Dizzy Notes: A Message From The President

Nereyda “Dizzy” Sevilla, President – Greetings Fellow Colleagues and Friends! I hope you all had a fantastic summer. I had a quite the enjoyable summer with my first trip to Charleston, South Carolina. This is a picture of me in a replica of the CSS Hunley (c 1864). I was fascinated with its history especially from a physiological and mishap investigation point of view.

Did you know:

1. The Hunley was the first combat submarine to sink a warship,
2. TWICE the Hunley was involved in training mishaps killing the entire crew (and yet people still volunteered to serve…),
3. The Hunley sank a third time after destroying the USS Housatonic,
4. The final mishap investigation has theories that the crew either died from a physiological mishap miscalculating the amount of oxygen available or a mechanical failure after the attack that rendered the crew incapacitated or unable to prevent sinking or escape.

The tours present all the current known evidence for you to decide and I highly recommend for all Civil War fans: Do you have a fascinating historical or current human factors story to share? Please send picture and a small write up to feature in the next newsletter.

I am lucky to have enthusiastic Board of Governors and committee chairs members that I am already looking forward to Denver. I am also pleased to announce that by January 2017 we should have all our dues tied to our AsMA dues. It will be one stop shopping. No longer will you need to ask: “Have I paid my dues?”

Please consider running for our next year’s Board of Governors positions that will be under the leadership of Jaime “Squelch” Harvey. We will be looking for a President Elect, a Treasurer/Membership Chair, and a Member at Large. Please get involved. Thank you for all you do. Happy Fall, Dizzy

Connect with President Dizzy: aerophyzsociety@gmail.com

AsPS 2016-2017 Board of Governors

During the AsPS Luncheon and Business Meeting on Wednesday, 27 April, we welcomed new officers to the AsPS Board of Governors, and said goodbye to others. When you see them, please thank the following volunteers for their continued support of the AsPS:

President: Nereyda Sevilla
President Elect: Jaime Harvey
Past President: Paul Gardetto
Second Past President: Rich Folga
Treasurer/Membership Chair: Jaime Harvey
Secretary: Dana Thomas
Bibliographer: Mari Metzler
ENS Joe Gardetto, USN – As a Student Naval Aviator our first and last physiology training before Primary takes place during the last week of Aviation Preflight Indoctrination (API). The final week covers three primary topics: physiology, land survival and water survival. In addition to this “fun week,” we replace all PT during the first week and a half of API with survival swimming.

During the first two weeks of API, our class was scheduled for more time in the pool than in the classroom learning Weather and Engines combined. In short, we do a lot of training on what to do after a mishap has occurred. However the same cannot be said for preventing a physiology related mishap. The hypobaric Chamber at NAS Pensacola is onsite, but replaced with the ROBD as our only experience to recognize, and correct for, the symptoms of hypoxia.

After a very informative day of hypoxia PowerPoints we donned our helmets and masks ready to put it into practice. I watched as my overconfident friend sat down and started to fly the simulation. While his SpO2 dropped we all laughed as he forgot how to count to five. When his SpO2 dropped to 50% (and just before he became a lawn dart) the Petty Officer gave him oxygen and he woke back up, not knowing what happened, and surprisingly, not having pulled the emergency oxygen. After he was fully conscious he was ushered off and it was my turn. And just like that, his hypoxia training was complete – without ever recognizing his hypoxia symptoms or starting his emergency procedures. Unfortunately he was not alone; a large portion of my classmates never pulled the green ring and none of us had the opportunity to go again. Simply repeating this evolution a few times would have greatly increased our confidence in our ability to recognize the early symptoms of hypoxia.

Another possible training option might be to give a refresher course in the ROBD half way through Primary Flight Training. A few months into primary, we all feel at home in the cockpit, know our procedures cold and are starting to become competent pilots. However, we are also so entrenched in briefings, flights and classes, that the vast majority of my peers don’t give the possibility of a hypoxia occurrence much thought. Taking a day to train in the ROBD and be reminded of the serious potential consequences would be of great benefit for everyone in the pipeline.

The staff at survival and physiology training were professional, knowledgeable and represented a wide background within the career field. They included Naval Aviators turned Physiologists, Enlisted Aircrew, Parachute Riggers, and an Exercise physiologist.

They all brought a unique and insightful background into the classroom, making everything relatable to our upcoming T-6 training. All were great, but one Physiologist had a story that sticks out. His call sign was “FrozO” and he said at the beginning of training that if anyone wanted to know where his call sign came from to see him after class. No one needed to because it was obvious that he looked exactly like Frozo from the movie “The Incredibles.” I feel very confident that my class will all remember the blind spot of our fovea at night, be able to correct a “line over” after ejecting and never forget that hypoxia starts at 87% SpO2.

