

Prospects of Applicants from ISNET Member Countries to Study at the International Space University (ISU)

**Dr. Michael Simpson, President
INTERNATIONAL SPACE UNIVERSITY, FRANCE**

**Abdul M. Ismail, Owner & Chief Engineer
INTERPLANETARY EXPEDITIONS, UK**

“International Seminar on Space Technology & Applications”

Inter-Islamic Network on Space Sciences & Technology (ISNET)

11th to 15th September 2006 / Islamabad, Pakistan

Prospects of Applicants from ISNET Member Countries to Study at the International Space University (ISU)

Dr. Michael Simpson, President

*International Space University
Parc d'Innovation
1 rue Jean-Dominique Cassini
67400 Illkirch-Graffenstaden
FRANCE
Tel: +33 (0)3 88 65 54 30
Email: simpson@isu.isunet.edu*

Abdul M. Ismail, ISU Alumni

*100 Greenhill Road, Mossley Hill
Liverpool L18 7HN
England
UNITED KINGDOM
Tel: +44 (0)151 280 8858
Mob: +44 (0)79 76 63 19 46
Email: abdul_m.ismail@blueyonder.co.uk*

Abstract

The International Space University (ISU) was established in 1988 initially as a two-month summer session program. The institution now has a permanent campus based in Strasbourg, France and offers two Masters Programs as well as the extremely popular one-week Executive Space Course for, but not limited to, corporate executives and government officials. Students come to the ISU for a number of reasons such as to gain a competitive edge to being their careers in the space sector, assist with career shifts and to develop team work skills in a multicultural environment.

The ISU prides itself on a “3i” (international, intercultural, interdisciplinary) philosophy and has over 2000 graduates from around 90 nations. Probably the most important asset of the ISU is the opportunity to network with leading space experts and professional from around the world.

This paper (and accompanying presentation) will introduce the types of graduate courses the university offers. A new annual scholarship opportunity for citizens of Organisation of Islamic Conference (OIC) member states, to be managed by the Inter-Islamic Network on Space Sciences and Technology (ISNET), will be presented.

1.0 Introduction

19 years ago, the International Space University (ISU) was no more than a dream of three graduate visionaries, the late Todd Hawley, Robert D. Richards and Peter H. Diamandis (right).

Today, the ISU has graduated over two thousand two hundred students from around ninety different nationalities.

The institution's first Summer Session Program was held at the Massachusetts Institute of Technology in 1988 and the intensive two-month graduate program has thus far been held

in eleven different countries all over the world, each time at a different academic institution. The SSP 2006 is currently ongoing in Strasbourg, France and the SSP 2007 is planned to take place China. On average, over one hundred students from up to thirty different nationalities attend the ISU's SSP every year.

Following an international competition, Strasbourg, France was selected to host the ISU central campus. The eleven-month Master of Space Studies program came to life in 1995 and in 2005 the ISU expanded the Masters program to offer a twelve-month MSc in Space Management in addition to the MSc in Space Studies. The



average class size is fifty students from over twenty nationalities. One of the highlights of the Masters program is the three-month internship and students can choose from a variety of space related organisations from NASA, European Space Agency, Japanese Aerospace Exploration Agency to corporate entities such as EADS, Boeing, Lockheed Martin, Alcatel Alenia Space Italia as well as academic institutions such as the

University Louis Pasteur, California Institute of Technology or the Massachusetts Institute of Technology. Many MSc alumni return to the previous space sector employment while others choose to continue studies to doctorate level. On 27th February 2003, the French Ministry of Education officially recognised the ISU as an accredited institution in France.

The ISU's principal attraction is its unique academic curriculum. No other institution offers such a diverse and comprehensive space education in topics such as space policy and law, space business and management, space science and space systems engineering, to name a few.



This paper and accompanying presentation will cover the ISU's academic programs and will introduce a new annual scholarship opportunity which will afford a prospect for three students from Organisation of Islamic Conference (OIC) member states to attend the SSP, starting from the SSP 2007 in Beijing, China. All applicants will first have to apply and be academically qualified to attend the ISU after which an application should be made to ISNET, who will manage the ISNET/ISU scholarship. Given the chance of heavy over subscription, applicants are strongly encouraged to seek alternatives methods of funding.



2.0 ISU Central Campus

The ISU central campus is located in Illkirch-Graffenstaden, South of the city of Strasbourg, North East of France and only 6km from the German border. The insitution is but one technology related organisations and acaedmic institutions that can be found in Parc d'Innovation.



