

NORTH ATLANTIC TREATY ORGANISATION



RESEARCH AND TECHNOLOGY ORGANISATION

LECTURE SERIES SET-116

on “Low cost Navigation Sensors and Integration Technology”

sur “Capteurs de navigation à faible coût et technologie d’intégration”

organized by the

Sensors and Electronics Technology Panel

to be held in

UKRAINE, Kiev on 08-09 September 2011

This Lecture Series is open to citizens from NATO and
Partnership-for-Peace (PfP) Nations.

Latest Enrolment Date

25 August 2011

Enroll on-line at <http://www.rta.nato.int/meetings.asp>

If you are unable to enroll via the internet, please use
the attached enrolment form to enroll via fax.

**All presentations and discussions will be held in
English.**

Background

The mission of RTO is to conduct and promote co-operative research and information exchange. RTO consists of a three level organization: the Research and Technology Board (RTB), the Panels and the Technical Teams. The Sensors and Electronics Technology (SET) Panel is one of the seven Panels under the RTB.

The SET Panel has for mission to advance technology in electronics and passive/active sensors as they pertain to reconnaissance, surveillance and target acquisition, electronic warfare, communications and navigation; and to enhance sensor capabilities through multi-sensor integration/fusion. This concern the phenomenology related to target signature, propagation and battle space environment, EO, RF, acoustic and magnetic sensors, antenna, signal and image processing, components, sensor hardening and electromagnetic compatibility.

Theme

This Lecture Series presents the current state-of-the-art in navigation sensors and system integration technology through the improved use of advanced, low cost navigation sensor technologies. The material presented will provide an understanding of the issues faced by today's system designers. Through this Lecture Series, the technical community will be updated on sensors and current integration techniques as practiced by leading experts in the field. The Lecture Series includes information to bring the audience up-to-date with current practices as well as information on sensors, algorithms, and applications. Technology trends and applications are described for navigating in difficult environments where typical GPS receivers do not function.

Thème

Cette série de conférences présente – au travers des améliorations apportées à l'utilisation des technologies avancées de capteurs de navigation à faible coût – ce qui se fait de mieux actuellement en matière de capteurs de navigation et de technologie d'intégration de systèmes. Les informations exposées permettront de comprendre les problèmes auxquels sont aujourd'hui confrontés les concepteurs de systèmes. Cette série de conférences offre à la communauté technique une mise à jour sur les capteurs et les techniques actuelles d'intégration, telles que pratiquées par les principaux experts en ce domaine. Elle inclut des données permettant à l'assistance de remettre à niveau ses connaissances sur les pratiques actuelles, ainsi que des informations sur les capteurs, les algorithmes et les applications. Tendances technologiques et applications relatives à la navigation en environnements difficiles où les récepteurs GPS classiques ne fonctionnent pas – sont décrites.

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LECTURE SERIES PROGRAMME

DAY ONE

- 08:30 REGISTRATION
- 09:00 OPENING CEREMONY
National Authorities
- 09:15 RTO Overview
MGen. Albert HUSNIAUX, RTA Director
- 09:45 INS/GPS Technology Trends
George Schmidt
- 11:00 BREAK
- 11:20 Inertial Navigation Sensors
Neil Barbour
- 12:20 LUNCH
- 13:30 Inertial MEMS System Applications
Neil Barbour
- 14:30 Miniature Augmentation Sensors for Integrated Inertial/GPS Based Navigation Applications
Ralph Hopkins
- 15:30 BREAK
- 15:50 INS/GPS Integration Architectures
George Schmidt
- 16:50 INS/GPS Architecture Performance Comparisons
George Schmidt
- 17:50 END OF DAY ONE

DAY TWO

- 08:30 Navigation in GPS-Denied Environments: Feature Aided Inertial Systems
Michael J. Veth
- 09:30 Navigation in Difficult Environments: Multi-Sensor Fusion Techniques
Michael J.Veth
- 10:30 BREAK
- 10:50 Inertial-Based Joint Mapping and Positioning for Pedestrian Navigation
Patrick Robertson
- 11:50 Roundtable
All
- 12:20 Closing Remarks
All
- 12:35 END

**APPLICATION TO ENROLL
LECTURE SERIES SET-116**

UKRAINE, Kiev on 8-9 September 2011

Title (Prof, Dr, Mr, Mrs etc.):

Family name, first name:

Position:

I am an employee of Govt/Industry/Academia/Other:

Office address:

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Tel: Fax:

E-mail:

Nationality:

Passport no:

Passport issued at (place): on (date):

Date of birth: Place of birth:

Latest Enrolment Dates

25 August 2011

My role at the meeting will be:

RTO Member

Author

Co-Author

Other Participant

For use of Enrolment Coordinator:

I approve this application and have sent an information package.

Signed:

Date:

Please complete this form and send it to the Local Enrolment Coordinator* who will, upon receipt of your application to enroll, forward a general information package which will include travel advice, recommended accommodation etc.

* Participants from Partnership-for-Peace (PfP) countries must send this form to the RTA Enrolment Coordinator, Mr. Nicolas Vandenabeele.