

# Orbiter

The Official Newsletter of the Aerospace Medicine  
Student and Resident Organization



## LAUNCHING ANOTHER ORBITER

Dear AMSRO members,

Welcome back to another issue of *The Orbiter*. This issue comes just 2 months before the 2011 AsMA meeting in Anchorage, Alaska, where I hope to see many of you there. As always, I urge all AMSRO members to send me an article of their experiences at conferences, internships they have participated in, their current research, or upcoming conferences they will be attending. All of this may be sent to the editor: [laura.drudi@mail.mcgill.ca](mailto:laura.drudi@mail.mcgill.ca). Enjoy the issue and I look forward to your feedback and your articles! I hope that we can put another Orbiter issue right before the annual meeting.

Laura Marie Drudi

## THANKS TO THE AMSRO AND ASMA

*By Dr. Sasirajan Jeevarathinam*

I am Dr Sasirajan Jeevarathinam from India. I am presently the member of AsMA and AMSRO as well. It gives me immense pleasure in writing to the Aerospace Medicine Student and Resident Organization (AMSRO) and the Aerospace Medical Association (AsMA) at this juncture of my career. I have the honor to state that I was the recipient of AMSRO Scholarship 2010 to attend an aviation medicine conference of my choice.

### AMSRO & Scholarship – As student guide to achieve heights in career

My passion for aviation medicine has its roots from my experience at Institute of Aerospace Medicine, India. I had been presenting my papers at national level conference. I dreamt of extending it to an international level. Coming from a humble background, it would not have been possible for me to attend an international conference without the support of organizations like AsMA & AMSRO. When I came to know of AMSRO and its scholarship scheme, I felt that God has shown me a path of achieving my dream. My constant perseverance to achieve my dream drove me to get the assistance of AMSRO scholarship after two years of consecutive applications. Allowing the candidates to decide an aerospace medicine meeting of their choice is a wonderful option, thereby encouraging students & residents from all over the world to compete for this scholarship. My sincerest gratitude to the AMSRO which is continuing its honorable service as student supporter, motivator and dream achiever.

### ORBITER 2011 Issue 1

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## Thanks to the AMSRO and AsMA (continued)

### **ICASM Conference 2010, Singapore: Eye Opener of International Aviation Medicine**

With the options of aerospace medicine meetings ranging from AsMA, ICASM, ECAM, ISAM, UHMS, etc, I opted for ICASM 2010 held at Singapore as I felt that it would suit my availability & planning. I find it hard to jolt down my entire experience of ICASM conference in this short summary. However, I would like to share few of my experience during the conference which I am sure that I would not have got anywhere other than from international aviation medicine conference like ICASM

- Attending the scientific papers from different parts of the world with research perspective ranging from military & civil aviation medicine, space medicine, occupational medicine, regulatory bodies and airlines – An Eye opener
- Opportunity to present my research paper in an international arena has helped me to gain confidence and an international recognition in this domain of aviation medicine
- Visits to certain aviation establishments like Singapore Aeromedical Centre and Changi Airport medical centre had helped me to understand the domain of civil aviation medicine at a different perspective which I wish to efficiently execute my experience in the near future
- ICASM conference, being an international meeting, had helped me to interact with stalwarts of aviation medicine as well as renowned aviation medicine practitioners from all around the globe and share our experience.

AMSRO and AsMA had guided to achieve my dream and also helped me in getting international experience in this domain of aerospace medicine. In future, I am also confident that young students, residents and young practitioners like me will effectively utilize the opportunity available to explore their career in aerospace medicine through international conference experience. Thank you once again for providing this scholarship and I am confident that this travel scholarship to attend aviation medicine conference of one's own choice can be considered a worthwhile investment.

## **UPDATE FROM UTMB**

*By Jennifer Law, MD*  
UTMB/NASA Aerospace Medicine Resident



The UTMB aerospace medicine residents had a busy fall! After months of coordination and preparation, we provided medical support at the annual Wings Over Houston air show, with about 75,000 people in attendance. Some of us also had the unique opportunity to ride along in a 737 simulator checkride at Continental Airlines, learning about crew resource management and observing how airline pilots work through emergencies such as landing on an icy runway with an engine failure. The highlight this fall was a one-week orientation at Kennedy Space Center which included an "Air Docs brief" on medical contingencies during Shuttle launch and landing operations, a medical tabletop exercise from the Flight Surgeon's console in the Launch Control Complex, and tours of Pad 39A and the Vehicle Assembly Facility. We were able to return in February to watch the STS-133 launch to complete our experience--what an awe-inspiring sight!



## 2011 MCGILL JOURNAL OF MEDICINE – AEROSPACE MEDICINE

*By Laura Marie Drudi*  
*M.D., C.M. candidate 2012*  
*McGill University*

The McGill Journal of Medicine Issue 13 Volume 2 will be published in May-June 2011 with its focus being aerospace medicine. The executive committee has been hard at work and they are glad to include:

- Physicians as Astronauts – Dr. Robert Thirsk
- Ultrasound in Space – Dr. Jennifer Law and Dr. Paul MacBeth
- Exploring the Possibility for a Common System for Joint Aeromedical Standards – Dr. Justin Woodson, Dr. Walter M Dalitsch, Dr. James L Persson, Dr. Charles Ciccone, and Dr. Brian Parsa
- Human Space Exploration: The Next Fifty Years – Mr. Matthew Turnock and Dr. Dave Williams
- Medical Education for Exploration Class Missions: NASA Aerospace Medicine Elective at the Kennedy Space Centre – Dr. Greg Stewart and Ms. Laura Drudi
- Remote Medical Care – Dr. David Saint-Jacques

If there are any other interested authors who would like to contribute to the May-June 2011 McGill Journal of Medicine (MJM) issue, please contact the co-editor in chief of the MJM:  
Laura Drudi at [laura.drudi@mail.mcgill.ca](mailto:laura.drudi@mail.mcgill.ca) prior to April 1<sup>st</sup>, 2011.

