



SENIOR SCIENCE SOCIETY NEWSLETTER

Volume 4, No. 3
May 2016

Dr. Mark Chachich
Towson University

16 May 2016, 7:00 P.M.
HCC Chesapeake Center
Dining Hall South



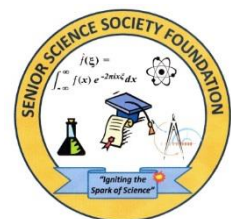
The next General Membership Meeting of the Senior Science Society will be on Monday 16 May 2016 in the Chesapeake Center - Dining Hall South on the Harford Community College campus beginning at 7:00 PM. After some pre-meeting networking, there will be a short business meeting, followed by our guest speaker. All members, spouses, potential members, and students are invited.

Our speaker will be Dr. Mark Chachich, currently Clinical Professor and Director of the Psychology Program at Towson University Northeastern Maryland. His presentation will be on “Calorie restriction and neuropathology - effects on Alzheimers’s disease (and I forget what else)”. He will be discussing how calorie restrictions seem to attenuate amyloid deposition and what that means for age-related brain impairment. For a bunch of SENIOR scientists, this should be a particularly relevant presentation.

SSS ACTIVITY CALENDAR – SPRING 2016

(Check out the full SSS calendar of events at www.seniorsciencesociety.org)

| Date/Time | Location | Activity | Point(s) of Contact |
|----------------|--------------------------|-----------------------------------|----------------------------|
| May 10, 9:00 a | Edgewood Elem School | Module Demo: “Fun with Triangles“ | Robbins & Horst |
| | | Module Demo: “Sweet Sounds“ | Rob Lieb |
| May 17, 9:00 a | Bel Air Elem School | Module Demo: “Twisted Machines“ | Bruce Burns |
| May 19, 6:00 p | Riverside Elem School | Table demonstrations | Horst, Plostins & Schwanke |
| May 19, 6:00 p | Forest Hill Elem. School | Module Demo: “States of Matter “ | Rob Lieb |



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A primary focus of the Senior Science Society has been and remains our outreach to elementary and middle school students, using our “in-house created, interactive” STEM modules that are tailored to each audience. Our Society, which has grown from 13 founding members to almost 30 members, has completed over 10,000 contact hours of STEM educational programs in Harford County during the last three years. These modules present the information in a fun and memorable way that helps the student, teacher and parent become more engaged in STEM topics.

While the success of our STEM modules is certainly good news, there is also some bad news - we are getting older! We recognize that we must use innovative approaches to counter the time constraints and physical limitations of our members. One idea that the Foundation is pursuing is to capture our teaching modules as video presentations, with allied instructional materials. Each three-part video will consist of:

- 1) a demonstration of the module by the SSS instructor, with part of the demo taken during an actual classroom presentation;
- 2) an instructional video of the science behind the demo for the teacher or parent to better understand the main teaching points, and;
- 3) a section showing the student, teacher and parent how to construct a low-cost apparatus to conduct their own experiments.

Rob Lieb’s module “States of Matter” was selected as the test case for this endeavor. The “beta video” is proceeding slowly, but hopefully the draft first section will be available for review next month.

The Senior Science Society (SSS) and the Foundation (SSSF) share the same overall purpose. The formation of the SSSF enables us ...

- 1) to provide scientific educational scholarships and training external to the Harford Community College environment; and
- 2) as a qualified 501(c)(3) charitable organization, to seek charitable (tax-deductible) financial contributions from members, corporations, service organizations, Harford County residents, etc., to support this expanded outreach.

We welcome your ideas, constructive comments and tax-deductible donations!

Visit us at www.SSSFfoundationinc.org.

Susan Luckan, President
Senior Science Society Foundation



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SSS member honored by the Department of Defense

Bruce Amrein led the team publishing the Design Criteria Standard for Noise Limits

In a Pentagon ceremony on 16 March 2016, Bruce Amrein and four other members of a tri-service team* were recognized for publishing an updated version of Military Standard 1474E (MIL-STD-1474E). The standard addressed the best available research on the effect of noise on humans and the current state of the art methods for measuring such noise. Many SSS members have long realized that noise conditions in military environments differ significantly from the typical industrial or occupational setting. Thus any MIL-STD would have to provide design guidance in the systems safety sense, specify the measurement and data acquisition methods, determine acceptable modeling and analysis techniques, as well as minimize individual hearing damage. MIL-STD-1474E does all these things. Naturally, the hope for the future is that the Veterans Administration will begin seeing reduced numbers of hearing loss claims as a result of this MIL-STD.

During this writer's federal career, it was nearly impossible to get just a half dozen major tenant organizations on Aberdeen Proving Ground to agree with the garrison on but a single safety/health/environment procedure. For example, the update for hazardous waste disposal operations (which were already fairly locked in by Environmental Protection Agency and state regulations) took over a decade. So just how Bruce managed to get the Army to agree with itself - much less have the Navy and Air Force representatives agree - is an incredible accomplishment. As the extra bonus, MIL-STD-1474E has the good technical detail needed to advance the science and engineering.

* The team members were Bruce Amrein (Team Lead, Army Research Laboratory), Charles Jokel (Army Public Health Center), John Malino (Naval Sea Systems Command), Richard McKinley (Air Force Research Laboratory), and Kurt Yankaskas (Office of Naval Research).

Bruce E. Amrein, Chair of the Military Standard 1474E Working Group, receiving the Department of Defense Standardization Program Achievement Award for Excellence from Ms. Kristen J. Baldwin, Defense Standardization Executive and Acting Deputy Secretary of Defense for Systems Engineering.



U.S. Army Photo



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HCC's Destination Imagination Team Moving On!

On Saturday, March 5, at the Regional Tournament of Destination Imagination, the HCC middle school and high school teams took first place in the technical challenge - Pace of Change, requiring the construction of a vehicle to be ridden by a team member with two propulsion systems. SSS participated in this event by providing two technical mentors (Rob Lieb and Ed Davidson) to both teams. The teams were energetic, well-organized, and efficient in their actions. They overcame issues of floor style changes, and equipment challenges. In the face of these problems, the team always modified their attempts, and continued in support of the objectives. Both teams earned first place in this tournament!

In the April 9 competition at UMBC, the middle school team took third place in the Maryland State Tournament. The high school team took fifth place. The teams also created and presented two Team Choice Elements that represented the team's interests, skills, areas of strength, and talents. Because of their third place finish, the middle school team will now compete on the global level May 25 - 29 at the University of Tennessee in Knoxville.

Laura Drake is the manager for the HCC high school team and served as co-director of the tournament. Leah Carter is the team manager for the HCC middle school team. Congratulations to the team members and to Laura Drake, who worked so diligently on their challenges!



HCC's Destination Imagination middle school team (left) and high school team (right)



Middle school team in action at HCC