



**ICAO/ALACPA/FAA/ACI-LAC SEMINAR ON AIRFIELD PAVEMENT DESIGN/NEW FAA DESIGN SOFTWARE FOR AIRPORT PAVEMENT THICKNESS WORKSHOP/SHORT COURSE ON MANAGING ANNEX 14**

(11 to 16 September 2005)

Local: CEA – UAEAC – AEROCIVIL, Bogotá, Colombia

**SEMINAR TENTATIVE PROGRAM**

<b>11</b>	<b>Time</b>	<b>Subject</b>	<b>Speaker</b>
	09:00 – 17:00	Exhibitor Set Up	
	14:00 – 17:00	Registration	
<b>12</b>	<b>Time</b>	<b>Subject</b>	<b>Speaker</b>
	08:00 – 09:15	Registration	
	09:15 – 10:00	Welcome and Opening Session	
	<b>10:00 – 10:30</b>	<b>Coffee Break</b>	
	10:30 – 11:15	Airfield Pavement Design - Beyond the Use of Methods and Procedures	Dr. S. Hautequest Cardoso, Ph.D., <b>ICAO Regional Office</b>
	11:15 – 12:00	ALACPA and its Objectives	Mr. José Cuadrado, <b>ALACPA</b>
	<b>12:00 – 14:00</b>	<b>Lunch</b>	
	14:00 – 14:45	Rigid Pavement Traffic Tests From the FAA's National Airport Pavement Test Facility	Dr. David Brill, P.E., Ph.D., <b>FAA, USA</b>
	14:45 – 15:30	Rational Design of Pavements	Dr. Fredy Aalberto Reyes Lizcano, Ph.D., <b>Javeriana University, Colombia</b>
	<b>15:30 – 16:00</b>	<b>Coffee Break</b>	
	16:00 – 16:45	Experience and Results Obtained with a Pavement Design Optimization Applied to a System Under Concession. Main Variable Analysis	Mr. Gustavo Favarón, <b>Argentina 2000</b>
	16:45 – 17:30	The Importance of Friction Testing in the Design of Runway Surfaces	Mr. Fabián Schvartzer, <b>Consultant, Argentina</b>
	17:30 – 18:15	Airfield Rigid Pavement Design Strength. Thickness-Cost Ratio of High Strength Portland Cement Concrete	Ms. Delia Harverson, <b>Consultant, Scotland</b>
	18:15 – 19:00	Airfield Pavements Development in Colombia	Mr. José Ante, <b>ORSNA, Argentina</b>
			Mr. Gustavo Etcheverry, <b>Argentina 2000</b>
			Mr. Luis Alfonso Calle Cadavid, <b>AEROCIVIL, Colombia</b>

Continue

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<b>13</b>	<b>Time</b>	<b>Subject</b>	<b>Speaker</b>
	08:30 – 08:45	Considerations on Design Period vs Life of Airfield Rigid Pavements	Mr. José Ante, <b>ORSNA, Argentina</b>
	08:45 – 09:30	Boeing Runway Roughness Criteria	Mr. Fabián Schvartzter, <b>Consultant, Argentina</b> Mr. Michael J. Roginski, P.E., <b>BOEING, USA</b>
	09:30 – 09:45	Pavement Design Using Different Rational and Empirical Methods	Mr. Fabián Schvartzter, <b>Consultant, Argentina</b>
	09:45 – 10:00	Using Pre-Molded Concrete Blocks in Airports: Seven Years of Colombian Experience	Mr. Gustavo Favarón, <b>Argentina 2000</b> Mr. German Guillermo Madrid, <b>Consultant, Colombia</b>
	<b>10:00 – 10:30</b>	<b>Coffee Break</b>	
	10:30 – 11:15	Pavement Design Using Non Conventional Materials	Mr. Versandre Pericles, <b>Airport Development Coordinator, Haiti</b>
	11:15 – 12:00	New Behavior Model of Materials for Designing Pavement Structures	Dr. Arcesio Lizcano-Peláez, Ph.D., <b>Los Andes University, Colombia</b>
	<b>12:00 – 14:00</b>	<b>Lunch</b>	
	14:00 – 14:45	FAA Airport Pavement Technology Program	Ms. Lía Ricalde, M.Sc., <b>Galaxy Scientific Corporation, USA</b>
	14:45 – 15:15	Use of Asphalt Surface Treatments Modified by Polymers for Airfields	Mr. Pablo del Aguila, <b>Consultant, Peru</b>
	15:15 – 15:30	Use of Asphalt Concrete Mixes Modified by Polymers for Airfield Pavements in High Altitude	Ms. Lucía del Pilar Saez Alván, M.Sc., <b>Ministry of Transport &amp; Communications, Peru</b>
	<b>15:30 – 16:00</b>	<b>Coffee Break</b>	
	16:00 – 16:30	PAVADOQ HEXMACH System and its Application in Peruvian Airfields	Mr. Samuel Mora, <b>National Engineering University, Peru</b>
	16:30 – 17:00	The Function “Safety in Runway Design”	Mr. Horacio E. Rossi, <b>Consultant, Argentina</b>
		<b>ALACPA’s Meeting (Elections)</b>	Mr. José Cuadrado, <b>President</b>
	17:00 – 18:30	ALACPA’s Structure and Operation Proposal	Mr. Fernando Tantalean, <b>Consultant, Peru</b>