At a time when reported Physiology related incidents is at an all-time high, one might want to look at the foundation of practical hypoxia training that is being given to better prepare our aviators before they set foot in an airplane.

A special thanks to all of our physiology and survival instructors from API class 16-27!
YOU Are The Physiologist: Too Close for Comfort!

Cherie Richards, Wright-Patterson AFB, OH — It’s a “normal” training day in the altitude chamber. You are the physiologist at the training unit. Your team will be running a full initial flight for a team of pararescue personnel in the hypobaric chamber. Preflight with the students is unremarkable, and the crew is able to proceed to the chamber without deviation in initial planning. The students undergo their oxygen demonstration lab with no concerns, then are instructed that the hypobaric chamber flight will begin with an ear and sinus pressure check up to 5,000 ft, followed by a 30 min period of denitrogenation at ground level. All students are in accord with the flight plan (they give the lecturer a “thumbs up”), except for one student, who is repeatedly instructed to “stop messing with his helmet” by his neighbor, a more experienced pararescueman. The distracted students pay little attention to the instructions being given.

Q1: As an outside observer for this flight, what should you do?

A. Nothing. Let the internal observers (your enlisted technicians) deal with it.
B. Point it out on OPER to one of the IOs if not quickly handled by the internal staff.
C. Come across on COM to the distracting students to “knock it off or get off my flight.”
D. Point out the problem on OPER to one of the IOs with concern that the student messing with his helmet has a ‘hot spot’, which should be addressed.

This student is tended to by one of the inside observers, who subsequently contacts you after the ear and sinus check with the following concerns: a brief rotation of the helmet did not reveal any ‘hot spots’, the student continues to fiddle with his helmet, and now has progressed to shifting his mask restlessly. Student denies to the IO any particular tightness with the fitting, but a general unease with the equipment.

Q2: The student may be _______. What do you say to your student?

A. Feeling hot. Ask the staff to turn up the air inside the chamber.
B. Suffocating. Run through a PRICE check for asphyxia concerns.
C. Apprehensive. Tell them to calm down, after all it’s just a training simulation.
D. Apprehensive. After a PRICE check, provide assurance that equipment on the ground feels different from in the air.

The student continues to feel uneasy despite your assurances, and PRICE check does not reveal any source of restriction in in oxygen flow. The student’s antics are attracting notice from his companions, who are annoyed by his disturbance, beginning to chatter over COM themselves. Only 5 min of denitrogenation time (out of 30) have been completed.

Q3: A decision needs to be made quickly about this student! What should you do, APO?

A. Kick him out! He is interrupting valuable classroom experience. I can figure out what’s wrong with him better when he’s outside of the chamber.
B. Work with him a little more. Move him to the lock chamber, where he has room, and complete the chamber from there.
C. Move him closer to the door, changing seats with the student closest to the door.
D. Have the IO GANGLOAD his regulator and instruct him to breathe.

I am sorry to say, Officer APO, that unless you removed that sweating apprehensive student from the chamber, you were in for a world of additional pressure to do so in the next few minutes!

This scenario (and its associated questions) were chosen because of my next question posed to the general Society, and because we have potential situations like this come up monthly:

Policy Poll #1 – Should we, as aerospace physiologists, refer students with severe apprehension in the chamber, to flight medicine for concerns of claustrophobia / other related phobias? Yes or no?

Policy Poll #2 – If a student tells you just prior / day of the altitude chamber that they are “really nervous” or “not sure about this chamber thing, can’t I just do ROBD”, what do you do? (Multiple answers allowed)

• If refresher, then ROBD granted for single student
• Refer to flight surgeon for concerns of flight phobia / apprehension
• Convince them to proceed to altitude chamber (if full flight)
• Hardline altitude chamber (initial students)
• Work through concerns / reschedule
• Other

Please submit your comments on the policy poll to me at Cherie-ann.richards.1@us.af.mil. Popular discussion answers will be discussed in the next quarterly newsletter — so stay tuned!

Cherie Richards, Capt, MD, BSC
Aerospace and Operational Physiologist
USAFSAM / 711 HPW, WPAFB

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“YOU Are the Physiologist” is a new column in the WMC that puts YOU in an operational physiology situation and challenges your critical thinking skills and application of aerospace physiology knowledge. Thanks to Capt Cherie Richards for her contributions to the WMC newsletter!
## Call for Nominations: AsPS Board of Governors

Paul “Bugsy” Gardetto, Past President and Nominations Chair – The AsPS sends forth the call for nominations for our 2017 officer elections. Positions that will be elected to service this year are:
- President Elect
- Treasurer/Membership Chair (2017-2019)
- Member at Large (4-year term, 2021)

*Position descriptions can be found at [http://aspsociety.org/asps-leadership/board-of-governors/](http://aspsociety.org/asps-leadership/board-of-governors/)*

Those nominated must be members in good standing in the AsPS and AsMA; self-nominations are authorized and encouraged. If you have questions or are interested in nominating yourself or someone else, please contact me at paul.gardetto@thermofisher.com.

