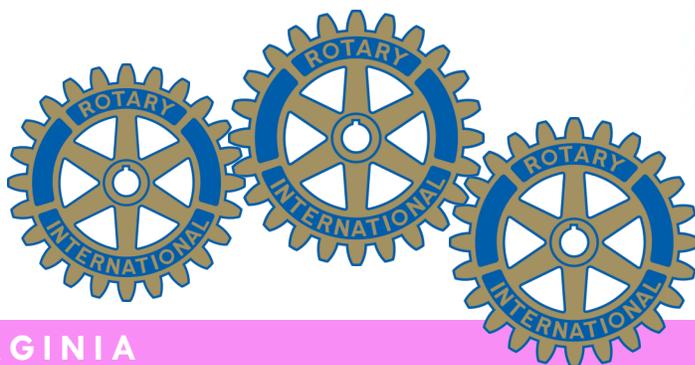


# The Hub



ROTARY CLUB OF ASHBURN, VIRGINIA

Volume 4, Issue 18

October 31, 2013



## **Louis Scheffer will discuss “SETI - Search for Extra Terrestrial Intelligence” on Thursday, October 31.**

For more than two decades Louis Scheffer has been working to improve the design of microchips, figuring out how to connect hundreds of thousands of electronic transistors in a single device. At Janelia, he is now applying similar design principles to understand another type of “wiring”—the intricate interconnections that neurons make in the brain.

Neuroscientists want to map the flow of electrical signals in the brain to understand how it turns signals from the eyes into images, for example, or instructs arms and legs to move. But these neuronal circuits are difficult to map, especially when dealing with billions of neurons as in the human brain. For each neuron, researchers have to follow its long projections—the axons and dendrites—and determine which other neurons they connect with.

An electrical engineer, Scheffer’s journey to Janelia was somewhat serendipitous. While planning a conference in Paris in 2004 that focused on interconnections in computers, one of his colleagues told him about the work of Janelia lab head Dmitri Chklovskii, who was studying interconnections in the brain. “I invited him to give a talk, and everyone thought it was really interesting,” say Scheffer. “So, I invited him to two other conferences, and then he invited me to talk at Janelia.”

Scheffer was immediately drawn to the multidisciplinary nature of Janelia. “I had never done research in biology, so the biology part of my work has been a steep learning curve. When people start talking about GAL4 and flip-out mutants, I have to stop and think,” says Scheffer. “But the software part is very similar to the software for engineering.”

His aim is to map all the neurons in the fly brain in the next five years. That may seem like an ambitious goal, but Scheffer is optimistic that it will get done. “When I started in the transistor field in 1981, it took me two years to build a chip with 15,000 transistors in it,” he explains. “By 2009, we had developed software that could help build a chip with 1 billion transistors in the same amount of time.” He is confident of seeing similar advances in researchers’ ability to map the brain’s functions.

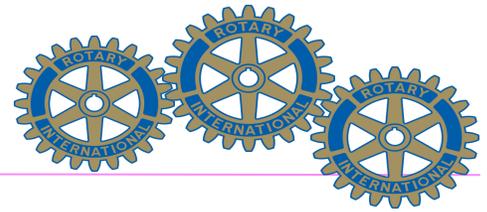
### **Agenda:**

1. Pledge of Allegiance
2. Invocation
3. Lunch
4. Introduction of Guests
5. Club Announcements
6. Guest Speaker Presentation
7. Upcoming Events
8. 50:50 Drawing/Happy Talk
9. Four-Way Test
10. Adjourn 1:15 PM
11. BOD Meeting — following Club Meeting when scheduled.

### **The Four-Way Test**

“Of the things we think say or do:

- 1) Is it the TRUTH?
- 2) Is it FAIR to all concerned?
- 3) Will it build GOODWILL and BETTER FRIENDSHIPS?
- 4) Will it be BENEFICIAL to all concerned?”



### Quote for the Week

“Since the beginning, men have been struggling upwards. The world's progress sometimes seems wondrous slow, but if slow, it is nevertheless sure. Little by little, men have prepared themselves for better conceptions of life.”

- Paul Harris

### **Rotary Global History Fellowship Rotary's Memory since Oct. 11, 2000**

***“More than history or fellowship.”***

For more information please visit:

[http://historylibrary.org/index.php?title=Main\\_Page](http://historylibrary.org/index.php?title=Main_Page)



## *Happy Birthday Jimmy Olevson—Nov. 5!*

### **The Rotary Club of Ashburn, VA Board of Directors 2013-2014**

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#### **Upcoming Meetings & Special Events**

**October 31: Lou Scheffer—“SETI - Search for Extra Terrestrial Intelligence”**

**November 7: Juliette Cho—Make a Wish Foundation**

**November 14: Dave Norman Imagine**

#### **Weekly Greeter Schedule:**

**October 31: Virginia Moore**

**November 7: Jimmy Olevson**

**November 14: Jeff Perry**

**Note: All Meetings, unless otherwise noted, will be held at the 1757 Golf Club from 12:00 to 1:15 PM.**