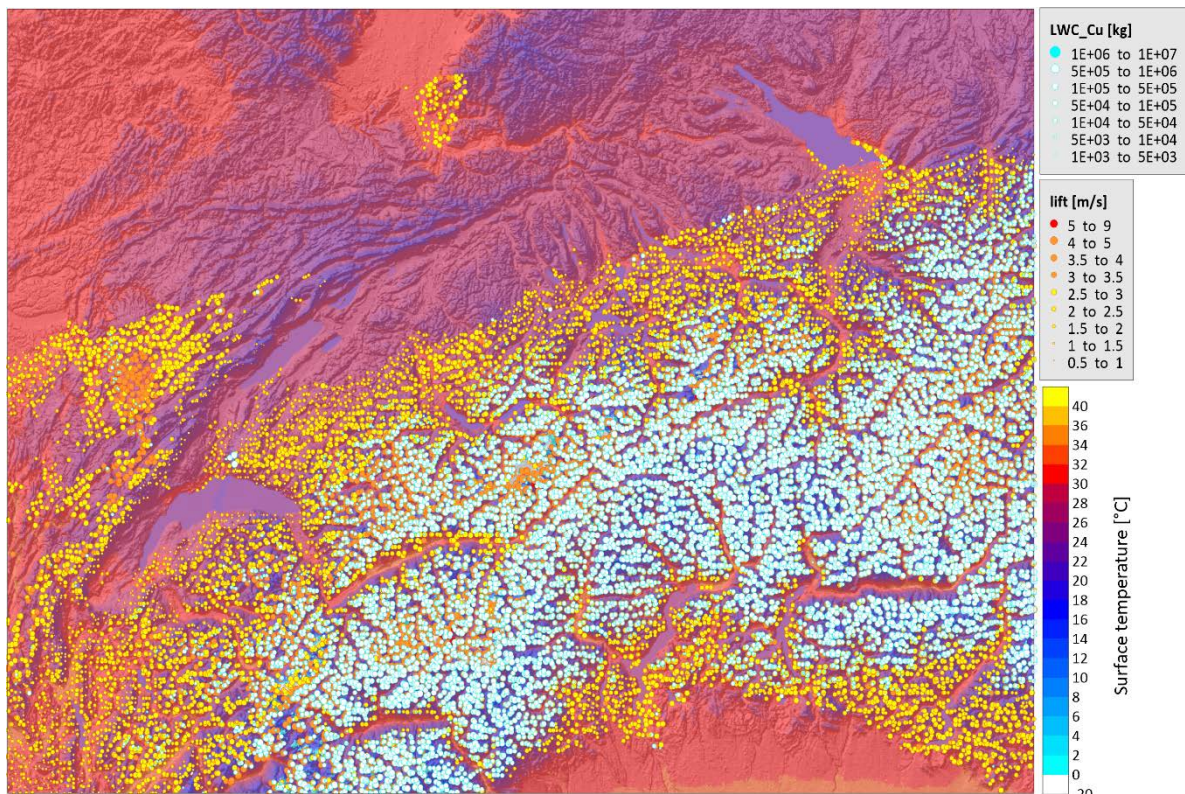




XXXVI OSTIV CONGRESS

19 - 23 August 2024
Uvalde, TX, USA

Congress Programme



Welcome to the OSTIV Congress 2024 in the United States. Every two to three years the Congress offers new information and latest research results in soaring and sailplane technology to scientists and engineers from all over the world. The meeting presents unique opportunities for scientific exchange and coordination of future activities.

This year the Congress takes place along with the 38th FAI World Gliding Championships, in Uvalde, Texas, USA. We are thankful that the OSTIV Congress can take place in a well-equipped auditorium of Sul Ross State Building on the campus of the Southwest Texas Junior College near Garner Airfield.

We thank our industrial sponsors, Alexander Schleicher Segelflugzeugbau and Schempp-Hirth Flugzeugbau, who made it possible for us to offer free access to the Congress.

The Call for Abstracts issued by OSTIV generated response by engineers and scientists from 13 countries worldwide. The received extended abstracts were reviewed, and they will be soon published in the Congress Proceedings booklet. We believe that an excellent program has been generated this way. For their efforts in recruiting high-quality contributions we acknowledge the members of the Program Committee:

Zafer Aslan, Turkey	Götz Bramesfeld, Canada	Richard Carlson, USA
Michael Greiner, Germany	Mark Maughmer, USA	Judah Milgram, USA
Lukáš Popelka, Czech Republic	Rolf Radespiel, Germany	Gerard Robertson, New Zealand

Preparing the Congress took endless hours of work by the Organizing Team, consisting of Rolf Radespiel, Germany and Britta Schlenker, Germany. We are very thankful for these efforts.

