

Grab a cup of coffee and a bagel and join MU scientists for *Saturday Morning Science*—a series of onehour science talks.

Don't worry, these are not typical science lectures. Expect to be entertained, to see demonstrations, to learn a lot, and—best of all—to want to come back for more. No science background is required. All ages are welcome.

Saturday Morning Science is free and open to the public. Bagels, donuts, coffee, and juice are served before the talks, so come early. Doors open at 10:00, and talks start promptly at 10:30. Seating is limited to 250.

Refreshments Sponsored By: MU Office of Research

Saturdays 10:30 a.m. – 11:30 a.m. Monsanto Auditorium Christopher S. Bond Life Sciences Center



For additional directions, visit: http://map.missouri.edu

Free visitor parking is allowed in the Virginia Avenue Parking Garage (Levels 1, 2, and 3) on the weekends. Entrance to the parking garage is off Virginia Avenue, south of the Bond Life Sciences Center.

Questions, Comments, Suggestions

satscience@missouri.edu www.physics.missouri.edu/satscience.html

Organizers Bruce McClure Wouter Montfrooij Marc Johnson

Brochure by: Melody Kroll, Pierpont Productions



Schedule At-A-Glance

- 8 Sep. What Keeps the World Green?
- 15 Sep. What Kinds of Molecules Are We Made Of? (Part 1)
- 22 Sep. What Kinds of Molecules Are We Made Of? (Part 2)
- 29 Sep. Anthrax and Bioterrorism: Overrated or Understated?
- 6 Oct. Prebiotic Chemistry in Interstellar Space?
- 13 Oct. Peering into Cells with Fluorescent Chemical Sensors
- 20 Oct. Calico Cats and Other Epigenetic Wonders
- 27 Oct. Reverse Engineering the Brain with Computers
- 3 Nov. The Periodic Table (Part I)
- 10 Nov. The Periodic Table (Part II)
- 1 Dec. Can We Use Molecular Biology to Help Cure Neurodegeneration?
- 8 Dec. Has the Universe Been Made for Us?



SCHEDULE

Saturdays 10:30 a.m. – 11:30 a.m. Monsanto Auditorium Christopher S. Bond Life Sciences Center

Slifesciences

Saturday Morning E SFALL SCHEDULE

Saturdays 10:30 a.m. - 11:30 a.m. Monsanto Auditorium **Christopher S. Bond Life Sciences Center**



8 September What Keeps the World Green?

Jack Schultz

There are more than enough pests to consume all the plants on the Earth each year. Why don't they do that? Along the way, learn why you had coffee this morning, where aspirin came from, and meet the model for the monster in the film "Aliens"



15 & 22 September What Kinds of Molecules Are We Made Of?

Bruce McClure

This series of two talks will describe how living things assemble incredibly large and diverse molecules from simple starting materials and how molecules begin to take on the characteristics of living things.



Overrated or Understated?



Anthrax is a disease that has been described since the days of Moses. Recently, we know it as an agent of bioterrorism. The disease, the bacterium that causes it, and lessons learned from the 2001 postal attacks will be discussed.



6 October Prebiotic Chemistry in **Interstellar Space?**

Rainer Glaser

A major goal of origin-of-life studies is the search for prebiotic syntheses of biologically important molecules (amino acids, carbohydrates, nucleobases). Should this search be limited to planets? Or, might chemistry in interstellar dust clouds produce and store the molecules of life?



13 October Peering into Cells with **Fluorescent Chemical** Sensors Tim Glass

Fluorescent sensors can be used to detect chemicals in living tissue. Learn how these sensors can and will be used to study many types of health issues, including diabetes, heart disease, and the formation of memories.



Calico Cats and Other **Epigenetic Wonders**

Karen Cone

20 October

Did you ever wonder why calico cats have both orange and black fur? Or why babies must inherit DNA from a mom and a dad? Or why identical twins are not really identical? Come learn how epigenetics provides the answers.



27 October **Reverse Engineering the Brain with Computers**

Dave Schulz

The brain continues to baffle us with its complexity. In this talk, hear how a new breed of scientist is using the increasing power of computers to create models of the nervous system to help us understand our most complex organ.



3 & 10 November

The Periodic Table

Wouter Montfrooij

Who discovered and named the elements? Why do some elements react in the same way? Come and see how modern physics explains the periodic table. This presentation consists of two talks.



Can We Use Molecular **Biology to Help Cure** Neurodegeneration? **Chris** Lorson

Neurodegenerative diseases can cause muscle wasting. If we understand the underlying genetic problems we can begin to design gene therapies to help.



Has the Universe Been Made for Us?

Carsten Ullrich

The existence of life seems to require an almost miraculous fine-tuning of the properties of the universe. Is this due to design or just plain luck? We'll discuss explanations involving multiple universes and string theory.