

WELCOME

The Organizers cordially welcome all ILA members, government and agency representatives, user groups, manufacturers of satellite and/or terrestrial navigation and timing equipment, and all interested observers.

REALIZING ROBUST PVT INFRASTRUCTURE  
WITH ENHANCED LORAN

A special Loran Forum will precede the two day technical symposium. The first part of the forum is a series of three presentations that address the development of radionavigation systems in Japan, Europe, and the United States. These presentations will focus on the present state of radionavigation services. Topics to be discussed include the historical and present role of Loran, adoption of the Global Positioning System (GPS), emergence of new GNSS systems such as Quasi Zenith and Galileo, and studies on vulnerability and integrated navigation. The second part is two presentations that examine what the likely future mix of services will be and how Loran can contribute to meeting those requirements.

At the close of the Technical Symposium, a panel discussion will debate "eLoran: From Theory to Practice" Over the last years, the major advancements now referred to as eLoran have come from US FAA and USCG initiatives such as Loran Technical Evaluation, Loran Benefit Analysis, and Loran Recapitalization Project. The positive outcomes of these efforts suggest that Loran will play a role in the future set of position, velocity, and timing information infrastructures. While some system infrastructure upgrades have been made, the bulk of eLoran activity has been limited to analysis and proof of concept demonstrations. The first major phase can be considered closed. The question for the panel is what activities need be taken in order to guarantee successful transition of eLoran from theory to practice.

MEETING INFORMATION

REGISTRATION AND FEES—If you have not yet paid your fees for attendance at the meeting, please check in at the registration desk in the Sakura Tower conference floor hallway.

SPEAKERS' BREAKFAST—On Tuesday and Wednesday, there will be a Speakers' Breakfast for Speakers and Session Chairs in the conference floor meeting room S-2.

ILA MEMBERSHIP—Find out more about the ILA organization and join as a Member. Membership information or renewal of your existing membership is available during the convention, at the Registration Desk

MEETING PROCEEDINGS—ILA 33 Proceedings will be available only on CD-Rom. Convention Proceedings are free with full registration or can be purchased separately. Visit the Registration Desk or contact the ILA Operations Center at [www.loran.org](http://www.loran.org) for more information.

ILA 33 SPONSORS—ILA gratefully acknowledges sponsors who contributed time and money towards the annual meeting. Please see the list of sponsors on the facing page. The Officers and Directors extend a special thank you to all Sponsors.

CONVENTIONS COMMITTEE—ILA33

Chairman:	Mr. Tamotsu Ikeda	<a href="mailto:ikedat@sena-jp.com">ikedat@sena-jp.com</a>
Co-Chair:	Mr. Erik Johannessen	<a href="mailto:erikj@megapulse.com">erikj@megapulse.com</a>
Technical Chair:	Dr. Gerard Offermans	<a href="mailto:g.offermans@reelektronika.nl">g.offermans@reelektronika.nl</a>

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AB MANAGEMENT ASSOCIATES—BURKE, VIRGINIA

2004

October 25–27, 2004

33<sup>rd</sup> Annual Convention  
and Technical Symposium



Realizing Robust PVT Infrastructure with Enhanced Loran

DAILY SCHEDULE

MONDAY, OCTOBER 25<sup>TH</sup>

08:00–18:30	<b>Registration Desk Open for All Conference Events</b> — <i>Sakura Tower 2F Conference Floor Hallway</i>
09:00–12:00	<b>GAUSS Meeting</b> — <i>Sakura Tower 2F–Room S2</i> Moderator: Dr. Gerard Offermans, Reelektronika b.v.