The OSTIV Congress is the perfect setting to bestow the OSTIV Plaque, OSTIV Prize 2024 and the OSTIV Best Paper Awards. We look forward to the Opening Ceremony and the Congress Closing Dinner for presenting the Award Winners.

We wish all Congress participants an exciting and rewarding week in Uvalde.

Prof. Rolf Radespiel

Prof. Mark Maughmer

OSTIV President

OSTIV Vice President

OSTIV acknowledges support provided by



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Welcome to Uvalde for the XXXVI OSTIV Congress

The City of Uvalde is the seat of Uvalde County, Texas, USA. It has a population of around 15,000. The climate here is subtropical humid with hot, humid summers. The region is known as one of the best locations for gliding in the United States. Uvalde was the site of the 1991 and 2012 World Gliding Championships. The Uvalde area is home to a large number of animal species. The city lies about 100 km west of San Antonio, the oldest and second largest city in the State of Texas.



Uvalde County Courthouse,
photograph by Larry D. Moore



Janey Slaughter Briscoe Grand Opera House,
photograph by Larry D. Moore

The OSTIV Excursion – San Antonio and Frio Bat Cave on Wednesday 21 August 2024

We will offer a bus tour to San Antonio on August 21, 2024. San Antonio is a large city with 1.4 million residents. The city has a rich, multinational culture and offers numerous attractions for tourists. Since August days can often become quite hot, we plan to offer our guests a walk along the San Antonio River, and we will have lunch at one of the many restaurants located along the 5 km long river walk. In the afternoon, we intend to visit the Alamo, which was founded as Mission San Antonio de Valero in 1718 and became a military fort in 1795.



View of River Walk, photograph by Michael Barera



View of Fort Alamo, photograph by David R Tribble

After enjoying afternoon tea somewhere in the rural district between San Antonio and Uvalde, we will visit the Frio Bat Cave. The cave houses one of the largest bat colonies in Texas. Witness up to 10 million Mexican free-tailed bats as they make their flapping-wing flight into the evening sky. Hike to the top of the hill near the cave to see nature's great spectacle.



Delegates and friends of OSTIV are invited to join in on this tour. Cost will be specified at Congress registration.

Departs: Garner Airfield on 21 August at 10:00 am.

OSTIV Congress Dinner

Friday 23 August 2024

After the fascination of a solid week of technical presentations, all OSTIV Speakers, delegates, family and friends of OSTIV are welcome to enjoy a relaxed and friendly dinner.

Please advise attendance and numbers at OSTIV Registration desk when you register.



OSTIV Congress, 19 - 23 August 2024

Program of Sessions and Presentations - hybrid Congress Format

webex link for practicing webex access and presentation skills, open 18 until 21 August 2024

[please send email to admin@ostiv.org to request link](mailto:admin@ostiv.org)

webex link for Congress presentations open daily from 8:30 local time (US CDT)

[please send email to admin@ostiv.org to request link](mailto:admin@ostiv.org)



	Monday, 19 August 2024
	Southwest Texas Junior College Campus, Sul Ross Building, Meeting Room B111
08:00 - 16:00	registration of delegates
	Southwest Texas Junior College Campus, Sul Ross Building, Briscoe Auditorium
	Conference Opening and OSTIV Award Presentation
	Chair: Mark Maughmer
09:00 - 09:45	OPENING ADDRESS. Rolf Radespiel, President of OSTIV Presentation of OSTIV Plaque and Klemperer Award 2024 Presentation of OSTIV Prize 2024
09:45 - 11:00	coffee break
	Aerodynamic Design and Analysis
	Chair: Goetz Bramesfeld
11:00 - 11:30	MULTI-OBJECTIVE OPTIMIZATION OF A DUAL-MODE AIRFOIL FOR ENHANCED PERFORMANCE IN NLF AND HLFC OPERATIONS. A. Sudhi, C. Badrya, R. Radespiel, Braunschweig, Germany.
11:30 - 12:00	CFD COMPARISON OF A SLOTTED, NATURAL-LAMINAR-FLOW 18M SAILPLANE. C. J. Axten , University Park, PA, USA.
12:00 - 12:30	APPLICATION OF A SLOTTED, NATURAL-LAMINAR-FLOW AIRFOIL TO AN 18-METER HIGH-PERFORMANCE SAILPLANE. M. D. Maughmer, C. J. Axten, P. Chidekel, L. Metkowsky, D. M. Somers, University Park, PA, USA.
12:30 - 14:00	lunch break / registration
	Bonded Sailplane Structures and Crash
	Chair: Michael Greiner
14:00 - 14:30	REVIEW OF PIK-20D WING SPAR WEB BONDING. E. Soinne, Helsinki, Finland.
14:30 - 15:00	CRASHTEST RESULTS OF A SAILPLANE AT FULL SCALE . T.K. Lindner, C. Rolffs, S. Scheffler, Braunschweig, Germany.
15:00 - 15:30	OSTIV PASSIVE SAFETY STANDARD. M. Volck, Wiener Neustadt, Austria.
15:30 - 16:00	coffee break
	Thermal Convection Models
	Chair: Edward Hindman
16:00 - 16:30	THE THIRD GENERATION OF THE CONVECTION MODEL ALPTHERM3D IS NOW READY FOR APPLICATIONS. B. Neining, Menzingen (Zug), Switzerland.
16:30 - 17:00	LIFT: LEVERAGING INTER-MODEL FIDELITY OF THERMALS. D. Crowe, S. De Wekker, B. Neining, Charlottesville, USA, and Menzingen, Switzerland.
	Southwest Texas Junior College Campus, Sul Ross Building, Briscoe Auditorium
20:00 - 21:00	OSTIV General Conference

