



Grab a cup of coffee and bagel and join MU scientists for **Saturday Morning Science** – a series of one-hour science talks.

Don't worry, these are not your 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, and all ages are welcome. **Saturday Morning Science** is free and open to the public.

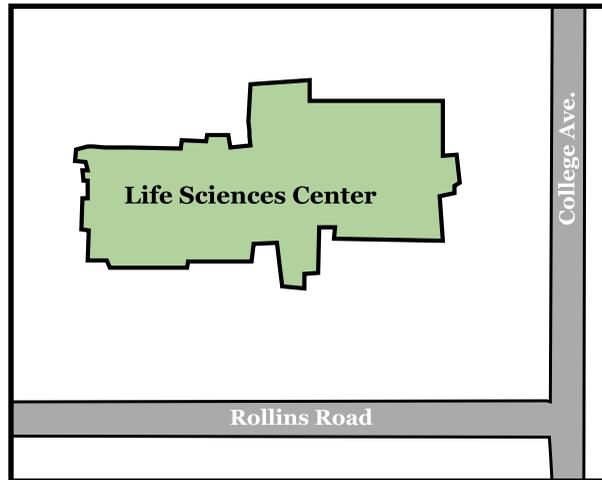
Refreshments will be served before the talks, so come early. Seating is limited to 250.

### Why TWO Talks?

Some talks are divided into two parts to give more background. The talks are not the same—come every week!

**Sponsored By:**  
Office of Research  
Physics and Astronomy Department  
Biochemistry Department  
MU Life Sciences Center

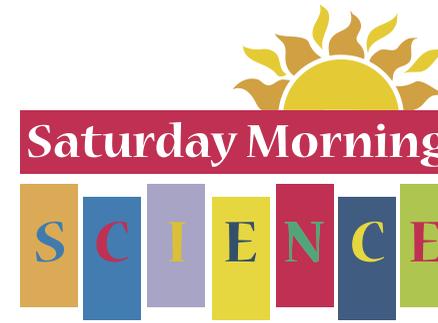
**Saturdays**  
**10:30 a.m. – 11:30 a.m.**  
**Monsanto Auditorium\***  
MU Life Sciences Center  
(corner of College Ave. and Rollins)  
*\*Talks on 8 October & 5 November  
will be in the Ellis Library Auditorium.*



For directions and parking information, visit:  
<http://map.missouri.edu>

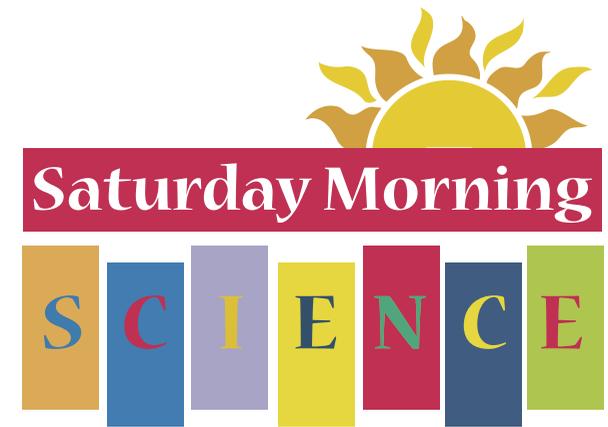
**Questions/Comments/Suggestions**  
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[www.physics.missouri.edu/satscience.html](http://www.physics.missouri.edu/satscience.html)



### Schedule At A Glance

- 10 Sep. Linking Genes and Proteins  
*(Lab demonstration follows talk)*
- 17 Sep. The “Truth” about Global Warming
- 24 Sep. Carbon Cycling in Soils
- 1 Oct. Can Plants Move?
- 8 Oct. Fuel Cells and the Future of Energy  
*(Note: Held in Ellis Auditorium)*
- 15 Oct. The Origin of Mind, Part 1
- 22 Oct. The Origin of Mind, Part 2
- 29 Oct. Ernst Mayr: The Species King, Part 1
- 5 Nov. Ernst Mayr: The Species King, Part 2  
*(Note: Held in Ellis Auditorium)*
- 12 Nov. Why Are Plants So Picky about Their Mates? Part 1
- 19 Nov. Why Are Plants So Picky about Their Mates? Part 2
- 26 Nov. Thanksgiving Break
- 3 Dec. Bioremediation by Bacteria
- 10 Dec. Muscle Regeneration