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**FAA WORKSHOP PROGRAM**

<b>14</b>	<b>Time</b>	<b>Subject</b>	<b>Speaker</b>
	08:00 – 08:10	Opening Remarks	Dr. S. Hautequest Cardoso, AGA Officer & Dr. David R. Brill, FAA
	08:10 – 09:00	Development and Overview of Advanced Airport Pavement Design Programs: LEDFAA 1.3, FEDFAA 1.4 Beta, FAARFIELD, COMFAA, Change 3 to Advisory Circular 150/5320-6D	Dr. Brill
	09:00 – 10:15	Demonstration and Review of the LEDFAA 1.3 program package <ul style="list-style-type: none"> <li>• Program overview <ul style="list-style-type: none"> <li>○ Program structures</li> <li>○ Input/output</li> <li>○ Installation guide</li> </ul> </li> <li>• Problem Setup</li> <li>• Running LEDFAA <ul style="list-style-type: none"> <li>○ Starting LEDFAA program – start-up windows</li> <li>○ Pavement Thickness Designs – Design Structure button</li> <li>○ Monitoring program progress</li> </ul> </li> <li>• Changes from version 1.2 <ul style="list-style-type: none"> <li>○ User Interface</li> <li>○ Aircraft Library Update</li> <li>○ Metric Units</li> </ul> </li> <li>• Treatment of Multiple-Gear Aircraft (A380, B-747, A340)</li> <li>• Rigid Pavement Considerations (B- 747 and A380)</li> <li>• Base Thickness Design Using LEDFAA</li> </ul>	Ms. Lía Ricalde
	<b>10:15 – 10:30</b>	<b>Coffee Break</b>	
	10:30 – 11:15	Applications of LEDFAA 1.3 to airport pavement design <ul style="list-style-type: none"> <li>• Design of flexible pavements/ overlays</li> <li>• Design of rigid pavements/overlays</li> <li>• Design of base layers</li> </ul>	Dr. Brill
	11:15 – 12:00	Questions and answers on the sample problem	Dr. Brill and Ms. Ricalde
	<b>12:00 – 13:00</b>	<b>Lunch</b>	

Continue

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**FAA WORKSHOP PROGRAM (Continuation)**

<b>14</b>	<b>Time</b>	<b>Subject</b>	<b>Speaker</b>
	13:00 – 13:30	Overview of 3D Finite Element for Airport Pavement Design <ul style="list-style-type: none"> <li>• 3D-FEM concepts</li> <li>• 3D-FEM versus layered elastic analysis of rigid pavements</li> </ul>	Dr. Brill
	13:30 – 14:00	FEDFAA Beta Program <ul style="list-style-type: none"> <li>• Changes from LEDFAA 1.3</li> <li>• Minimum requirements to run FEDFAA on personal computers</li> <li>• Installing and running the program</li> <li>• FEDFAA output files/help files</li> <li>• The next step – FAARFIELD fully calibrated design software for rigid and flexible pavements and overlays</li> </ul>	Ms. Ricalde and Dr. Brill
	14:00 – 15:00	Application of FEDFAA to airport pavement designs <ul style="list-style-type: none"> <li>• Example of new rigid pavement design</li> <li>• Example of rigid overlay design</li> </ul>	Ms. Ricalde
	<b>15:00 – 15:30</b>	<b>Coffee Break</b>	
	15:30 – 16:30	FEDFAA 1.4 Beta Test and Evaluation	Dr. Brill
	16:30 – 17:30	Discussions and Adjourn	Dr. Brill/Dr. Hautequest Cardoso

