

# STEM Society Meeting, October 8, 2013

James Emery

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## Contents

<b>1</b>	<b>About the STEM Society and the STEM Society Website</b>	<b>1</b>
<b>2</b>	<b>The October Meeting Announcement</b>	<b>2</b>
<b>3</b>	<b>Russell Swerdlow, on mitochondrial dysfunction in neurodegenerative diseases</b>	<b>3</b>
<b>4</b>	<b>James Emery, Number Theory</b>	<b>3</b>
<b>5</b>	<b>James Emery, Periodic Functions and Wave Motion</b>	<b>3</b>
<b>6</b>	<b>Burning Man</b>	<b>4</b>

## **1 About the STEM Society and the STEM Society Website**

STEM is an abbreviation for Science, Technology, Engineering and Mathematics. The acronym STEM is commonly associated with K-12 education, but our use of the term is only slightly bound to this meaning. There are over one hundred people on the mailing list, although a much smaller group attends any one meeting. We meet on the second Tuesday of each month at the Trailside Center at 99th and Holmes in Kansas City, Missouri. The meetings are open to all. The start time is 6PM. We make presentations, have discussions, and have demonstration experiments. These relate to Science,

the History of Science, Mathematics, Engineering, Philosophy and Technology at all levels. The topics have ranged from a technical discussion of the mathematics of General Relativity to scientific experiments for young students.

These meeting notes contain links to many other documents, which may be viewed or downloaded by clicking the link. A partial list of documents can be reached by clicking the heading **Documents**. The meeting notes may also be viewed in an archive file which is in the list of documents. Most of the documents are PDF files. They may be viewed or downloaded to the computer by clicking, provided Adobe Reader is present, or another program capable of reading PDF files. There are usually more documents available at the site than are listed under "Documents" because the documents.htm file is not necessarily kept up to date.

**The web site is:**

<http://www.stem2.org/>

**Direct to the documents list:**

<http://www.stem2.org/je/documents.htm>

**Direct to the archive file:**

<http://www.stem2.org/je/archive.pdf>

**Last Months Notes:**

<http://www.stem2.org/je/stemsoc091013.pdf>

## **2 The October Meeting Announcement**

The October meeting of the STEM Society will take place on the second Tuesday of the month, October 8, 2013, at the Trailside Center at 99th and Holmes in Kansas City, Missouri. The starting time is 6PM.

A List of Possible Topics:

(1) Russell Swerdlow, M.D. of the KU Medical Center, will give a talk on his work on mitochondrial dysfunction in neurodegenerative diseases such as Parkinson's disease. A link for more information is:

<http://www.kumc.edu/school-of-medicine/neurology/faculty/russell-swerdlow-md.html>

(2) If time permits we can present one of the topics: **Number Theory**, or **Periodic Functions and Wave Motion**.

(3) As always, we expect there may be impromptu topics, projects, shows-and-tells, new theorems, experiments, book reports, problems and solutions in mathematics, physics, engineering, biology, scientific biographies, and such.

**The STEM Society Website:**

<http://www.stem2.org/>

### **3 Russell Swerdlow, on mitochondrial dysfunction in neurodegenerative diseases**

Swerdlow presented a well received talk on this topic, including a discussion of the structure of the brain, Alzheimer's disease, the mitochondria, Parkinson's disease, and a theory that Parkinson's disease is related to mitochondrial dysfunction. Stimulated by technical questions from the audience, Swerdlow's talk was somewhat technical.

For more information I refer you to Swerdlow's website.

<http://www.kumc.edu/school-of-medicine/neurology/faculty/russell-swerdlow-md.html>

### **4 James Emery, Number Theory**

See the document **Number Theory** by James Emery.

<http://www.stem2.org/je/numbertheory.pdf>

### **5 James Emery, Periodic Functions and Wave Motion**

See the document **Periodic Functions, Waves, and Traveling Waves** by James Emery.

<http://www.stem2.org/je/waves.pdf>

## 6 Burning Man

Rick Hines and Tom Grant attended the 2013 **Burning Man** event and discussed their interesting scientific adventure.

Burning Man is a week-long annual event held in the Black Rock Desert in northern Nevada, in the United States. The event begins on the last Monday in August, and ends on the first Monday in September, which coincides with the American Labor Day holiday. It takes its name from the ritual burning of a large wooden effigy, which is set alight on Saturday evening. The event is described as an experiment in community, art, and radical self-expression.