DSLS Celebrates 25th Anniversary


Founded in 1983 as the Division of Space Biomedicine, its mission was “to promote interaction between the NASA Johnson Space Center and the international community of researchers in universities and medical schools”.

Former Director Harrison Schmitt, Ph.D., a distinguished geologist, former US Senator from Mexico, and the last astronaut to walk on the moon, and the division’s second director, Alfred C. Coats, M.D. joined current Director Adrian D. LeBlanc, Ph.D. and USRA President Fred Tarantino, Ph.D. in welcoming members of the NASA Johnson Space Center life sciences and local and national scientific communities, as well as current and former employees. The attendees recalled the “life sciences contributions” over the last 25 years of Space Shuttle and NASA Mir flights, the construction and occupation of the International Space Station as an orbiting laboratory, and the promise of the exploration flights to come within the next decade.

Though its current functions and organization resemble the 1983 organization, today’s Division of Space Life Sciences is five times larger—and thus even better equipped to support NASA life sciences with a robust scientist program, an extramural support program, and an education program.

Kay Nute
See Page 6 for more pictures from the celebration.
New Scientists Join the DSLS Team

Dr. James Fiedler joined DSLS in September. James earned his PhD in Mathematics from Iowa State University and was an NSBRI Intern at JSC prior to coming to DSLS. Working as a biostatistician under the guidance of Dr. Al Feiveson in Building 37, James can be reached at 281-244-7444 or at james.fiedler-1@nasa.gov.

Drs. Lori and Rob Ploutz-Snyder joined DSLS in September. Lori earned her PhD in Physiology from Ohio University in 1994 and came to USRA from a faculty position as Professor and Chair of Exercise Science at Syracuse University. She serves as the lab manager for exercise physiology and countermeasure development and can be reached at 281-244-1122 or at lori.ploutz-snyder-1@nasa.gov.

Rob earned his PhD in Experimental Psychology from Ohio University in 1998, with extensive training in Experimental Methods and Statistics. He came to USRA from an Associate Professor Faculty/Biostatistician appointment in the College of Medicine at the State University of New York Upstate Medical University. Rob serves as Biostatistician in the Biostatistics Lab and can be reached at 281-483-6296 or at robert.ploutz-snyder-1@nasa.gov.

In October, Dr. Patrice Yarbough joined the DSLS team. She earned a PhD in Biochemistry from the University of Houston. After an NIH Post-Doctoral fellowship, she held positions in research and research administration at biotech companies Genelabs Technologies Inc. and Tanox, Inc. Patrice now serves as Deputy Project Scientist for the Flight Analogs Project and can be reached at 281-483-6052 or at patrice.o.yarbough@nasa.gov.

Chris Westby is the newest member of the DSLS team. Chris is a PhD candidate at the University of Colorado at Boulder, specializing in integrative vascular biology. His dissertation topic is Aging and the Endothelin System. Prior to joining USRA, Chris was a Graduate Research Assistant in the Department of Integrative Physiology at the University of Colorado at Boulder. Chris is a researcher in the JSC Cardio Lab and can be reached at 281-483-2101.

Grant Awarded


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Awards for DSLS Scientists!

Space Radiation Dosimetry Lab Manager Dr. Ramona Gaza was honored with an Appreciation Award on Oct. 30, 2008. The award recognized her on-time delivery of flight hardware, her initiatives to improve delivery times of Radiation Dosimetry reports, and her overall leadership in supervising of the lab.

Dr. Gaza joined DSLS in 2005. She graduated with a BS in Physics from the Western University of Timisoara, Romania in 1997 and completed her graduate work and acquired her PhD in Physics from Oklahoma State University.

In October, Dr. Ronita Cromwell received the NASA Hurricane Ike Recognition Award.

When some of the FAP test subjects had to be evacuated to Austin in advance of the storm, Dr. Cromwell “went above and beyond by staying in touch with the subjects and coordinating their activities despite the communication and power outages”, Dr. Joe Neigut stated in his recognition of the FAP team.

Dr. Cromwell earned her PhD at the University of Illinois at Urbana-Champaign.

Congratulations to all our award-winning scientists!

Research Grant Proposals (cont.)


Season’s Greetings
New Publications by DSLS Scientists


Abstracts and Presentations


Carra C and Cucinotta FA. The binding modes of DNA recombinase protein of the E. coli, a computational study. 8th Triennial Congress of the World Association of Theoretical and Computational Chemists (WATOC), Sydney, Australia, September 14-19, 2008. Poster.


TPOTLIGHT ON: Sara Zwart, PhD!

Dr. Sara R. Zwart joined DSLS in July 2005 as a researcher in the JSC Nutritional Biochemistry Lab. Recently, she answered a few questions for the “Spotlight On” feature.

Tell us briefly about yourself and your family.

I was born and raised in Indianapolis and attended the University of Notre Dame for my undergraduate education. I went to graduate school at the University of Florida to study Nutritional Sciences, which is about the time when I learned of the Nutritional Biochemistry Laboratory at the Johnson Space Center and knew that is where I wanted to go after finishing my degree. Upon graduation, I got married to my wonderful husband, Dan, we moved to Texas, and I started my new position at JSC all in the same month! After completing a post-doctoral fellowship through the National Research Council, I joined the USRA team in 2005 as a Research Scientist. My husband and I were happy to welcome a new addition to our family in May of this year - we have a happy, healthy baby boy!

What are you presently working on?

