Multi-modal transport systems:
Interdisciplinary learning & cooperation

**11ᵗʰ International Summer School
on Aviation Psychology and Human Factors
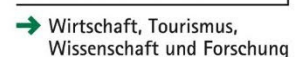3–7 July 2023, Graz, Austria (ISAP'23)**

Hosted by:

FH | JOANNEUM
University of Applied Sciences

Organized by:

DGLP
DEUTSCHE GESELLSCHAFT FÜR
LUFTFAHRTPSYCHOLOGIE E.V.

eamtc

infoWERK
medien & technik

Supported by:

AMST
BUILDING CONFIDENCE.

SMART DIGITAL

Das Land
Steiermark
→ Wirtschaft, Tourismus,
Wissenschaft und Forschung

hogrefe

EAAP
EUROPEAN ASSOCIATION
FOR AVIATION PSYCHOLOGY
Worldwide Support

https://aapa.or.at/isap23/

MONDAY 3rd JULY 2023

Topics of the day: Intermodal Transport Systems / Pilot Training

Time (CET)	Parallel Sessions	Session Chair / Speaker
10:00 - 12:00	Soft opening / Registration Desk / Coffee	
12:00 - 13:00	Lunch Break	
13:00 - 13:30	ISAP'23 Opening Ceremony 📍 *Lecture hall: Toulouse*	**Margit Kanka (AAPA Chair)** **Michaela Schwarz (ISAP'23 Org.)** **Gunnar Steinhardt (EAAP President)** **Holger Friehmelt (Head of Institute Aviation, FH JOANNEUM)**
13:30 - 14:30	**KEYNOTE 1:** New Mobility Systems 📍 *Lecture hall: Toulouse*	*Session Chair: Michaela Schwarz (AT)* **Peter Jorna (NL)**
14:30 - 15:00	Coffee Break	
15:00 - 17:30	**Session 1: Panel Discussion:** Intermodal Transport Systems Facilitated by AAPA 📍 *Lecture hall: Toulouse*	Panelists: (Details: see p. 7) 1. **Holger Friehmelt (AT)** 2. **Peter Jorna (NL)** 3. **Cordula Pflaum (DE)** 4. **Günther Penetzdorfer (AT)** 5. **Frank Michelberger (AT)** 6. **Peter Woditschka (AT)**
15:00 - 17:30	**Session 2:** Kicking Tires and lighting Fires - Understanding the Tribe called "Pilots" 📍 *Lecture hall: Seattle*	*Session Chair: Jóhann Wíum (IS)* **Gunnar Steinhardt (EAAP, NL)** **Nicklas Dahlström (Emirates Airlines, UAE)**
from 19:00	Welcome Reception - Nova Air (Fischeraustrasse 22, 8051 Graz)	Short Bus/Taxi - Ride, Welcome Drink & Finger Food included

TUESDAY 4th JULY 2023

Topics of the day: HMI Design / Usability Engineering

Time (CET)	Parallel Sessions	Session Chair / Speaker
08:00 - 09:00	Registration Desk / Coffee	
09:00 - 10:00	**KEYNOTE 2:** Creating Value: How Human Centric Thinking and Acting leads to User Experience 📍 *Lecture hall: Toulouse*	*Session Chair: Michaela Schwarz (AT)* **Peter Rössger (beyond HMI, DE)**
10:00 - 10:30	Coffee & Posters	
10:30 - 12:00	**Session 3:** Artificial Intelligence and Artificial Networks on crew monitoring 📍 *Lecture hall: Toulouse*	*Session Chair: Wolf-Dietrich Zuzan (AT)* **Oliver Daum (German Air Force, DE)** **Andreas Schmidt (German Air Force, DE)**
10:30 - 12:00	**Session 4:** Optimizing a multimodal journey 📍 *Lecture hall: Seattle*	*Session Chair: Ben Pietersma (NL)* **Gerd Palmetzhofer (Frequentis, AT)** **Johannes Lechner (Frequentis, AT)** **Bernhard Winter (Wiener Linien, AT)**
12:00 - 13:00	Lunch Break taste njoy	
13:00 - 14:30	**Session 5:** The link between Aviation Curriculae at FH Joanneum and actual HF Research Learning Human Factors for UAV the Hard Way 📍 *Lecture hall: Toulouse*	*Session Chair: Peter Woditschka (AT)* **Holger Friehmelt (FH JOANNEUM, AT)** **Sebastian Gabriel (FH JOANNEUM, AT)** **Tom Bruchmann (AIRLabs Austria, AT)** **Arian Ghoddousi (FH JOANNEUM, AT)**
13:00 - 14:30	**Session 6:** Flying with the fastest and largest airplane: Interview with a Saab Draken & B777 pilot 📍 *Lecture hall: Seattle*	*Session Chair: Peter Beer (AT)* **Eugen Pongratz (AT)** **Michaela Schwarz (AT)**
14:30 - 15:00	Coffee To Go / Departure to Operational Visits	