## 2011 ANTARCTIC UNIVERSITY EXPEDITION

*By Laura Marie Drudi*  
*M.D., C.M. candidate 2012*  
*McGill University*

It is hard to believe that after a year's worth of hoping, fundraising and planning that my goal to travel to Antarctica finally has transformed into a reality. I wouldn't have dared to imagine one year ago that this notion, this wild idea of becoming an expedition member to one of the most isolated environments on this planet would have come true.



It takes a while to realize a dream, but it takes even longer to realize you're living it. It all began when I stumbled on a unique program called Students on Ice while looking for unique opportunities, internships and expeditions. The purpose of this program is to foster future environmental ambassadors through hands-on educational experiences on climate change in the Polar Regions. After a year's worth of hoping, fundraising and planning, my goal to travel to Antarctica was transformed into a reality. I quickly came to realize that one simple idea could be the spark of a dream that begins to shape a lifelong journey of exploration, discovery, and transformation.



Paradise Bay, Antarctica

There are really no words I can formulate to encompass all that I have seen on this amazing journey. When I took a moment of silence as our vessel traversed the open water, the sounds of nature began to emerge from the cracking of ice, to penguins swimming, seals hunting their meals and majestic humpbacks enjoying the peaceful waters, there is no doubt in my mind that I experienced paradise on Earth. With every adventure I learn a great deal about who I am today and who I want to become in the future. It took me a voyage to the end of this world for me to discover my duty to protect our fragile planet and be an ambassador. It is our duty as students, doctors, lawyers, engineers, scientists, teachers – as citizens of this beautiful Blue Planet to cherish it, love it, respect it and to protect it!



## RESEARCH AND SPACE MEDICINE EDUCATION

### DEVELOPING TELEMEDICINE THROUGH PATIENT SIMULATION AT 9,000 FEET

*By Matthew Turnock MSc  
MD candidate 2014  
University of Toronto*



As a graduate student in February 2010, I had the pleasure of being part of a two-week project run by the Operational Space Medicine group at the Canadian Space Agency. The aim of this project was to evaluate the feasibility of using a high-fidelity patient simulator in an extreme environment as a test platform for developing telemedicine technology and procedures. At 9,000 feet on the side of the dormant volcano Mauna Kea in Hawai'i, USA, we recruited camp staff and researchers alike and subjected them to 30-minute simulated acute medical emergencies. These emergencies involved everything from traumatic amputations to sudden cardiac arrests. Supporting them through a two-way videoconferencing system in various locations across Canada were tertiary care specialists monitoring vital sign telemetry

and remote ultrasound imaging. The results of these simulations were both surprising and exciting. Contrary to our expectation, the biggest barrier to care was neither the capability of the on-site caregiver nor serious technical challenges. With a minimal level of training we found that medically naive participants were incredibly proficient at performing complex medical tasks when supported by an experienced health care provider. Instead, communication barriers, medical kit organization, and resource limitations were the limiting factors. The potential for improving medical care in both extreme environments and rural communities cannot be overstated, as well as the immense range of potential questions that high-fidelity simulation can address with regards to telemedicine research. I consider myself very fortunate to have been involved in every aspect of the project, from project development and logistical management of resources, to data collection, analysis and manuscript writing. Now, as a first-year medical student I intend to remain involved as the project moves forward and branches out into the many possible lines of research, contributing where I can while balancing my personal life, lectures, and clinical experiences.



### AEROSPACE MEDICINE DIRECTORY: AN INTERNATIONAL DATABASE

*By Laura Marie Drudi  
M.D., C.M. candidate 2012  
McGill University*

I have been involved with Dr. Joan Saary, CSA consultant and staff physician at the University of Toronto for many years working on an extensive, international directory for space medicine education. This directory will be soon published through the various space agencies allowing students and young professionals all over the world a database for internships, electives, research, and postgraduate training in aerospace medicine.



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## UPCOMING OPPORTUNITIES

### INTERNATIONAL SPACE UNIVERSITY (ISU)

ISU will be hosting its 2011 Summer Studies Program in Graz, Austria. A variety of scholarships are available through the Canadian Federation of ISU, as well as the National Space Society.

### 2011 INTERNATIONAL ASTRONAUTICAL CONGRESS

All eyes will be on Cape Town, South Africa for the annual meeting of the International Astronautical Congress (IAC). Students and young professionals can be sponsored through their national space agency through International Space Education Board (ISEB). NASA, CSA, ESA, and JAXA offer a variety of scholarships; as well there are youth grants that are given on a competitive basis through the International Astronautical Federation committee.

## CONTACT INFORMATION

To all AMSRO members who would like to share a interesting academic, extracurricular, and summer opportunities with the Orbiter, please send your articles to the Orbiter Editor: [laura.drudi@mail.mcgill.ca](mailto:laura.drudi@mail.mcgill.ca)