

10th International Conference on Recent Advances in Air and Space Technologies (RAST2023)
Conference Program

Time					June 7, 2023 (Wednesday)				
09:00-10:00					REGISTRATION - Welcome Cocktail				
10:00-10:45					OPENING CEREMONY & SPEECHES (Atatürk Conference Hall)				
10:45-11:45					KEYNOTE SPEECH (Atatürk Conference Hall) Prof. Soon-Jo Chung, PhD California Institute of Technology, USA Title: Spacecraft Swarms: Opportunities and Challenges Using Artificial Intelligence Prof. Tatsuaki Hashimoto, PhD Japan Aerospace Exploration Agency, Japan Title: Semi-Hard Landing on the Moon: A Challenge to Ultra-Small Lunar Exploration				
11:45-12:00					GROUP PHOTO SHOOT				
12:00-13:30					LUNCH				
13:30-15:00					Vatan Conference Hall	Seminar Hall 1	Seminar Hall 2	Seminar Hall 3	
15:00-15:15					COFFEE BREAK				
15:15-16:45					Vatan Conference Hall	Seminar Hall 1	Seminar Hall 2	Seminar Hall 3	
16:45-18:00					Vatan Conference Hall	Seminar Hall 1	Seminar Hall 2	Seminar Hall 3	
Time					June 8, 2023 (Thursday)				
09:00-10:30					Vatan Conference Hall	Seminar Hall 1	Seminar Hall 2	Seminar Hall 3	Seminar Hall 5
10:30-10:45					COFFEE BREAK				
10:45-11:00					OPENING SPEECH (Vatan Conference Hall)				
11:00-12:00					KEYNOTE SPEECHES (Vatan Conference Hall) Prof. Ruxandra Mihaela Botez, PhD University of Quebec, Canada Title: Methodologies for Morphing Unmanned Aerial Systems Performance Improvement Assoc. Prof. Arif Karabeyoğlu, PhD Koç University, Türkiye Title: Türkiye's Aspirations in Space				
12:00-13:30					LUNCH				
13:30-15:00					Vatan Conference Hall	Seminar Hall 1	Seminar Hall 2	Seminar Hall 3	Seminar Hall 5
15:00-15:15					COFFEE BREAK				
15:15-16:45					Vatan Conference Hall	Seminar Hall 1	Seminar Hall 2	Seminar Hall 3	Seminar Hall 5
Time					June 9, 2023 (Friday)				
09:00-10:30					Vatan Conference Hall	Seminar Hall 1	Seminar Hall 2	Seminar Hall 3	
10:30-10:45					COFFEE BREAK				
10:45-12:00					Vatan Conference Hall	Seminar Hall 1	Seminar Hall 2	Seminar Hall 3	
12:00-14:00					LUNCH				
14:00-15:30					Vatan Conference Hall	Seminar Hall 1	Seminar Hall 2	Seminar Hall 3	
15:30-15:45					COFFEE BREAK				
15:45-17:00					Vatan Conference Hall	Seminar Hall 1	Seminar Hall 2	Seminar Hall 3	
17:00-17:15					CLOSING CEREMONY				

Paper IDs	Paper Titles
16	Simulation of Autonomous Grading of Lunar Surface
17	Sensitivity Analysis to Estimate the Positional Accuracy of a Small Size Unmanned Aerial Vehicle
18	Relative State Estimation for Two-Satellite Formation with Three Extended Kalman Filters Architecture Using GNSS Receivers
19	Cluster Satellite Relative Navigation with Angularly Oriented and Colored Light Source Image Processing
21	Agile Methods on Flight Tests
23	1D Simulation of a Single Engined VLA Class Aircraft's Fuel System
24	Machine Learning-Based Fault Diagnosis Approach for Geosynchronous Satellite Power Systems
25	The Development and Validation of a Dependable Power Distribution Module with Four Switching Lines for Nanosatellite Application
26	A Landing Dynamics Analysis Model for STOVL Aircraft
29	Multi-Criteria Strategy for Estimating GEDI Terrain Height
30	Numerical Study on the Structural Behaviour of a Solid Propellant Rocket Motor Bolted Flange Joint Under Internal Pressurization
31	Securing the Skies: Exploring Privacy and Security Challenges in Internet of Drones
34	Superpixel Weighted Low-Rank and Sparse Approximation for Hyperspectral Unmixing