	Tuesday, 20 August 2024
	Southwest Texas Junior College Campus, Sul Ross Building, Briscoe Auditorium
08:30 - 08:45	registration at close-by meeting room B111
	Sailplane Design
	Chair: Rolf Radespiel
08:45 - 09:15	THE PERFORMANCE OF A COMPETITION SAILPLANE WITH VARIABLE-TOE WINGLETS. P. Chidekel, M. Maughmer, State College, University Park, USA.
09:15 - 09:45	FLUTTER CLEARANCE TECHNIQUES AND TOOLS FOR GLIDERS. L. v. Zyl, Pretoria, South Africa.
09:45 - 11:00	coffee break
	Sailplane Performance
	Chair: Götz Bramesfeld
11:00 - 11:30	EXPERIMENTAL DETERMINATION OF THE SPEED AND LIFT POLAR USING THE MULTISENSOR HAWK PLATFORM. P. Huang, H. Meyr, Dresden, Germany.
11:30 - 12:00	INFLIGHT MEASUREMENTS IN CIRCLING FLIGHT AND VALIDATION CALCULATIONS. K. Rohde-Brandenburger, Braunschweig, Germany.
12:00 - 12:30	PERCOLATION AND THERMAL SELECTION. J. Bird, El Paso, TX, USA.
12:30 - 14:00	lunch break
	Flight Instruments
	Chair: Kurt Sermeus
14:00 - 14:30	USING MACHINE LEARNING FOR AERIAL TRAFFIC DETECTION. M. Travner, M. Pirson, A. Eberhard, Zurich, Switzerland.
14:30 - 15:00	ESTIMATORS FOR ANGLE OF ATTACK & ANGLE OF SIDESLIP OF A SAILPLANE. M. Scherrer, Toulouse, France.
15:00 - 15:30	HAWK: VARIO AND INSTANTANEOUS WIND MEASUREMENT USING SENSOR FUSION AND DIGITAL SIGNAL PROCESSING. P. Huang, H. Meyr, Dresden, Germany.
15:30 - 16:00	coffee break
	Atmospheric Phenomena
	Chair: Zafer Aslan
16:00 - 16:30	ANALYSIS OF HEAVY RAINFALL OVER CYPRUS: 23 FEBRUARY 2011 EVENT. E. Birinci, E.T. Özdemir, A. Deniz, Z. Aslan, Istanbul, Turkey.
16:30 - 17:00	RAIN-ON-SNOW CLIMATOLOGY AND ITS IMPACT ON FLOOD RISK IN SNOW-DOMINATED REGIONS OF TÜRKIYE. S. Yeşilköy, Ö. Baydaroğlu, Iowa City, USA.
17:00 - 17:30	THE IMPACT OF DATA AUGMENTATION ON FLOOD NOWCASTING. Ö. Baydaroğlu, I. Demir, Iowa City, USA.
	Southwest Texas Junior College Campus, Auditorium to be defined
	Evening Session
	Chair: Rolf Radespiel
20:00 - 21:00	THE DEVELOPMENT OF NIXUS – A FLY-BY-WIRE OPEN CLASS SAILPLANE. P. Iscold, J. Payne, San Luis Obispo, CA, USA.

