

## THE FUTURE OF FLIGHT **TRAINING DEVICES**

### **LONDON / 12 - 13 NOVEMBER 2014**



Sponsors















# THE FUTURE OF FLIGHT TRAINING DEVICES

Significant progress has been made in the development of fixed and rotary wing part task flight training devices. Their cost effective contribution to the training of flight crews is recognised. International qualification standards have been developed in the civil arena defining required levels of simulation fidelity as a function of training tasks.

Notwithstanding these impressive recent advancements, there remains a number of significant and unique challenges that need to be addressed in order to further enhance the training value and promote wider use of Part Task Trainers (PTT) and Flight Training Devices (FTD) in the training of pilots in civil, military and in particular, the general aviation community.

The objectives of this conference are to examine the recent advances made in the design and use of this class of devices and to identify specific areas of simulation design and data provisioning that requires future enhancement, in order for further training capabilities and fidelity to be realised.



#### **VENUE**

Royal Aeronautical Society No. 4 Hamilton Place London, W1J 7BQ T: 44 (0)20 7670 4345

#### **SPONSORS**















#### Supported by:







### REGISTRATION FEES: (include refreshments, lunch and access to conference proceedings)

	Fee £	VAT 20% £	Total £
Non-Member	595.00	119.00	714.00
RAeS Corporate Partner* (inc. Armed Forces)	500.00	100.00	600.00
RAeS Member	425.00	85.00	510.00
RAeS Baseline Member	180.00	36.00	216.00

<sup>\*£100</sup> early bird discount available on all bookings made before 26th September 2014 (Excludes Baseline Member rate)

<sup>\*\*</sup>RAeS Corporate Partners are entitled to the special offer of five places for £2000.00 + VAT

<sup>\*\*\*</sup>RAeS Student Affiliate Members may attend free of charge subject to availability.

## **PROGRAMME** - WEDNESDAY 12 NOVEMBER 2014

00.00		10.05	(0) = 1.1 = 2.0
08:30	Registration / Tea & Coffee	13:35	<b>(6) Title TBC</b> Nidal Sammur, Director of
09:00	OPENING REMARKS		Engineering, FlightSafety
	Conference Chair: Tari Kaye, Director, Validation and Regulatory Affairs, TRU		International, USA (TBC)
	Simulation + Training, USA	14:00	PANEL DISCUSSION
09:10	KEYNOTE ADDRESS		SESSION 3: FUTURE FTD
	Airbus' Concepts on Future Training		TECHNOLOGY ADVANCEMENTS
	Capt David Owens, Senior Director Flight Crew Training Policy, Airbus,		Chairman: Jack Shlien, RAeS Flight Simulation Group, UK
	France		1,
	SESSION 1: THE R&D PERSPECTIVE	14:25	(7) The Missing Element of Flight Simulation
	IN SHAPING FUTURE FTDS		Michael Mayrhofer, Product
	Chairman: Dr Sunjoo Advani, RAeS		Technology Manager & Chris Roberts,
	Flight Simulation Group, UK		Consultant, AMST-Systemtechnik GmbH, Austria
09:35	(1) Flight Models for FTDs	4.4.50	•
	Prof David Allerton, Emeritus Professor of Computer Systems Engineering,	14:50	(8) Of Dinosaurs and Small Furry Mammals
	University of Sheffield, UK		Andrew Martin, Independant
10:00	(2) DLR's Air Vehicle Simulator		Consultant, Aitoff Ltd, UK
10.00	AVES - Recent and Future Research Applications	15:20	Networking Break
	Holger Duda, Head of Flight Systems,	15:50	(9) Training and Simulation in a More
	Flight Dynamics and Simulation Department, German Aerospace Centre		<b>Autonomous and Robotic Future</b> Andy Fawkes, Director, Thinke
	(DLR), Germany		Company Limited, UK
10:25	Networking Break	16:15	(10) Furthering the Fidelity of
40.55			Human-in-the-Loop Helicopter
10:55	(3) Next Generation Pilot Training with Robot-Based Flight Simulators		Flight Research Simulators Sylvain Manso, Research Engineer,
	Tobias Bellmann, Research Assistant,		Defence Science & Technology
	German Aerospace Centre (DLR), Germany		Organisation (DSTO), Australia
	•	16:40	(11) Operational Training - the
11:20	(4) Research Benefits of DLR's Unique Simulator		Technology and Affordability Challenges
	Frank Drop, PhD Student, Max Planck		Mike Southworth, Business
	Institute, Germany		Development, BAE Systems, UK and RAeS Flight Simulation Group, UK
11:45	PANEL DISCUSSION		
12:10	Networking Lunch	17:05	PANEL DISCUSSION
12.10		17:30	CLOSING REMARKS
	► SESSION 2: REGULATORY REQUIREMENTS FOR FUTURE		Conference Chair: Tari Kaye, Director, Validation and Regulatory Affairs,
	DEVICES		TRU Simulation + Training, USA
	Chairman: Gordon Woolley OBE, RAeS Flight Simulation Group, UK	17.25	► END OF DAY ONE
	r light Simulation Group, ON	17:55	Followed by a Networking Reception
13:10	(5) Exploration of Alternate Flight		
	<b>Simulator Qualification Methods</b> Ryan Oltman, Senior Engineer, Bihrle		
	Applied Research, Inc., USA		