15:00 - 17:30	**Operational Visits:**
	  1. FH Joanneum Aviation Laboratory
	  2. Gate08 - Flight & Racing Sim. Centre
	  3. Austrian Aviation Museum
	  4. Ground handling services Graz Airport
	  5. Air Traffic Control Tower Graz Airport
	  6. Austrian Fed. Railways Technical Services
	  7. Austrian Fed. Railways Training Workshop
		Visits are organized in small groups (max. 12 pax per visit, first in, first serve). Each visit lasts 1.5 - 2hrs. Registration is mandatory.

From 19:00	After Work Dinner (own expense) at Gösserbräu (Neutorgasse 48, 8010 Graz)	Reservation for 30 pax

WEDNESDAY 5th JULY 2023

Topics of the day: Methods / Training & Selection

Time (CET)	Parallel Sessions	Session Chair / Speaker
08:00 - 09:00	Registration Desk / Coffee	
09:00 - 10:00	**KEYNOTE 3:** Aviation Psychology & Human Factors: Applied Methods and Techniques 📍 **Lecture hall:** *Toulouse*	*Session Chair: Michaela Schwarz (AT)* **Ioana Koglbauer (Airbus Defence and Space, DE)**
10:00 - 10:30	Coffee & Posters	
10:30 - 12:00	**Session 7:** Methods and techniques in the validation of innovative air-traffic management concepts 📍 *Lecture hall: Toulouse*	*Session Chair: Vladimir Ivkovic (USA)* **Bernd Lorenz (EUROCONTROL, FR)**
10:30 - 12:00	**Session 8:** Ab - Initio Pilot Selection in Turkey 📍 *Lecture hall: Seattle*	*Session Chair: Rebecca Fill Giordano (AT)* **Deniz Kilicgedik-Sazak (SunExpress, TR)**
12:00 - 13:00	Lunch Break	
13:00 - 14:30	**Session 9:** Introduction to Job Analysis in Aviation 📍 *Lecture hall: Toulouse*	*Session Chair: Vladimir Ivkovic (USA)* **Jóhann Wíum (EAAP, IS)**
13:00 - 14:30	**Session 10:** Training challenges in police helicopter work 📍 *Lecture hall: Seattle*	*Session Chair: Alois Farthofer (AT)* **Alfred Pritz (BMI, AT)**
14:30 - 15:00	Coffee & Posters	
15:00 - 17:30	**Session 11:** Introduction to Aviation Selection Methods 📍 *Lecture hall: Toulouse*	*Session Chair: Vladimir Ivkovic (USA)* **Jóhann Wíum (EAAP, IS)**
15:00 - 17:30	**Session 12:** Hypoxic training to prevent risks in flying - challenges of measuring human factors 📍 *Lecture hall: Seattle*	*Session Chair: Alois Farthofer (AT)* **Cynthia Schinkel (German Air Force, DE) Rebecca Fill Giordano (hr+, AT)**
From 19:00	Town Hall Reception with the Mayor Graz (Hauptplatz 1, 8010 Graz)	Drinks included
From 20:00	After Work Dinner (own expense) at Altsteirische Schmankerlstube (Sackstraße 10, 8010 Graz)	Reservation for 15 pax