For more information on the Aerospace Physiology Society, please go the [http://aspsociety.org](http://aspsociety.org) site and explore!

## Call for Nominations: AsPS Awards

Dana “Addict” Thomas, Awards Chair – The AsPS also sends forth the call for nominations for the following 2017 AsPS awards:
- Wiley Post Award for Operational Physiology
- Paul Bert Award for Physiological Research
- Fred A. Hitchcock Award for Excellence in Aerospace Physiology
- Partnership in Education Award

The deadline for award nominations is 1 March 2016 using the AsPS award nomination application and procedures at [www.aspsociety.org/awards-and-recognition/](http://www.aspsociety.org/awards-and-recognition/)

Check out the website and contact Dana “Addict” Thomas at aviation_addict@yahoo.com with any questions!

## AsPS Member News

AsPS Past President (and all-around nice guy) Rich “Ivan” Folga was honored as the SAFE Wright Brothers Chapter 2016 Program Manager of the Year in an August ceremony. Then, to make things even better, effective 1 September he was promoted to CAPT, USN!

**Congrats Ivan!**
Call for papers!

The AsMA abstract submission site is now open for submissions! The deadline for abstract submissions is 31 October 2016 so don’t delay!

Click on the paper to see the full Call for Papers!

Do You Have Something to Share?

Please contact Troy Faaborg at tfaaborgs@gmail.com with inputs for the next edition of the White Matter Chronicles. We are always looking for news, events, updates, announcements, and fun!

We want to hear from YOU!

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Thank you to our AsPS sponsors! The consistent generosity they have shown has contributed to a robust AsPS award and lecture program that showcases the best in physiology! Please visit our sponsor websites and you will see what they do to contribute to physiology, human performance, and the protection of our military and civilian aviators. Thanks again for all you do!

We look forward to the continued partnership!

INTERNATIONAL ATMO, Inc.: Sponsor of the Fred A Hitchcock Award. [http://hyperbaricmedicine.com/]

International ATMO has provided education, management, and consulting services in wound care and hyperbaric medicine since 1979. Their Hyperbaric Medicine Team Training course has introduced over 10,000 health professionals, from over 20 countries, to the field of hyperbaric medicine. Further, their team has expertise in all areas of wound care operations, including: reimbursement, hyperbaric equipment, policy and procedures development, facility accreditation, and education. International ATMO also publishes books and DVD with their best sellers including the Certified Hyperbaric Technologist (CHT) and Certified Hyperbaric Registered Nurse (CHRN) Certification Exam Practice Book used around the work by exam applicants.

GENTEX: Sponsor of the Wiley Post Award. [http://www.gentexcorp.com/]

Leveraging a product development and manufacturing history that spans more than 100 years, Gentex Corporation is a leading provider of innovative solutions that enhance personal protection and situational awareness for global defense forces, emergency responders, and industrial personnel operating in high performance environments. The company’s product portfolio includes helmet system platforms and capability upgrades (respiratory and CBRN products, eye and face protection products, and hearing and communications products) sold under the Gentex, Ops-Core, ALPHA, and Pureflo brands; Dual Mirror aluminized fabrics; and Filtron light management technology.


David Clark Company has pioneered air and space crew protective equipment design, development and manufacture since 1941, with products ranging from anti-G suits to space suits. David Clark Company’s tradition of providing crew protective equipment for leading edge, manned aerospace programs continues into the future, as their designers apply their expertise to passenger and crew protection in the commercial space flight market. The demanding specifications to which their products must conform originate from some equally demanding sources: NASA, USAF, DOD, FAA, OSHA, FDA, RTCA and EC (CE). Their operations utilize the very latest manufacturing equipment, incorporating advanced computer technology to guarantee exact tolerances. This, of course, demands that they have a quality assurance system of the highest level.

WYLE: Sponsor of the Paul Bert Award. [http://www.wyle.com/]

Wyle is a leading provider of specialized engineering, professional, scientific and technical services to the federal government. With 4,000 dedicated employees at 50-plus locations nationwide, the company generates annual revenues of approximately $900 million. Since its founding in 1949, Wyle has grown to become the #1 systems engineering and technical assistance (SETA) provider to U.S. Naval Aviation and the #1 advisory and assistance services (A&AS) provider to Army Aviation and the U.S. Army Air and Missile Defense. Wyle is also the #1 life sciences provider to NASA. Wyle’s areas of expertise include systems and sustainment engineering, program and acquisition management, life science research, space medical operations, information technology and test and evaluation of aircraft, weapon systems and networks.