## **PROGRAMME** - THURSDAY 13 NOVEMBER 2014

OPENING REMARKS Conference Choir. Tari Kaye, Director, Validation and Regulatory Affairs, TRU Simulation + Training, USA  SESSION 4: FUTURE TRENDS IN CIVIL FLIGHT SIMULATION Chairman: Dave Parkinson, RABS Flight Simulation Group, UK  O9:10  (12) Use of Lower Level Devices in British Airways' Pilot Training David Sproat, Assistant Training Manager Boeing 787, British Airways, UK  O9:35  (13) Outsourcing ATC, Traffic and Failure Management Mark Cioffi, VP Commercial Operations, PilotEdge, USA  10:00  (14) Leveraging Multiple Technologies To Improve Pilot Training Coleb Taylor, ProFlight, a TRU Simulation + Training Company, USA  Networking Break  (15) The Second Dimension of Flight Simulation Simulation Group, UK  11:20  PANEL DISCUSSION  SESSION 5: ENHANCING TRAINING REALISM OF FUTURE FTD'S Chairman: Hugh Dibley, RABS Flight Simulation and Regulatory Affairs, TRU Simulation in Simulated Flight Daragh Owens, Flight and Ground Instructor, Atlantic Flight Training Academy, Ireland  12:10  (17) A 'Decision-Making' Simulator Gordon Woolley OBE, RABS Flight Simulator Group, UK  Networking Lunch	08:30	Registration / Tea & Coffee		
SESSION 4: FUTURE TRENDS IN CIVIL FIGHT SIMULATION Chairman: Dave Parkinson, RAeS Flight Simulation Group, UK  09:10  (12) Use of Lower Level Devices in British Airways' Pilot Training David Sproat, Assistant Training Manager Boeing 787, British Airways, UK  09:35  (13) Outsourcing ATC, Traffic and Failure Management Mark Cioffi, VP Commercial Operations, PilotEdge, USA  10:00  (14) Leveraging Multiple Technologies To Improve Pilot Training Caleb Taylor, ProFlight, a TRU Simulation + Training Company, USA  10:25  Networking Break  10:55  (15) The Second Dimension of Flight Simulation Jerry Gregoire, Founder and Owner, Redbird Flight Simulations Inc, USA  11:20  PANEL DISCUSSION  SESSION 5: ENHANCING TRAINING REALISM OF FUTURE FTD'S Chairman: Hugh Dibley, RAeS Flight Simulation Group, UK  11:45  (16) Imparting the "Soft Skills" of Aviation in Simulated Flight Darrogh Owens, Flight and Ground Instructor, Atlantic Flight Training Academy, Ireland  12:10  (17) A 'Decision-Making' Simulator Gordon Woolley OBE, RAeS Flight Simulation Group, UK	09:00	OPENING REMARKS Conference Chair: Tari Kaye, Director, Validation and Regulatory Affairs, TRU	13:35	Overall Training Progression Ian Strachan, Editor, ETSA News, UK
12:10 se of Lower Level Devices in British Airways' Pilot Training David Sproat, Assistant Training Manager Boeing 787, British Airways, UK  10:30 (13) Outsourcing ATC, Traffic and Failure Management Mark Cioffi, VP Commercial Operations, PilotEdge, USA  10:00 (14) Leveraging Multiple Technologies To Improve Pilot Training Caleb Taylor, ProFlight, a TRU Simulation + Training Company, USA  10:25 Networking Break  10:55 (15) The Second Dimension of Flight Simulation Jerry Gregoire, Founder and Owner, Redbird Flight Simulations Inc, USA  11:20 PANEL DISCUSSION  SESSION 5: ENHANCING TRAINING REALISM OF FUTURE FTD'S Chairman: Hugh Dibley, RAeS Flight Simulation Group, UK  11:45 (16) Imparting the "Soft Skills" of Aviation in Simulated Flight Darragh Owens, Flight and Ground Instructor, Atlantic Flight Training Academy, Ireland  12:10 (17) A'Decision-Making' Simulator Gordon Woolley OBE, RAeS Flight Simulation Group, UK	ı	SESSION 4: FUTURE TRENDS IN CIVIL FLIGHT SIMULATION Chairman: Dave Parkinson, RAeS	14:00	and Recovery Training is Possible in Fixed-Base Simulation? Dr Sunjoo Advani, President IDT, Chairman of ICATEE, The Netherlands