The spacious Space Pioneers Hall, left, which greets all visitors, has been used for banquets, buffets and trade shows. The hall provides access to the two large auditoriums, Todd Hawley student lounge, the bar as well as the laboratories and high bay area. The staircase affords access to the lecture rooms, computer rooms, faculty offices and the library as well as the administration offices.

The Boeing auditorium, below, can seat 248 people and is used for conferences, seminars and graduation ceremonies. The central auditorium can seat 110 people and is also used for seminars as well as group lectures. The Karl Doetsch executive theatre can seat 40 people and is principally used for programs such as the very popular Executive Space Course. All auditoria have advanced state of the art audio visual equipment as well as video conferencing facilities as well as qualified technicians adding a professional touch to any conference or seminar.



3.0 Summer Session Program

The SSP came to life in 1988 and has thus far travelled to a number of different countries, each time at a different institution (apart from ISU central campus). The principal reason for the annual change in location is to afford the opportunity for a larger quantity of participants from regional nations.

1988	Massachusetts Institute of Technology, Cambridge, MA, USA
1989	Université Louis Pasteur, Strasbourg, France
1990	York University, Toronto, Canada
1991	Ecole Nationale de l'Aviation, Toulouse, France
1992	Kitakyushu Institute, Japan
1993	University of Alabama, Huntsville, AL, USA
1994	Universitat Autònoma de Barcelona, Spain
1995	Royal Institute of Technology, Stockholm, Sweden
1996	Austrian Society for Aerospace Medicine, Vienna, Austria
1997	Rice University, Houston, TX, USA
1998	Cleveland State University, Ohio, USA
1999	Suranaree University of Technology, Ratchasima, Thailand
2000	University Tecnica FSM, Valparaiso, Chile
2001	University of Bremen, Germany
2002	California Polytechnic Pomona, Los Angeles, CA, USA
2003	ISU Central Campus, Strasbourg, France
2004	Univ. of Southern Australia/Univ. of Adelaide/Flinders University, Adelaide, Australia
2005	University of British Columbia, Vancouver, Canada
2006	ISU Central Campus, Strasbourg, France

The SSP is a nine-week intensive for graduate students and professional alike, hailing from numerous disciplines.

Both technical and non-technical subjects are taught by an international array of experts from space organisations, commercial companies, academia and entrepreneurs. Topics include, but are not limited to space policy and law, space business and management, space engineering and sciences, psychological and physiological aspects of human space flight as well as humanities and social sciences.

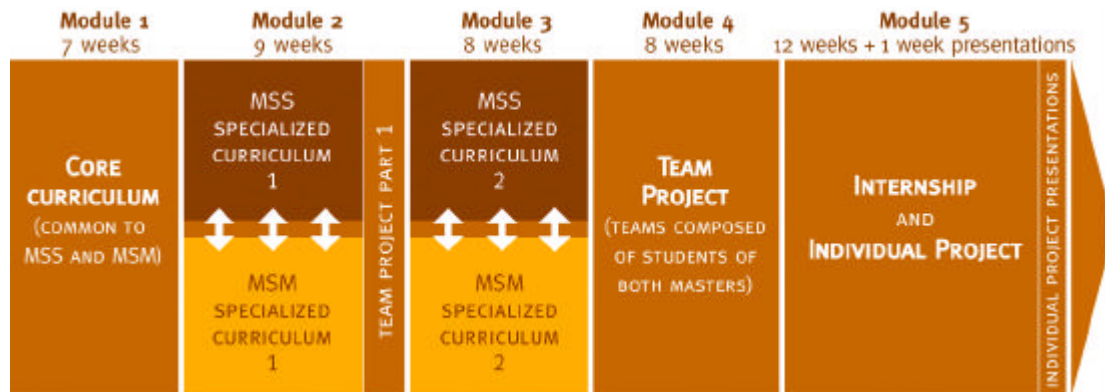
Activities include lectures, individual assessments, team-work assignments, hands on experiments and professional visits to local and regional space related organisations. A number of team projects run in parallel, the subject of which is chosen by the student based on his/her interest. Past SSPs have produced some excellent reports such as "Space Technologies for the Research of Effective Water Management", produced to advice for policy and decision makers to the benefits of space applications. Other, more futuristic reports, such as "International Lunar Exploration in Preparation for Mars" were authored to assist space agencies with an international perspective of the development of future space infrastructure for potential Mars missions.