13:00–16:00	LORAN FORUM—Challenge to a New Radionavigation System Sakura Tower 2F–Rooms S3–S10		
WELCOMING SPEECHES			
13:00–13:05	Opening Speech—MC: JCG		
13:05–13:10	Loran Forum Sponsor Speech Mr. Yoshiyuki Jibiki—Director General of Maritime Traffic Department, JCG		
13:10–13:20	Speech from International Loran Association Dr. G. Linn Roth—ILA President, USA		
FORUMS			
13:20–13:45	Present Situation of Radionavigation System in Japan Mr. Masao Shinozaki— Japan Coast Guard, Japan <i>Questions and answers</i>	14:50–15:15	A Picture of the Future of Radionavigation Professor David Last— University of Wales, UK <i>Questions and answers</i>
13:45–14:10	Development of Radionavigation in USA Mr. Langhorne Bond—USA <i>Questions and answers</i>	15:15–15:40	Potential Benefits of a Robust Radionavigation Architecture, Mr. Mitchell J. Narins—Loran Evaluation Program Manager, Senior Navigation Systems Engineer, FAA, DOT, USA <i>Questions and answers</i>
14:10–14:35	Development of Radionavigation in Europe, Dr. Sally Basker—Helios Technology, UK <i>Questions and answers</i>	15:40–15:50	Open Question Session
		15:50–16:00	Closing Speech— MC: JCG
14:35–14:50	PM Break		

16:00–18:00	ILA Board of Directors Meeting— <i>Sakura Tower 2F–Room S2</i>
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<b>ICEBREAKER RECEPTION</b>	
18:30–21:00	Sakura Tower, 2F–Rooms N4–N10 <i>Sponsored by—Japan Aids to Navigation Association (JANA)</i>

TUESDAY, OCTOBER 26<sup>TH</sup>

07:00–08:30	<b>Speakers’ Breakfast</b> — <i>Sakura Tower 2F–Room S2</i>
08:00–10:00	<b>Registration Desk Open for All Conference Events</b> — <i>Sakura Tower 2F Conference Floor Hallway</i>

<b>SESSION 1</b> —Opening Session <i>Sakura Tower 2F–Rooms S3–S6</i> Session Chair: Dr. G. Linn Roth—Locus Inc.	
08:30–08:45	<b>Welcome Addresses</b>
08:45–09:10	FAA/USCG Loran Technical Evaluation Mitchell J. Narins—FAA, DOT, USA
09:10–09:35	NELS Report Inge Johansen—NELS CAO

DAILY SCHEDULE

09:35–10:00	<b>FERNS Report</b> Professor Se-Mo, Chung—Korea Maritime University
10:00–10:25	<b>Loran-C ASF Correction</b> Mr. Hiroyuki Kurosu—Japan Coast Guard (JCG)

10:25–10:40	<b>AM Break</b> — <i>Sakura Tower 2F–Room S7</i>
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<b>SESSION 2</b> —eLoran Introduced <i>Sakura Tower 2F–Rooms S3–S6</i> Session Chair: Mitchell J. Narins—FAA, DOT, USA	
10:40–11:05	<b>eLoran 101</b> —System and Signal Erik Johannessen—Megapulse Inc.
11:05–11:30	<b>eLoran 102</b> —Understanding Propagation Dr. Sherman Lo—Stanford University
11:30–11:55	<b>eLoran 103</b> —User Equipment Dr. Gerard Offermans—Reelektronika b.v.

11:55–13:15	<b>Lunch</b> — <i>Choice of Select Takanawa Prince Restaurants</i>
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<b>SESSION 3</b> —Programs Session <i>Sakura Tower 2F–Rooms S3–S6</i> Session Chair: Erik Johannessen—Megapulse	
13:15–13:40	<b>Loran-C Modernization</b> CDR John Macaluso—Loran Support Unit, USCG
13:40–14:05	<b>FY04 US LORAN Performance Review</b> Max Caruso—NAVCEN, USCG
14:05–14:30	<b>Capstone Report for the Timing and Frequency Equipment (TFE)</b> Tom Celano—Timing Solution Inc.
14:30–14:55	<b>Rugby Site Conversion</b> Patrick Patent—Megapulse Inc.
14:55–15:20	<b>Eurofix Implementation in Saudi Arabia</b> Terry W. Yetsko—BCO Inc.