35	Locality Constraint Joint-Sparse and Weighted Low-Rank Based Hyperspectral Image Classification
36	Development of a Reflector Optical Telescope Subsystem for Remote Sensing
38	Decision Probability Based Immune Plasma Algorithm for Path Planning Problem of Unmanned Aerial Vehicles
39	The Characterization of Impact Dynamics in Aerospace Structures – The Case of Deformable Impactors
40	Multiple Fading Factors Based Adaptive SVD-Aided UKF for Small Satellite Attitude Estimation
41	Comparison of EKF & UKF for GNSS Based Micro Satellite Orbital State Estimation
42	Extraction of Modulation Transfer Function by using Simulated Satellite Images
43	Application of SG6043mod Airfoil for the Enhanced Aerodynamic Characteristics of UAV Wing
44	Virtual Investigation on the Response of Glare to Low Velocity Impact
45	Design and Analytical Analyses of eVTOL UAV Performance Calculator for Power and Energy
46	Geometry and Image Quality Assessment of SkySat Imagery for Building Identification
47	Unsupervised Clustering of GNSS Receiver Measurements for Satellite Selection
48	Structured H-Infinity and Modal Control Approaches on a Flexible Micro Satellite – A Comparison Analysis
50	Quality Assurance & Standards in Space Projects
51	From Concept to Flight: Developing a Hybrid Solar-Powered UAV Prototype for Malaysian Skies
52	Case Study on Selecting Optimal Design for Main Central Cone of Low Earth Orbit Satellite
54	Numerical and Experimental Investigations on Radiative Heat Flux Characteristics of an Infrared Quartz Lamp
55	Creep Modeling of 3D Printed Carbon Black Reinforced Polyetherimide Composites
56	2-DOF Robust H ∞ Controller Synthesis for Fin Actuation System
57	Spin Hamiltonian Investigations on Atomic Spin Gyroscope Using EasySpin Toolbox
58	Conjunction Analysis and Avoidance Principles from Uncontrolled Space Objects Used at Turksat
60	Prediction of the Spacecraft Position Relatively to the Focal Line of the Solar Gravitational Lens by Neural Network
62	Blockchain-Based Safety and Efficiency Approach to Air Traffic Management
64	A Numerical Investigation of Total Temperature Probes Measurement Performance
65	Low Earth Orbit-Based Small-Size Constellation Satellite System Design For Communication Between Türkiye and Antarctica
66	UASChainSec: A Blockchain Based Framework for Secure 5G-Capable UAS Communication
67	Recognizing and Tracking Person of Interest: A Real-Time Efficient Deep Learning Based Method for Quadcopters
68	Designing of Harmonics Filter for Radio Systems at 30-49 MHz
69	A New Anomaly-Based Intrusion Detection System for MIL-STD-1553
70	Investigation of Earth's Bow Shock Characteristic Using Data Retrieved from THEMIS C Spacecraft
72	A PLL Frequency Synthesizer Design for C-band Satellite Communications
74	Direct Foaming Approach for Reinforcing Re-entrant Auxetic Structures for Superior Compressive Properties and Energy Absorption
79	Performance Analysis of MADGRAD, MirrorMADGRAD and ADAM Optimizers on a CNN Model in the Hyperspectral Image Classification
80	Calculating the Vegetation-to-Building Ratio in Urban Environment Using Remote Sensing Images and Artificial Neural Network. A Case Study From Sofia, Bulgaria
81	Blockchain Based Data Sharing within Unmanned Aerial Vehicles Swarm
82	New Generation Electric Tail Rotor Performance Analyses
83	Comparative Analysis of Deep Learning and Machine Learning Models for Burned Area Estimation Using Sentinel- 2 Image: A Case Study in Mugla-Bodrum, Turkey
