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

ITALY, Rome on 19-20 March 2009

GERMANY, Munich on 23-24 March 2009

POLAND, Warsaw on 26-27 March 2009

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

Latest Enrolment Date

NATO Nations	**Thursday, 12 March 2009**
PfP Nations	**Thursday, 5 March 2009**

Enrol on-line at **http://www.rta.nato.int/meetings.asp**

If you are unable to enrol via the internet, please use the attached enrolment form to enrol 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. Applications are described for navigating in difficult urban, indoor, and underground environments where typical GPS receivers do not function. Also, a precise relative positioning system using a stand-alone miniaturized L1 GPS data logger is described.

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. Les applications relatives à la navigation en environnements difficiles, urbains, intérieurs et souterrains – où les récepteurs GPS classiques ne fonctionnent pas – sont décrites. Un système de positionnement relatif précis, fonctionnant à l'aide d'un enregistreur de données L1 GPS miniaturisé et autonome, est également présenté en détail.

Lecture Series Director
Dr. George T. SCHMIDT (USA)
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Lecturers

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LECTURE SERIES PROGRAMME

DAY ONE

08:30	REGISTRATION	
09:00	OPENING CEREMONY	
	National Authorities	
09:10	INS/GPS Technology Trends	
	George Schmidt	
10:30	BREAK	
11:00	Inertial Navigation Sensors	
	Neil Barbour	
12:30	LUNCH	
14:00	Inertial MEMS System Applications	
	Neil Barbour	
15:00	BREAK	
15:30	INS/GPS Integration Architectures	
	George Schmidt	
16:30	INS/GPS Architecture Performance Comparisons	
	George Schmidt	
17:30	END	

DAY TWO

08:30	Precise Kinematic Relative Positioning with a Stand-Alone Miniaturized L1 GPS Data Logger	
	Benjamin Braunr	
09:30	Navigating in Difficult Environments: Alternatives to GPS-1	
	Mikel Miller	
10:30	BREAK	
10:50	Navigating in Difficult Environments: Alternatives to GPS-2	
	Mikel Miller	
11:50	Roundtable	
	All	
12:30	Closing Ceremony	
	All	
12:45	END	

APPLICATION TO ENROL
LECTURE SERIES SET-116

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☐ **GERMANY, Munich on 23-24 March 2009**

☐ **POLAND, Warsaw on 26-27 March 2009**

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

Family name, first name: . . . . . .

Position: . . . . . .

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

Office address: . . . . . .

. . . . . .

Tel: . . . . . Fax: . . . . . .

E-mail: . . . . . .

Nationality: . . . . . .

Passport no: . . . . . .

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

Date of birth: . . . . . Place of birth: . . . . . .

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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 enrol, 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.