SSP graduates may, if they wish, join the Masters program from Module 2.

4.0 MSc in Space Studies/Space Management

The MSc in Space Studies (MSS) and MSc in Space Management (MSM) were developed to;

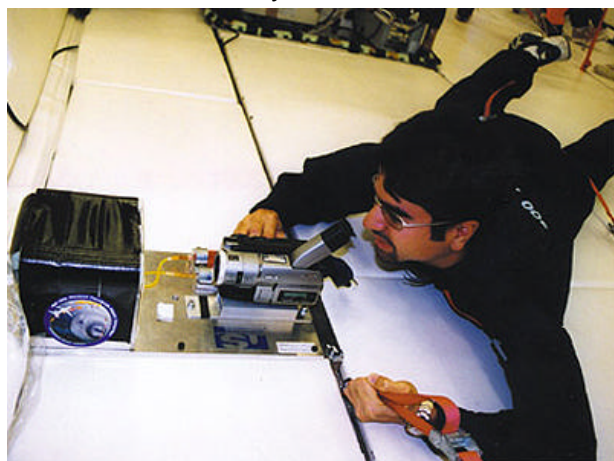
- Afford a competitive edge to graduates entering the space sector
- Assist those already in the space industry to make transitions to other sectors
- Develop professional skills in business, management as well as intercultural and international communications
- Present an opportunity to students to liaise with space sector professionals and experts



Both courses follow a similar format where all students undergo the introductory module in order to introduce a core curriculum and to allow participants to become accustomed to ISU's general philosophy. Module 2 then separates the students into specialised curriculum but briefly combines the classmates in order to work on the first part of the team project. Module 3 follows a similar structure to the previous module. The MSS focuses on technical and scientific subjects where as the MSM focuses on management and policy.

Module 4 sees both classes merged once again where each student is in a position to contribute their newly gained specialised knowledge to the team project. Module 5 gives an opportunity for students to undertake an internship at any space organisation, space corporation or academic institution anywhere around the world, subject to visa approval. Past students have undertaken projects at the various NASA centres, JPL, the European Space Agency, Japanese Aerospace Exploration Agency, CNES, EADS, Boeing as well as the lesser known Bangladesh Space Research and Remote Sensing Organisation.

In addition to the curriculum, the program includes round table discussion with space sector decision makers which provide an opportunity for students to grill those that shape space policy. A number of professional visits are included which give students an opportunity to see space operations in progress. Past visits included European Space Operations Centre (ESOC), Le Bourget, SNECMA, CNES and EADS. On some occasions, MSS and MSM students can undertake external activities such as the ESA student parabolic flight campaign (above).



5.0 Executive Space Course

The Executive Space Course, formerly known as Introductory Space Course, which takes place annually at the ISU central campus, is an intensive one-week program developed for professionals and executives from differing backgrounds, who do not necessarily have to come from the space sector. Participants are taught subjects such as a contract management, marketing, finance and law as well as numerous other subjects that have direct relevance to the space industry.



The course consists of lectures, work shops, case studies as well as team project. The ISC is limited in size and was designed in such a way so all participants to allow greater participation from attendees.



For participants from management and business backgrounds, the course will provide the necessary knowledge to allow them to converse with their engineering colleagues whereas those from engineering backgrounds will gain a better understanding of how to liaise and correspond with managers and financiers.



The 2007 Executive Space Course will take place 16th to 20th April 2007.

6.0 Annual Symposium

Each year, the ISU arranges an annual symposium focussing on different themes and brings together specialists, experts and policy makers from the space community.



ISU symposia follow the “3i” formula used for all of its programs and approach all themes by including policy, law, business, marketing, technical as well as scientific. Sufficient time is set aside for panel discussions and interactive sessions with all presenters. A unique element of ISU symposia is chance for many players within the community that do not usually have the opportunity to interact.

Past symposia addressed diverse subjects such as “New Space Markets”, “Small Satellites: Bigger Business” and “Satellite Navigation Systems”. The last symposium titled “Space Exploration” brought together almost two hundred participants and in order to develop on the success of that event, the forthcoming symposium will be titled “Why the Moon”, since it is a focal point of NASA’s Vision for Space Exploration and is also indirectly part of

ESA's Aurora program.

The deadline for call for papers is 22nd September 2006.

7.0 Admissions

The ISU Admissions Committee judges all applicants on three principal requirements;

- minimum qualification of an accredited Bachelors degree
- preference is given to those with work experience or higher education qualifications
- command of English language (TOEFL)

Given the ISU's intercultural nature, proficiency in at least one additional language is highly regarded.