Manager Boeing 787, British Airways, UK  09:35  (13) Outsourcing ATC, Traffic and Failure Management Mark Cioffi, VP Commercial Operations, PilotEdge, USA  10:00  (14) Leveraging Multiple Technologies To Improve Pilot Training Caleb Taylor, ProFlight, a TRU Simulation + Training Company, USA  10:25  Networking Break  10:55  (15) The Second Dimension of Flight Simulation Jerry Gregoire, Founder and Owner, Redbird Flight Simulations Inc., USA  11:20  PANEL DISCUSSION  SESSION 5: ENHANCING TRAINING REALISM OF FUTURE FTD'S Chairman: Hugh Dibley, RAeS Flight Simulation Group, UK  11:45  (16) Imparting the "Soft Skills" of Aviation in Simulated Flight Darragh Owens, Flight and Ground Instructor, Atlantic Flight Training Academy, Ireland  12:10  (17) A 'Decision-Making' Simulator Gordon Woolley OBE, RAeS Flight Simulation Group, UK	09:10	British Airways' Pilot Training		UK & Capt. Clark McNeace, Co-owner,
Failure Management Mark Cioffi, VP Commercial Operations, PilotEdge, USA  10:00  (14) Leveraging Multiple Technologies To Improve Pilot Training Caleb Taylor, ProFlight, a TRU Simulation + Training Company, USA  Networking Break  10:25  (15) The Second Dimension of Flight Simulation Jerry Gregoire, Founder and Owner, Redbird Flight Simulations Inc, USA  11:20  PANEL DISCUSSION  SESSION 5: ENHANCING TRAINING REALISM OF FUTURE FTD'S Chairman: Hugh Dibley, RAeS Flight Simulation Group, UK  11:45  (16) Imparting the "Soft Skills" of Aviation in Simulated Flight Darrogh Owens, Flight and Ground Instructor, Atlantic Flight Training Academy, Ireland  12:10  (17) A 'Decision-Making' Simulator Gordon Woolley OBE, RAeS Flight Simulation Group, UK		Manager Boeing 787, British Airways,	14:25	Operational Training Needs for New
10:00  (14) Leveraging Multiple Technologies To Improve Pilot Training Caleb Taylor, ProFlight, a TRU Simulation + Training Company, USA  10:25  Networking Break  (15) The Second Dimension of Flight Simulation Jerry Gregoire, Founder and Owner, Redbird Flight Simulations Inc, USA  11:20  PANEL DISCUSSION  SESSION 5: ENHANCING TRAINING REALISM OF FUTURE FTD'S Chairman: Hugh Dibley, RAeS Flight Simulation Group, UK  11:45  (16) Imparting the "Soft Skills" of Aviation in Simulated Flight Darragh Owens, Flight and Ground Instructor, Atlantic Flight Training Academy, Ireland  12:10  (17) A 'Decision-Making' Simulator Gordon Woolley OBE, RAeS Flight Simulation Group, UK	09:35	Failure Management Mark Cioffi, VP Commercial		Helicopter Simulation, Thales Training
Technologies To Improve Pilot Training Caleb Taylor, ProFlight, a TRU Simulation + Training Company, USA  10:25  Networking Break  (15) The Second Dimension of Flight Simulation Jerry Gregoire, Founder and Owner, Redbird Flight Simulations Inc, USA  11:20  PANEL DISCUSSION  SESSION 5: ENHANCING TRAINING REALISM OF FUTURE FTD'S Chairman: Hugh Dibley, RAeS Flight Simulation Group, UK  (16) Imparting the "Soft Skills" of Aviation in Simulated Flight Darragh Owens, Flight and Ground Instructor, Atlantic Flight Training Academy, Ireland  12:10  (17) A 'Decision-Making' Simulator Gordon Woolley OBE, RAeS Flight Simulation Group, UK  15:20  (21) Motion Cueing - Baby or Bathwater? Dr Sunjoo Advani, President IDT, Chairman of ICATEE, The Netherlands and RAeS Flight Simulation Group, UK  15:45  (22) New Training Concepts for Abinitio Pilots Erik Duijkers, Managing Director, EPST European Pilot Selection and Training, The Netherlands  16:10  PANEL DISCUSSION  16:35  CLOSING REMARKS Conference Chair: Tari Kaye, Director, Validation and Regulatory Affairs, TRU Simulation + Training, USA  16:45  CLOSE OF CONFERENCE	40.00		14:50	Networking Break
