retells her love story with Italian by exploring identity, belonging, and estrangement. We will discuss what it means to feel imperfect when we speak a new language and why it is okay to abandon our beliefs and explore unknown territories.

Location: Carpenter Hall, Room 013

When Dialects Collide: A Sample of Sociolinguistics
James Stanford, Associate Professor of Linguistics

Do you say ‘soda’ or ‘pop’ or ‘coke’? Do you say ‘sneakers’ or ‘tennis shoes’ or something else? Why don’t we all speak the same? What are the major accents of North American English? Why do certain dialects sound more prestigious than others? Have you ever felt self-conscious about the way you were speaking? Why? In this lecture, we will explore one of the key defining characteristics of human society: language. We’ll show how subtle differences in words, pronunciation, and grammatical forms can distinguish social groups, express different aspects of personal and cultural identity, and affect power structures on all levels of society.

Location: Wilder Hall, Room 104

Sex, Lies, and Sperm Sorting
Ryan Calsbeek, Associate Professor of Biological Sciences

Males and females share almost all of the same genetic material, but the attributes of a high quality male are rarely the same as those of a high quality female. How does a single genome produce such varied types of individuals and how does natural selection handle the controversies that arise when traits that are beneficial to one sex are costly to the other? This genetic form of sexual conflict has led to a bizarre array of solutions in an otherwise unassuming lizard from the Caribbean. We will explore the ways that evolution has resolved this battle of the sexes.

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