THURSDAY 6th JULY 2023

Topics of the day: Maintenance / Safety Management

Time (CET)	Parallel Sessions	Session Chair / Speaker
08:00 - 09:00	Registration Desk / Coffee	
09:00 - 10:00	**KEYNOTE 4:** Maintenance Human Factors in Safety Management 📍 *Lecture hall: Toulouse*	*Session Chair: Margit Kanka (AT)* **John DeLeeuw (University of Southern California, USA)**
10:00 - 10:30	Coffee & Posters	
10:30 - 12:00	**Session 13: Panel Discussion:** Integrated Maintenance Systems Facilitated by AAPA 📍 *Lecture hall: Toulouse*	Panelists: (Details: see p. 8) 1. **Holger Friehmelt (AT)** 2. **Hans-Jörg Lotter (AT)** 3. **Hans Mayer (NL)** 4. **Lydia Kes (NL)** 5. **Matthias Fiegl (AT)** 6. **Christoph Mosser (AT)**
10:30 - 12:00	**Session 14:** Cognitive neuroscience and safety research 📍 *Lecture hall: Seattle*	*Session Chair: John DeLeeuw (USA)* **Julia Behrend (FR)**
12:00 - 13:00	Lunch Break	
13:00 - 14:30	**Session 15:** Competency-based training & assessment in maintenance 📍 *Lecture hall: Toulouse*	*Session Chair: Hans Mayer (NL)* **Lydia Kes (NL)** **Ben Pietersma (NL)**
13:00 - 14:30	**Session 16:** Going the Distance: Insights into Long-Range Aviation and Survival Essentials 📍 *Lecture hall: Seattle*	*Session Chair: John DeLeeuw (USA)* **Ryan Antoon (USA)**
14:30 - 15:00	Coffee & Posters	
15:00 - 17:30	**Session 17:** Maintenance in times of fleet grounding- learning from Covid 📍 *Lecture hall: Toulouse*	*Session Chair: Lydia Kes (NL)* **Hans Mayer (EAMTC, NL)** **Werner Kiemayer (easyJet Europe, AT)**
15:00 - 17:30	**Session 18:** Just Culture in Medicine – A Rocky Road – Learning from Aviation 📍 *Lecture hall: Seattle*	*Session Chair: John DeLeeuw (USA)* **Don-Felix Ryzek (DE)** **Michaela Schwarz (AT)**
From 19:00	After Work Dinner (own expense) at Krebsenkeller (Sackstraße 12, 8010 Graz)	Reservation for 30 pax

FRIDAY 7th JULY 2023

Topics of the day: Space Psychology & Human Factors / Regulations

Time (CET)	Parallel Sessions	Session Chair / Speaker
08:00 - 09:00	Registration Desk / Coffee	
09:00 - 10:00	**KEYNOTE 5:** Aviation Psychology and Human Factors in the aviation regulatory framework 📍 *Lecture hall: Toulouse*	*Session Chair: Michael Lehner-Morawec (Austro Control, AT)* **Jóhann Wíum (EAAP, IS)**
10:00 - 10:30	Coffee & Posters	
10:30 - 11:15	**Session 19:** Aviation vs. Space Psychology: Responsibilities and Duties 📍 *Lecture hall: Toulouse*	*Session Chair: Ryan Antoon (USA)* **Vladimir Ivkovic (USA)** **Margit Kanka (AT)**
10:30 - 11:15	**Session 20:** EASA Rules on Comprehensive Mental Health Assessment & Pilot Peers Support Programs 📍 *Lecture hall: Seattle*	*Session Chair: Michael Lehner-Morawec (Austro Control, AT)* **Christian Czihak (AeMC Salzburg, AT)** **Alois Farthofer (AT)** **Peter Beer (AT)**
11:15 - 12:00	**Session 21:** Methods & application in Space Psychology 📍 *Lecture hall: Toulouse*	*Session Chair: Ryan Antoon (USA)* **Vladimir Ivkovic (USA)**
11:15 - 12:00	**Session 22:** EASA Age 60 Rule: the role of the aviation psychologist and aeromedical examiner 📍 *Lecture hall: Seattle*	*Session Chair: Michael Lehner-Morawec (Austro Control, AT)* **Christian Czihak (AeMC Salzburg, AT)** **Peter Metzger (Austro Control, AT)**
12:00 - 12:30	Wrap-Up and close of ISAP'23 📍 *Lecture hall: Toulouse*	**Michaela Schwarz (AT)** **Holger Friehmelt (FH JOANNEUM, AT)** **Jóhann Wíum (EAAP, IS)**
12:30 - 14:00	Final Lunch	

Panel Discussion 1
Monday 3rd July, 15:00 - 17:30

Intermodal Transport Systems

This panel will be dedicated to discussing new and innovative ideas on how to better integrate regional aviation in other transport systems such as rail-/tram-, road-/bus transport and unmanned aircraft systems. Selected representatives from transport system industries will be sharing their ideas and vision around the following critical issues:

- How can transport systems be integrated to ensure seamless first and last mile connectivity? For example: short-haul flights subsidized with rail and bus services? (air meets rail, bus shuttle services etc.)
- How will flying cars/ air taxis/ drone deliveries influence passenger mobility?
- How can passenger services be improved (home check-in & face recognition security, flexible connection planning depending on delays, integrated ticketing, electronic bag tags/ never q again etc.)
- How can a comprehensive, integrated, interconnected and real time transportation network for different modes of transport be created? - For example a kind of ´1 Stop Shop` for all available transport means incl. public transport, air, train, bus?
- How to implement effective communication channels between different transport providers that integrates all information on time tables, integrated booking and ticketing across all modes of transport connecting departure and arrival destinations? - For example synchronising time schedules; information on delays / cancellation and offering alternatives.
- What are the key ´human factors´ issues in intermodal transport system development and use?
- What are the key promoting aspects for an integrated transport system? - For example sustainability (from walking to use of public transport; reduce congestions, lower the carbon footprint; green flight & drive)

The panel discussion is facilitated by AAPA.
The members of today's panel are:
1. Academia: Holger Friehmelt (FH JOANNEUM, Head of Aviation Institute, AT)
2. Aviation/Road: Peter Jorna (Former Board Member Pal-V, NL)
3. Air Operations: Capt. Cordula Pflaum (Lufthansa Airlines, DE)
4. Mobility: Günter Penetzdorfer (Denkfabrik Mobilität, AT)
5. Rail: Frank Michelberger (Head of Carl Ritter von Ghega Institute, FH St. Pölten, AT)
6. AirRail: Peter Woditschka (FH JOANNEUM & Consultant, AT)

Integrated Maintenance Systems

The second Panel will be focusing on increasing aviation safety by integrating maintenance systems. The use of integrated maintenance software, predictive maintenance services and

- Can predictive maintenance really reduce maintenance-related delays and unscheduled maintenance events?
- Could an aircraft hangar also serve as train, tram or bus depot/ workshop?
- How to maintain competence of future aircraft maintenance technicians and engineers?
- How to digitalize critical infrastructure?
- How can advanced technology (drones, robotics, AI) be used for predictive maintenance analytics to identify early potential maintenance issues before things become safety critical or damage occurs? For example: ordering parts in time, planning and scheduling maintenance cycles at times when equipment is on-site etc.
- How can maintenance processes be streamlined? For example from supply chain management, logistics around parts and tools to be ordered and used up to maintenance teams compilation / assembling with the right expertise
- What are the new or changed competence / skills and attitudes requirements from an integrated maintenance perspective that maintenance teams and management should foster and encourage or demand? - What are advanced means in training (simulation, skill trainer etc) that should be used?
- What are the major ´human factors´ aspects in integrated maintenance? - What are the human related safety aspects that are prominent? - Working with constantly changing teams - how to ensure good teamwork, communication and mutual understanding and support between experts from very different areas - engineering, safety, human factors, management?

The panel discussion is facilitated by AAPA.
The members of today's panel are:
1. Academia: Holger Friehmelt (FH JOANNEUM, Head of Aviation Institute, AT)
2. Aviation: Hans-Jörg Lotter (Zimex Aviation, AT)
3. Maintenance: Hans Mayer (European Aviation Maintenance Training Committee, NL)
4. Training: Lydia Kes (MBO College Airport, Rocva, NL)
5. UAV: Matthias Fiegl (Smart Digital Austria, AT)
6. UAV: Christoph Mosser (EuroDragons, AT)

List of Posters

1. Usability of Touch Displays in Aircraft presented by **Andreas Schmidt** (German Airforce, DE)
2. Proposed traffic display concept for UAV pilots presented by **Markus Peukert** (Technical University of Darmstadt, DE)
3. A European Competency Framework for Aviation Psychologists and Human Factors Specialists in Aviation presented by **Michaela Schwarz** (EAAP, AT)
4. The Latin American Aeronautical Community Perception on Psychology presented by **Mónica Gómez Caniella** (Unión Latinoamericana de Asociationes de Psicología Aeronáutica, UY)
5. Emotional labor among cabin crew members presented by **Ezgi Yıldız** and **Seda Çeken** (Boğaziçi University, TR)
6. Improvement of Air Traffic Controllers' Resillience presented by **Gesa Koß** (Ferdinand Porsche Fern FH, AT)
7. Italian Business Aviation Pilots Opinion on Wellness and Psychological Support presented by **Micaela Scialanga** (IT-APA, IT) and **Stefano Landolfi** (Alba Servici Aerotransporti S.P.A., IT)
8. Occupational Stress Factors of Firefighter Pilots in Tourist Destinations presented by **Figen Gurcoskun** (Muğla sıtkı koçman üniversitesi, TR)

Exhibitors

AMST Systemtechnik GmbH https://www.amst.co.at/

EuroDragons (Smart Digital) https://www.smart-digital.at/en/