	Wednesday, 21 August 2024
	Departing Uvalde, location to be announced
10:00 - 21:00	Excursion to San Antonio and Frio Bat Cave
	Tickets sold at registration desk of OSTIV Congress

	Thursday, 22 August 2024
	Southwest Texas Junior College Campus, Sul Ross Building, Briscoe Auditorium
	Safety
	Chair: Richard Carlson
08:45 - 09:15	SAFETY II FOR CLUBS NEEDS PROFESSIONALS. A. Ultsch, Marburg, Germany.
09:15 - 09:45	THE NEUROSCIENCE OF SAFETY. D. Donaldson, Toronto, Canada.
09:45 - 11:00	coffee break
	Windtunnel Testing
	Chair: Mark Maughmer
11:00 - 11:30	WIND-TUNNEL TESTING AND NUMERICAL MODELING OF THE AIRFOIL AH93-157. L. Popelka, V. Skála, J. Fürst, Prague, Czech Republic.
11:30 - 12:00	COMPARISON OF EXPERIMENTAL AND NUMERICAL SOLUTION OF BOUNDARY LAYER BEHAVIOR ON AIRFOIL. J. Walter, M. Schmirler, L. Popelka, Prague, Czech Republic.
12:00 - 12:30	LAMINAR SEPARATION BUBBLES UNDER TURBULENT INFLOW CONDITIONS OF THERMALS – WIND TUNNEL EXPERIMENTS AT ADAPTED INFLOW CHARACTERISTICS. M. Greiner, W. Würz, Stuttgart, Germany.
12:30 - 13:00	WIND TUNNEL TESTING OF THE PROPWING DISTRIBUTED PROPULSION SYSTEM FOR SAILPLANES. J. Pytka, Z. Czyż, J. Pytka, P Karpiński, Lublin, Poland.
13:00 - 14:00	lunch break
	Thermals
	Chair: Rolf Radespiel
14:00 - 14:30	THERMALS IN THE LABORATORY. U. Wölfel, Edemissen, Germany.
14:30 - 15:00	UAS OBSERVATIONS OF THE AERIAL ENVIRONMENT WITHIN SEVERE THUNDERSTORMS. J. J. Bird, B. Agrow, E. Frew, El Paso, TX, USA.
15:00 - 15:30	coffee break
	Training and Safety
	Chair: Richard Carlson
15:30 - 16:00	DEALING WITH THE GRAVEYARD SPIRAL. J. Crawford, Wuerenlingen, Switzerland.
16:00 - 16:30	AN INITIAL ANALYSIS OF 340 FATAL SAILPLANE ACCIDENTS IN THE USA. M. Steckner, Beachwood, Ohio, USA.
16:30 - 17:00	PREMATURE TERMINATION OF THE TOW (PT3) TURN-BACK ALTITUDE REQUIREMENTS. M. Steckner, Beachwood, Ohio, USA.
17:00 - 17:30	ENHANCING STUDENT GLIDER TRAINING THROUGH SIMULATOR INTEGRATION. J. D. Navaratnam, A. Stone, L. Pinlac, G. Bramesfeld, Toronto, Canada.
	Southwest Texas Junior College Campus, Sul Ross Building, Briscoe Auditorium
	Evening Session
	Chair: Richard Carlson
20:00 - 21:30	Discussion Forum on Training and Safety

	Friday, 23 August 2024
	Southwest Texas Junior College Campus, Sul Ross Building, Briscoe Auditorium
	Remarkable Projects
	Chair: Mark Maughmer
08:45 - 09:15	ADVENTURES IN HUMAN-POWERED FLIGHT. D. Donaldson, Toronto, Canada.
09:15 - 09:45	CANADIAN ADVANCEMENTS WITH SOLAR-POWERED FLIGHT. G. Bramesfeld, W. Bissonnette, V. Daniliuk, Toronto, Canada.
09:45 - 11:00	coffee break
	Overall Design
	Chair: Rolf Radespiel
11:00 - 11:30	TOW-DRONE - LOW ENERGY AEROTOW. G.E. Koppenwallner, Göttingen, Germany.
11:30 - 12:00	IS THERE A MARKET FOR THE ULTRAVISION? G. Garcia-Atance Fatjo, Preston, UK.
12:00 - 13:30	lunch break
	Flight Strategy
	Chair: Götz Bramesfeld
13:30 - 14:00	FLIGHT STRATEGIES FOR ENDURANCE INCREASE UTILIZING HORIZONTAL WIND SHEARS. V. Daniliuk, G. Bramesfeld, W. Bissonnette, Toronto, Canada.
14:00 - 14:30	DYNAMICS MODELS IN TRAJECTORY OPTIMIZATION FOR DYNAMIC SOARING. Z. Zhuo, M. Nahon, I. Sharf, Montreal, Canada.
14:30 - 15:00	coffee break
	OSTIV History
	Chair: Mark Maughmer
15:00 - 15:30	TECHNICAL SOARING AT 53 YEARS: PAST, PRESENT, FUTURE. E. Hindman, K. Sermeus, New York, USA, and Montreal, Canada.
	Location to be announced
19:00	Congress Closing Dinner