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**ANNEX 14 SHORT COURSE PROGRAM**

15	Time	Subject	Speaker
	08:00 – 10:00	<b>Introduction</b> <ul style="list-style-type: none"> <li>• Essential definitions, their interrelations and dynamic among them</li> <li>• Aerodromes constitutive elements</li> <li>• Systemic vision</li> <li>• Aerodrome Safety</li> </ul>	Dr. S. Hautequest Cardoso and Mr. José Cuadrado
	10:00 – 10:30	<b>Coffee Break</b>	
	10:30 – 12:30	<b>Annex 14, Volume I, Chapters 1, 2</b> <ul style="list-style-type: none"> <li>• Clues to use Annex 14</li> <li>• Reference code and types of runway approach</li> <li>• Annex 14 structure</li> <li>• Related documents</li> </ul>	Mr. Cuadrado and Dr. Hautequest Cardoso
	12:30 – 13:30	<b>Lunch</b>	
	13:30 – 15:30	<b>Chapter 3, Physical Characteristics</b> <ul style="list-style-type: none"> <li>• Runways</li> <li>• Shoulders</li> <li>• Strips</li> <li>• Declared distances</li> <li>• Obstacle free zone (OFZ)</li> <li>• Stop ways</li> </ul>	Mr. Cuadrado and Dr. Hautequest Cardoso
	15:30 – 16:00	<b>Coffee Break</b>	
	16:00 – 17:00	<b>Chapter 3, Physical Characteristics</b> <ul style="list-style-type: none"> <li>• Taxiways, characteristics</li> <li>• Taxiway types</li> <li>• Holding bays</li> <li>• Isolated aircraft parking position</li> <li>• Aprons</li> </ul>	Mr. Cuadrado and Dr. Hautequest Cardoso
	17:00 – 18:00	<b>Chapter 4, Obstacle restriction and removal</b> <ul style="list-style-type: none"> <li>• Definition</li> <li>• Obstacle limitation surface concepts</li> </ul>	Mr. Cuadrado and Dr. Hautequest Cardoso

Continue

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16	Time	Subject	Speaker
	08:00 – 09:00	<b>Chapter 4, Obstacle restriction and removal</b> Obstacle limitation surfaces construction	Mr. Cuadrado and Dr. Hautequest Cardoso
	09:00 – 10:00	<b>Chapter 5, Visual aids for navigation</b> • Indicators and signaling devices • Markings	Mr. Cuadrado and Dr. Hautequest Cardoso
	<b>10:00 – 10:30</b>	<b>Coffee Break</b>	
	10:30 – 12:30	<b>Chapter 5, 6, 7, Visual aids for navigation, denoting obstacles and restricted use areas</b> • Lights • Numbers and letters • Markers • Visual aids for denoting obstacles • Visual aids for denoting restricted use areas	Mr. Cuadrado and Dr. Hautequest Cardoso
	<b>12:30 – 13:30</b>	<b>Lunch</b>	
	13:30 – 14:30	<b>Chapter 8, Electrical systems</b> • Secondary power supply	
	14:30 – 15:30	<b>Chapter 9, Aerodrome operational services, equipment and installations</b> • Aerodrome services • Aerodrome equipments • Aerodrome installations	Mr. Cuadrado and Dr. Hautequest Cardoso
	<b>15:30 – 16:00</b>	<b>Coffee Break</b>	
	16:00 – 18:00	<b>Chapter 10, Aerodrome Maintenance</b> • Pavements • Runway pavement overlays • Visual aids	Mr. Cuadrado and Dr. Hautequest Cardoso
	18:00 – 18:30	Closing Session	Dr. S. Hautequest Cardoso

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