15:20-15:35	<b>PM Break</b> — <i>Sakura Tower 2F–Room S7</i>
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<b>SESSION 4</b> —Research–Modeling <i>Sakura Tower 2F–Rooms S3–S6</i> Session Chair: Mr. Tamotsu Ikeda—Sena Co. Ltd.	
15:35–16:00	Extending the Range of Loran-C ASF Modeling Dr. Paul Williams—University of Wales
16:00–16:25	TOA Estimation Performance of Loran-C Professor David Last—University of Wales
16:25–16:50	Analysis of the Effects of Atmospheric Noise on Loran-C Curtis Cutright—Ohio University

<b>RECEPTION</b>	
18:30–21:00	Silk Hat Bar Lounge—Sakura Tower B1

WEDNESDAY, OCTOBER 27<sup>TH</sup>

07:00–08:30	<b>Speakers’ Breakfast</b> — <i>Sakura Tower 2F–S2</i>
08:00–10:00	<b>Registration Desk Open for All Conference Events</b> — <i>Sakura Tower 2F Conference Floor Hallway</i>

DAILY SCHEDULE

<b>SESSION 5</b> —Research–Measurements <i>Sakura Tower 2F–Rooms S3–S6</i> Session Chair: Professor David Last—University of Wales	
08:45–09:10	Differential Loran—2004 Progress and 2005 Plans Dr. Ben Peterson—Peterson Integrated Geopositioning
09:10–09:35	Differential Loran Measurement Results in the Tampa Bay Harbor Wouter J. Pelgrum—Technical University Delft
09:35–10:00	FAA Tests E- and H-field Antennas to Characterize Improved Loran-C Availability During P-Static Events Dr. Robert Lilley—Aviation Management Associates

10:00–10:15	<b>AM Break</b>
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<b>SESSION 6</b> —Applications <i>Sakura Tower 2F–Rooms S3–S6</i> Session Chair: Dr. Robert Lilley—Aviation Management Associates	
10:15–10:40	Meeting or Making the Market—2005 Erik Johannessen—Megapulse Inc.
10:40–11:05	Does Today' s GPS and Loran Environment Offer Meaningful Incentive for New Proprietary Patents and Intellectual Property Dr. Robert Rines—Rines and Rines Associates
11:05–11:30	Integrated GPS/WAAS/eLoran System for Aviation Dr. G. Linn Roth—Locus Inc.
11:30–11:55	Low Cost Digitally Enhanced Loran for Tactical Applications (LC DELTA) Chuck Schue—Ursa Navigation Solutions Inc.

11:55–13:15	<b>Lunch</b> — <i>Choice of Select Takanawa Prince Restaurants</i>
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<b>SESSION 7</b> —Receiver Developments <i>Sakura Tower 2F–Rooms S3–S6</i> Session Chair: Chuck Schue—Ursa Navigation Solutions Inc.	
13:15–13:40	Meeting Aviation Requirements for eLoran–An Improved H-field Antenna Gregory Johnson—JJMA Associates
13:40–14:05	First Trials of the LORADD Integrated eLoran/GPS/WAAS Receiver Wouter J. Pelgrum—TUD, Reelektronika b.v.
14:05–14:30	New eLoran Receiver and Antenna Features Dr. G. Linn Roth—Locus Inc.

14:30–14:45	<b>PM Break</b> — <i>Sakura Tower 2F–Room S7</i>
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<b>SESSION 8</b> —Panel Discussion <i>Sakura Tower 2F–Rooms S3–S6</i> Session Chair: Dr. Gerard Offermans—Reelektronika b.v.	
14:45–16:00	<b>eLoran: From Theory to Practice</b>

16:00–16:30	<b>General Membership Meeting</b> — <i>Sakura Tower 2F–Rooms S3–S6</i>
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16:30–18:00	<b>ILA Board of Directors Meeting</b> — <i>Sakura Tower 2F–Room S2</i>
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<b>INTERNATIONAL LORAN ASSOCIATION BANQUET AT THE SAKURA TOWER, CONFERENCE FLOOR</b>	
18:30–19:30	Pre-dinner Drinking Session
19:30–22:00	International Loran Association Banquet <i>Guest Speaker—Hajimu Kinoshita, Executive Director, Japan Agency for Marine-Earth Science and Technology (JAMSTEC)</i>