Tuition fees for the 2007 MSS/MSM are €25,000 and students are expected to pay for living and travel expenses themselves.

Tuition fees for the 2007 SSP in Beijing, China are €16,000, which includes living expenses and food. Students are expected to pay for travel to and from the SSP themselves.

8.0 Scholarships

ISU offers generous scholarships to highly qualified and enthusiastic applicants. Financial aid is provided to applicants from;

- member states of the European Space Agency
- the United States
- national ISU affiliates (academic organisations that are representatives of the ISU)
- applicants from developing nations

ISU scholarships are offered to prospective students based on applicant's merit, proven attempt to raise financing and demonstrate financial need.

Scholarships are awarded via a "rolling deadline" scheme so it is in the applicant's best interest to apply for ISU's programs as soon as possible.

9.0 ISNET/ISU Scholarships

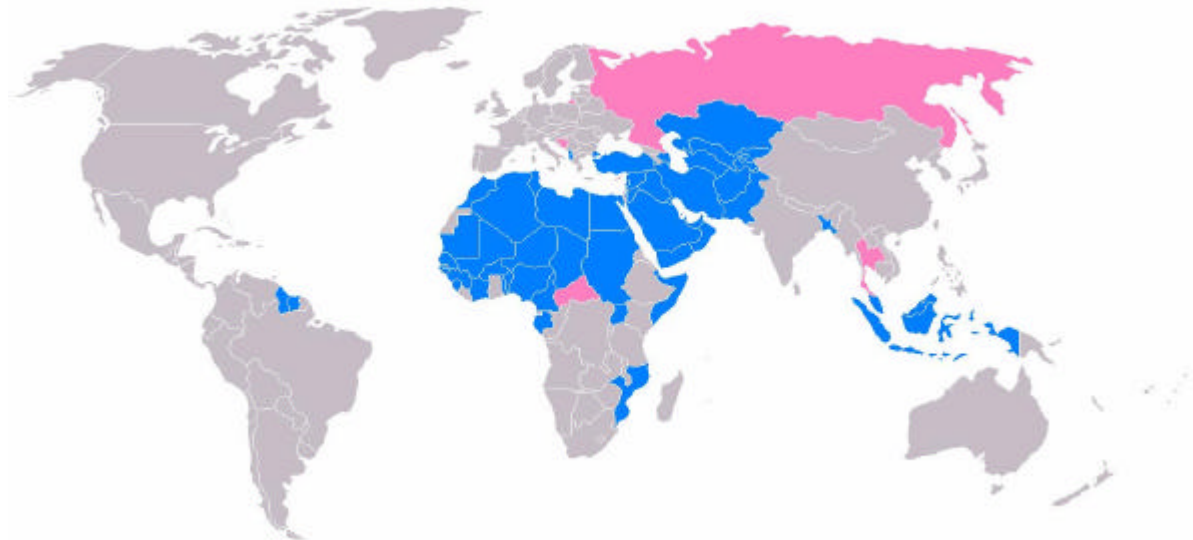
The Organisation of Islamic Conference (OIC) consists of fifty seven member states (in blue) plus an additional five observer states (in pink). Given the fact that the majority of these nations have been poorly represented in ISU's programs, ISU came to an arrangement with ISNET to offer an annual joint **ISNET/ISU scholarship** to citizens from OIC countries. Three matching scholarships will be given to successful applicants to attend the ISU's SSP. The awards are referred to as 'matching' since the ISU will contribute a percentage and should ISNET raise the additional amount, then a full award will be offered.

Highly qualified and experienced graduates from OIC member countries are encouraged to submit applications to the ISU and upon acknowledgement of acceptance, the applicant should contact ISNET, who will manage the awards.

ISNET scholarships will be subject that the awardees have secured the necessary VISA and also have fees to travel to and from the SSP location.

One of the ISU's core philosophies is to afford a location where students may learn from as many different nationalities as possible. It is therefore recommended that the ISNET/ISU scholarships are awarded based on geographical distribution. As a result, awards shall be chosen from applicants from the;

- OIC African states
- OIC Middle Eastern states
- OIC South East Asian and South American states



For additional information on the ISU and its programs, including application forms and promotional literature, please access;

<http://www.isunet.edu>

Enquiries for ISNET/ISU scholarships should be directed to;

admissions.ISNET@isu.isunet.edu