## 2005 FALL SCHEDULE

**Saturdays**  
**10:30 a.m. – 11:30 a.m.**  
**Monsanto Auditorium**  
**MU Life Sciences Center**





**24 September**  
**Carbon Cycling  
 in Soils**

*Peter Motavelli*  
 Soil and Atmospheric Sciences

How do biological cycles affect atmospheric gases? This talk will explore the biological side of global warming and explain how processes in the soil and plants around us are important.



**15 & 22 October**  
**The Origin  
 of Mind**

*David Geary*  
 Psychological Sciences

The brain is the subject of research across a variety of disciplines. Part 1 will examine how a modern synthesis of neuroscience, evolutionary biology, and psychology informs our current understanding of the mind. Part 2 examines modern research on “intelligence” and “thinking.”



**3 December**  
**Bioremediation by  
 Bacteria**

*Judy Wall*  
 Biochemistry

Bacteria live in a range of environments, including oil wells, rusty pipes, and toxic waste dumps. This talk will describe how bacteria can live in these environments, as well as some of the ways we can harness this ability to help with environmental problems.



**10 September**  
**Linking Genes  
 and Proteins**

*Shari Freyermuth*  
*Bruce McClure*  
 Biochemistry

How do we know which gene or protein is defective in a genetic disease? This talk will focus on making connections between traits like genetic diseases and the genes and proteins responsible for them. NEW for SMS: This talk will be followed by a short laboratory (limited to 24 participants).



**1 October**  
**Can Plants Move?**

*Mannie Liscum*  
 Biology

We’ve all seen sunflowers track the sun. How do they do it? Animals move away from danger and toward food. Plants have to stay put, but they can still orient themselves to optimize their access to nutrition (i.e., light, water). This talk will describe the signals and responses plants use to move.



**29 October & 5 November**  
**Ernst Mayr:  
 The Species King**

*Jim Carrel*  
 Biology

How can different species have evolved from a single ancestor? These two talks will focus on Ernst Mayr (1904-2004) and the contributions of his work to evolutionary biology. We will also examine how insights from population biology, genetics, and evolutionary theory have changed our view of how species change.



**10 December**  
**Muscle  
 Regeneration**

*Dawn Cornelison*  
 Biology

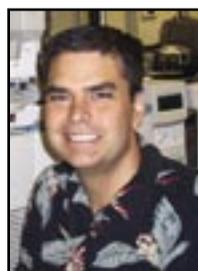
What is muscular dystrophy? What happens to dystrophic muscles? Why does the disease get worse as patients age? What kind of things are being tried to cure it? This talk will introduce the molecular defects underlying Duchenne’s muscular dystrophy and the cells and processes muscle uses to heal itself when it is diseased or damaged.



**17 September**  
**The “Truth” About  
 Global Warming**

*Steve Keller*  
 Chemistry

What is the difference between the “greenhouse effect” and “global warming”? This talk will explore how minor components of the atmosphere can lead to global temperature changes. We will also discuss the use of scientific evidence in public policy discussions.



**8 October**  
**Fuel Cells and the  
 Future of Energy**

*Galen Suppes*  
 Mechanical & Aerospace  
 Engineering

What is a fuel cell? How is it different from a battery? This talk will explain how fuel cells work and why they may play a role in future energy production.



**12 & 19 November**  
**Why Are Plants so Picky  
 about Their Mates?**

*Tim Holtsford*  
 Biology

Choosing a mate is just as important for plants as it is for animals. How plants choose their mates and what happens when they make a poor choice will be the focus Part 1 of this talk. In Part 2, we will look at how plant mating systems affect population genetics and biodiversity.

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