The lab has a few ongoing projects. We are gearing up to send supplies to Antarctica where we will supplement folks wintering over at McMurdo Station with different doses of Vitamin D. We will determine whether a weekly dose of Vitamin D can maintain Vitamin D status in an environment where there is no sunlight for 6 months. We have also teamed up with the Immunology Lab to determine whether Vitamin D status has an effect on immune function in that environment. We are also in the middle of a Vitamin D Dosing Study.

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Mentoring and Outreach

Johnny Conkin mentored Nam Le, Aerospace Medicine Clerk, for a one-month project called “Application of WinSCAT to Quantify Mild Hypoxia” that culminated in his PowerPoint presentation to NASA flight surgeons on Oct 31.

Lori Ploutz-Snyder is dissertation advisor for Syracuse University and NASA GSRP students Summer Cook and Kyle Hackney, as well as dissertation advisor for Patrick Cowley. She further serves on the dissertation committee for Ruth Franklin and is MS thesis advisor for Syracuse University student Andrew Kelleher. Lastly, she agreed to mentor Texas A&M student Brandon R. Macias for a 2009 Summer Internship.

Scott Wood mentors the Reduced Gravity Parabolic Flight Team, consisting of seven undergraduate and graduate students from USRA member universities.

Sara Zwart mentors Sarah Watts, a Texas Women’s University masters/dietetics intern.

Regina Buccello-Stout presented two workshops “Effects of Space Flight on Our Sensory Systems” to students grades 5—8 at the Sally Ride Science Festival at Rice University.

Johnny Conkin led a tour of hypobaric and hyperbaric chamber facilities for the four participants in NASA’s Aerospace Medicine Clerkship program.

Ronita Cromwell trained for the NASA Speakers Bureau.

Janice Huff reviewed a NASA SBIR Phase I grant proposal.

Jeff Ryder reviewed two NASA SBIR Phase I grant proposals and reviewed manuscripts for the Journal of Physiology and for Diabetologia.

Camille Shea reviewed four SBIR Phase I proposals for an individualized fatigue meter and two Phase 1 SBIR proposals for cohesion and behavioral health tools.

Jean Sibonga chaired four proposals under review during NIH Study Section zRG F10 H(20L). A total of 52 proposals were reviewed.

Marguerite Sognier served on the Programming Committee and recruited women speakers for the Super Sci Tech Saturday/Expanding Your Horizons Conference to be held in Feb 2009. She also planned a conference for K-12 grade Science, Technology, Engineering, and Math teachers to be held in Nov 2008 in Galveston.

Ron White continued to serve as Associate Editor for the special issues of IEEE Engineering in Medicine and Biology Society Magazine devoted to Multiscale Modeling.

Patrice Yarbough teaches a weekly Biotechnology class (BTEC 232) at the University of Houston Main Campus.
We are looking at the changes in calcium, Vitamin D, and Vitamin D metabolites in the blood (and urine) after giving one of 3 different doses of Vitamin D. We are working with the National Cancer Institute to look at changes in gene expression before and after Vitamin D supplementation as well. In addition to these vitamin D studies, we continue to collect blood and urine before, during, and after long-duration space flight on ISS to study changes in nutritional status. In late 2009, we hope to start recruiting our first subjects for an ISS study where we will test a dietary countermeasure to mitigate bone loss during long-duration space flight. We will alter the acid-base load of the diet by changing the ratio of protein to potassium and look at markers of bone metabolism before, during, and after flight.

What is really important to you regarding your work at JSC?

This is a tough question - there are many important things to me regarding my work at JSC. One of the most important is showing respect and gratitude for all of our subjects - whether they be crewmembers, bed rest subjects, study subjects, or volunteers for blood draws. We cannot do our job without their hard work and dedication to our studies. Another is to pay close attention to detail with every piece of data generated from our studies. We deal with tens of thousands of data points each year, and we go to great lengths as a team to verify that every single number is accurate and verified.

Do you have any suggestions on how DSLS could serve our customer (NASA) better?

I would say that the key to a successful team at NASA is communication, which can always be improved.

Thank you for being our Spotlight Scientist for this edition of the DSLS newsletter, Sara!

More Photos from the DSLS Anniversary Party

- Dr. Ramona Gaza and Yvonne Roed from the Space Radiation Analysis Group celebrate.
- The Radiation Team joined the party (Dr. Plante, Dr. Huff, Dr. Ponomarev, Dr. Hada, Dr. Kim, Dr. Patel & visiting scientist Dr. Elsässer).
- Terri Jones greets Dr. Jay Buckey.
- Kay welcomes Dr. Bobby Alford to the celebration.
- Dr. Marguerite Sognier meets new DSLS scientist Dr. Rob Ploutz-Snyder.
- Dr. John Charles and Dr. Jay Buckey enjoy the festive atmosphere.
Administrative Matters

A Note Regarding Deferred Holidays
Please remember that all holidays you deferred in 2008 must be taken prior to the end of the year. Please coordinate taking your deferred holiday(s) off with your TM and Dr. LeBlanc. Deferred holidays cannot be rolled over to the next year.

Coming Soon: Excel for Beginners!
As announced earlier, DSLS is beginning to provide professional development courses for all employees. Based on the results of the survey conducted in October, we are starting with an Excel class for ‘true’ beginners in January. Three sessions that build on each other will be held January 15, 20, and 27. Stay tuned for more info to come.

Mark your Calendar: DSLS New Year Social!

Come join us as we celebrate the beginning of a New Year!

Wednesday, January 14, 2009
4:30 pm—6:30 pm
USRA Great Room

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Dagmar Morgan—Editor

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