

CANEUS INTERNATIONAL

Many new micro and nano technology (MNT) concepts are generated as a result of advanced research being conducted in academic institutions and government/industrial laboratories. These MNT concepts have the promise of enabling new and exciting aerospace applications. However, from a systems acquisitions point-of-view, the cost of transitioning these new technologies to the desired level of maturity is cost- and time-prohibitive. The harsh reality is that most emerging technology concepts do not survive the so-called "Valley of Death" that exists at the mid-TRL stage of development. In order to reap the potential of these revolutionary MNT concepts and also to increase the number of concepts that reach the system prototype demonstration stage, an industry-wide solution for overcoming the mid-TRL "gap" is critical for the smooth transition of MNT concepts to aerospace applications.

CANEUS International, a non-profit global organization, proposes a rapid and cost-effective method of technology transition via the creation of international, collaborative Sector Consortia. These international public/private partnerships between industry, university, and government stakeholders work by pooling resources from among its membership in order to define and execute high-risk, high-cost projects and initiatives. The CANEUS Sector Consortia are thus chartered with creating smoothly-functioning technology-development "pipelines" for emerging technology concepts for various aerospace applications.

CANEUS International has created and currently coordinates the work of Sector Consortia in the following aerospace industry sectors: Small Satellites, Reliability, Fly-by-Wireless (with Structural Vehicle Health Monitoring), Devices (with Harsh Environment Sensors, Optoelectronics, Environmental Monitoring, and Bio-Astra), and Materials (with Micro-Energetics).

CANEUS 2009 WORKSHOPS PLANNING COMMITTEE

Conference Chair

Milind Pimprikar, CANEUS, Canada

Conference Co-Chairs:

Harry Partridge, NASA-Ames, US;

John Hines, NASA-Ames, US

For more information, contact:

CANEUS International

Suite 404 1425 René Lévesque Boulevard

Montréal, Québec, Canada H3G 1T7

Phone : (514) 499-3959

Fax : (514) 499-8927

Email : info@caneus.org

Website : www.caneus2009.org

CO-HOSTED BY

**CANEUS and
NASA AMES**

TECHNICAL SPONSOR

IEEE



CANEUS 2009 WORKSHOPS

International Collaborative Aerospace Development
Micro Nanotechnologies: From Concepts to Systems

March 1-6, 2009
NASA Ames Research Center,
Moffett Field, California

www.caneus2009.org

CANEUS 2009 is a premier world event devoted to fostering international partnerships aimed at transitioning emerging micro- and nanotechnologies (MNT) to aerospace products, by bringing together complementary core expertise from key scientists, engineers, program managers, investors, and policy-makers from across the globe. Representing several countries across the world, our participants represent the MNT development community as well as aerospace end-users.

This event has a unique format which emphasizes, as its primary deliverable, the definition and implementation plans for technology infusion projects within various aerospace industry segments. The CANEUS 2009 event aims to significantly advance activities of all Sector Consortia within CANEUS International's newly developed organizational structure.

This is the fourth CANEUS world event of its kind: The first CANEUS world event was held in Montreal, Canada, in 2002; the second in Monterey, U.S., in 2004; and the third in Toulouse, France, in 2006.

The primary objective of the CANEUS 2009 Workshops is to oversee the formation of international public/private partnerships within the aerospace community by fostering a collaborative environment aimed at the adoption, adaptation, and accelerated commercialization of MNT. CANEUS 2009 aims to:

- Provide participants and potential team members with an interactive in-depth assessment of current aerospace end-user needs as well as state-of-the-art developments in MNT in order to stimulate focused work on project concept definition and implementation;
- Articulate well-defined technology infusion projects and create their implementation plans with the leadership of CANEUS Sector Consortia Directors and the active participation and contributions of attendees;
- Facilitate public and private partnership by addressing challenges to collaborative innovation. Issues to be discussed include Intellectual Property, funding mechanisms, Export Control, and other regulations affecting international collaboration; and
- Build upon the achievements of the previous CANEUS world conferences held in 2002, 2004, and 2006 that have successfully established a global aerospace collaboratory.

FORMAT OF CANEUS 2009

Short Courses (1 day) – Short courses on relevant topical areas will be taught by world-class experts prior to the start of the Workshops. Instructors will provide the technical background in key areas and ensure the full and informed participation of attendees in the subsequent Workshops sessions. The CANEUS 2009 short courses will cover the following topics: “From Concept to Commercialization,” “Aerospace Reliability: Manufacturing, Assembly, and Testing,” “Small Satellites: Past, Present, and Future,” “ITAR-Inter-Governmental Agreements, Flight Opportunities, Standards, Export Policy Restrictions, Environmental Safety,” and “Funding and Financial Management for the CANEUS-Initiated Projects/Initiatives.”

Workshops (5 days) – The panel sessions feature presentations addressing issues spanning the entire Technology Readiness Level (TRL) ladder from TRL 1 to TRL 9, affecting the transition of MNT concepts to operational aerospace systems. Speakers at the panel sessions are by invitation only and are world-experts representing America, Europe, and Asia-Pacific in the fields of MNT, aerospace, policy, and investment. Panel discussions immediately follow these short presentations in order to facilitate strong audience engagement in a Question and Answer format. These discussions, in turn, will contribute to the creation and refinement of Sector Consortia projects and their associated strategic work plans.

Exhibits – A broad range of exhibits covering the latest developments in MNT for aerospace systems representing end-user applications, technology products, and business development organizations will be held during the first three days of the Workshops.

Technical Tours – Technical tours to local end-user and technology provider facilities will showcase a cross-section of practical solutions relevant to the problems being addressed in the CANEUS Workshops.

Competition – In line with an important part of its mission, the CANEUS organization will grant several awards to exceptional individuals who have made key contributions in successfully transitioning MNT from concepts into aerospace systems.

SHORT COURSES

AEROSPACE
NEEDS
ASSESSMENT

AEROSPACE
TECHNOLOGY
ASSESSMENT

BUSINESS
DEVELOPMENT
BOARD

SECTOR CONSORTIA STRATEGIC WORK PLAN AND PROJECT DEVELOPMENT

Small Satellites

Fly-by-Wireless

- Structural Vehicle Health Monitoring

Aerospace Reliability

Devices

- Harsh Environment Sensors
- Optoelectronics
- Bio-Astra
- Environmental Monitoring

Materials

- Micro-Energetics