



# CanSat Education Session

Moderator: Mohammed Khalil Ibrahim, Ph.D

Aerospace Engineering Department

Cairo University, Egypt

# Presentations

Time	Presentation
9:05 – 10:00	<p data-bbox="513 375 846 415"><b>CanSat Lecture</b></p> <p data-bbox="513 436 1045 544">Shinichi Nakasuka, Ph.D. University of Tokyo</p> 
10:10 – 10:20	<p data-bbox="513 661 1595 768"><b>Announcement of the 5<sup>th</sup> CanSat Leader Training Program (CLTP5)</b></p> <p data-bbox="513 789 1012 961">Harunori Nagata, Ph.D. UNISEC President Hokkaido University</p> 
10:20 – 10:30	<p data-bbox="513 1079 1514 1186"><b>Launch Announcement and Demonstration of CanSat Information Center Website</b></p> <p data-bbox="513 1208 1045 1315">Yasuyuki Miyazaki, Ph.D. Nihon University</p> 

# Space Engineering

“Scientists investigate that which already is; Engineers create that which has never been” - Albert Einstein

## Currently Students

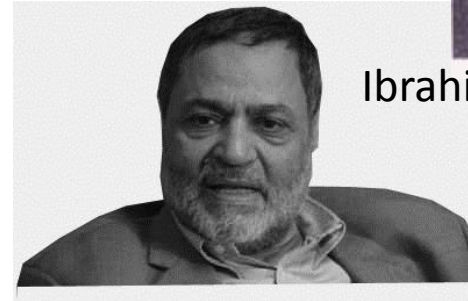
- Utilize efficiently new technologies
- E-learning
- Competition
- ....

# CanSat Education: Egyptian Case

- 1953 Aeronautical Engineering
- 1994 Aerospace Engineering
  - Graduate Studies
  - Elective Courses for Senior Student
  - Pure theoretical courseware
- 1998 Egypt Establishes Space Research Council
  - Our first attempt to introduce CanSat Edu. - failed
- 2010 Practical Space Engineering Education
  - Introduce UNISEC activities
  - CLTP
  - MIC



Ibrahim El-Demirdash



Sayed Dessoki Hassan



Shinichi Nakasuka



Rei-Kawashima

# CanSat-based Space Education

- Short term, low cost, hands-on experience for project-based space education.
- Multidisciplinary project.
- Promote team work
- Develop project management skills
- System Engineering
- Motivate freshman AE Students
- Promote Creativity – Mission
- .....

# Acknowledgement

On behalf of the Egyptian students, I would like to thank:

- Japanese people
- Professor Shinichi Nakasuka, University of Tokyo
- Ms. Rei Kawashima, UNISEC

# **CanSat Lecture**

Shinichi Nakasuka, Ph.D.

The University of Tokyo

# Shinichi Nakasuka, Ph.D.



- 1985 Master Degree, Graduate School of University of Tokyo
- 1988 Doctor Degree, Graduate School of University of Tokyo
- 1988 – 1990 IBM Japan, Tokyo Research Laboratory
- 1990 - 1992 Lecturer at Department of Aeronautics, University of Tokyo
- 1993 - 1994 Associate Professor at Department of Aeronautics and Astronautics, the University of Tokyo
- 1994 - 1998 Associate Professor at Research Center for Advanced Science and Technology, the University of Tokyo
- 1996 - 1997 Visiting Researcher at Dept Computer Science, University of Maryland
- 1998 - Associate Professor at Department of Aeronautics and Astronautics, the University of Tokyo
- 1999 Visiting Researcher at Dept. Aeronautics and Astronautics, Stanford University
- 2004 Professor at Department of Aeronautics and Astronautics, the University of Tokyo
- His research Micro/Nano Satellite Development and Operation Spacecraft Systems and Design, Mission Analysis and Design



# **Announcement of the 5<sup>th</sup> CanSat Leader Training Program (CLTP5)**

Harunori Nagata, Ph.D.

UNISEC President

Hokkaido University

# Harunori Nagata, Ph.D.



- 1994 Doctor of Engineering , Tokyo University
- 1994 – 1996 Division, Nissan Motor Co., Ltd.
- 1996 Associate Professor, Division of Mechanical Science, Hokkaido University.
- 2006 Professor, Division of Mechanical and Space Engineering.
- His major research fields include combustion of solid fuels, space propulsion, and hybrid rockets. A main contribution to the space engineering field is development of CAMUI type hybrid rockets

**Launch Announcement and  
Demonstration of CanSat Information  
Center Website**

Yasuyuki Miyazaki, Ph.D.

Nihon University

# Yasuyuki Miyazaki, Ph.D.



- 1988 Faculty of Engineering, The University of Tokyo
- 1993 Graduate School, Division of Engineering, The University of Tokyo
- 1993 – 1997 Research associate, Department of Aerospace Engineering, College of Science and Technology, Nihon University
- 1997 - 2004 Assistant professor, Department of Aerospace Engineering, College of Science and Technology, Nihon University
- 2004 - 2008 Associate professor, Department of Aerospace Engineering, College of Science and Technology, Nihon University
- 2001 – 2002 Visiting Professor, University of Colorado at Boulder, Center for Aerospace Structures
- 2008 Professor, Department of Aerospace Engineering, College of Science and Technology, Nihon University
- His major research area is flexible multi-body dynamics and structural dynamics of gossamer spacecraft. He has been leading a student pico-satellite project in Nihon University since 2000. His students developed two CubeSats, one of which was launched from Russia in 2006 and the other was from India in 2008. His students are now developing the next pico-satellite of 20cm cube which will demonstrate the inflatable membrane structure in space. The pico-satellite named SPROUT will be launched in the end of this year by H-IIA rocket from Japan. He is now a member of Japanese 50kg class nano-satellite project, named “HODOYOSHI”, which is led by Prof. Nakasuka of University of Tokyo. He works for the research and development of deployable structure in the project.