10:55  (15) The Second Dimension of Flight Simulation Jerry Gregoire, Founder and Owner, Redbird Flight Simulations Inc, USA  11:20  PANEL DISCUSSION  SESSION 5: ENHANCING TRAINING REALISM OF FUTURE FTD'S Chairman: Hugh Dibley, RAeS Flight Simulation Group, UK  11:45  (16) Imparting the "Soft Skills" of Aviation in Simulated Flight Darragh Owens, Flight and Ground Instructor, Atlantic Flight Training Academy, Ireland  12:10  (17) A 'Decision-Making' Simulator Gordon Woolley OBE, RAeS Flight Simulation Group, UK		Technologies To Improve Pilot Training Caleb Taylor, ProFlight, a TRU Simulation + Training Company, USA	15:20	Bathwater? Dr Sunjoo Advani, President IDT, Chairman of ICATEE, The Netherlands
Simulation Jerry Gregoire, Founder and Owner, Redbird Flight Simulations Inc, USA  11:20 PANEL DISCUSSION  SESSION 5: ENHANCING TRAINING REALISM OF FUTURE FTD'S Chairman: Hugh Dibley, RAeS Flight Simulation Group, UK  11:45 (16) Imparting the "Soft Skills" of Aviation in Simulated Flight Darragh Owens, Flight and Ground Instructor, Atlantic Flight Training Academy, Ireland  12:10 (17) A 'Decision-Making' Simulator Gordon Woolley OBE, RAeS Flight Simulation Group, UK  Erik Duijkers, Managing Director, European Pilot Selection and Training, The Netherlands  16:10  PANEL DISCUSSION  16:35 CLOSING REMARKS Conference Chair: Tari Kaye, Director, Validation and Regulatory Affairs, TRU Simulation + Training, USA  16:45 CLOSE OF CONFERENCE	10:25	Networking Break	15:45	(22) New Training Concepts for Ab-
<ul> <li>SESSION 5: ENHANCING TRAINING REALISM OF FUTURE FTD'S Chairman: Hugh Dibley, RAeS Flight Simulation Group, UK</li> <li>11:45 (16) Imparting the "Soft Skills" of Aviation in Simulated Flight Darragh Owens, Flight and Ground Instructor, Atlantic Flight Training Academy, Ireland</li> <li>(17) A 'Decision-Making' Simulator Gordon Woolley OBE, RAeS Flight Simulation Group, UK</li> <li>16:35 CLOSING REMARKS Conference Chair: Tari Kaye, Director, Validation and Regulatory Affairs, TRU Simulation + Training, USA</li> <li>16:45 ➤ CLOSE OF CONFERENCE</li> </ul>	10:55	<b>Simulation</b> Jerry Gregoire, Founder and Owner,		Erik Duijkers, Managing Director, EPST European Pilot Selection and Training,
REALISM OF FUTURE FTD'S Chairman: Hugh Dibley, RAeS Flight Simulation Group, UK  11:45  (16) Imparting the "Soft Skills" of Aviation in Simulated Flight Darragh Owens, Flight and Ground Instructor, Atlantic Flight Training Academy, Ireland  12:10  (17) A 'Decision-Making' Simulator Gordon Woolley OBE, RAeS Flight Simulation Group, UK	11:20	PANEL DISCUSSION	16:10	PANEL DISCUSSION
Aviation in Simulated Flight Darragh Owens, Flight and Ground Instructor, Atlantic Flight Training Academy, Ireland  12:10 (17) A 'Decision-Making' Simulator Gordon Woolley OBE, RAeS Flight Simulation Group, UK	1	REALISM OF FUTURE FTD'S Chairman: Hugh Dibley, RAeS Flight	16:35	Conference Chair: Tari Kaye, Director, Validation and Regulatory Affairs, TRU
Gordon Woolley OBE, RAeS Flight Simulation Group, UK	11:45	Aviation in Simulated Flight Darragh Owens, Flight and Ground Instructor, Atlantic Flight Training	16:45	CLOSE OF CONFERENCE
12:35 Networking Lunch	12:10			
		Simulation Group, UK		