84	RAE M2129 S-Shaped Air Intake CFD Analysis Using OpenFOAM
85	Spacecraft Control During the Descent to the Surface of Jupiter's Satellite Callisto
86	The Free Vibration Characteristics of Canadair NF-5 Aircraft Canopy
87	Stabilizing Adaptive Feedback Controller Design for a Helicopter Gun Turret System
88	An Inverse Synthesis Method for The Determination of Effective Mechanical Properties for Additively Manufactured Aperiodic Structures with Finite Thickness
93	Novel Gas Turbine Waste Heat Recovery Air Cycle Electrical Generator
95	Model Predictive Control of a Flexible Spacecraft with Constraints on Torques
97	Efficient Motion Control Strategy for Drone Swarms
98	Certification Compliant Performance Analysis and Requirements Management of an Electrically Powered General Aviation Aircraft
100	A Novel Metasurface Multifunctional Polarization Converter in X- and Ku- Bands for Radar Cross Section (RCS) Reduction Application
101	Gaining Swarm Behavior through Establishing a Control System and Communication Network on Unmanned Aerial Vehicles
104	Vessel Detection from Optical Remote Sensing Images with Deep Learning Methods
106	A Low Cost, Efficient Electrical Power System Design for CubeSat
107	Spacecraft Surface Charging Prediction using CIMI and SPIS Coupled Model
108	Experimental and Numerical Vibration Analysis of GLARE Beams
110	Numerical Simulation of the Flapping Eagle, Owl and S1223 Airfoils

111	Determination of Space Object Size in LEO using Measurement of Brightness
112	Numerical Investigations of low Reynolds Number Aerodynamics of Bio-Inspired 3D wings
113	Dual-Polarized Reflectarray for High-Speed Satellite Communication
114	Mechanical Behaviour of Adhesively Bonded Single Strap Joints under Three-Point Bending Loading
115	Structural Optimization of Composite Panels Using Genetic Algorithm
117	Stabilization of Non-Cooperative Satellites in Low Earth Orbits using Inter-Satellite Atmospheric Drag
118	Space Radiation Estimation for The Turkish Lunar Mission
120	End-to-end Modulation Transfer Function (MTF) Simulator for High-resolution Spaceborne Electro-Optic Imagers
123	Quadcopter Guidance Law Design using Deep Reinforcement Learning
124	A Multi-Level Blockchain-based Node Authentication Approach for UAV-assisted Wireless Sensor Networks
125	Design of a Guidance System for an Airlaunch Rocket Using Iterative Guidance Mode
126	Analyzing the Effects of Visual Based Tracking Algorithms on Classical Guidance Methods
127	Comprehensive Overview of a Process-Oriented Build Tool for Airborne Safety-Critical Software Development
128	Design of a Compact Telephoto Objective for 6U CubeSats
129	High-Velocity Impact Responses Of Composite Sandwich Panels With Honeycomb Core By Using Experimental And Numerical Methods
131	A Comparative Study of Maksutov-Cassegrain and Ritchey-Chretien Optical Designs for 6U CubeSats
132	Performance Comparison of Deblurring Techniques for Optical Satellite Imagery Using MTF
133	Sigma vector calculations in Nodal Aberration Theory (NAT) and its experimental investigations
134	A Role-Based Access Control Management Model on Blockchain for Restricted Facilities: An Airport Example
136	Alternative Methods Based on Subtraction and Linearization of the Noise Fields for Wide-Beam SAR Image Denoising
138	Comparison of Feature Extraction Methods for Automated Target Recognition by Reducing Speckle Noise in SAR Data
141	Numerical Simulation of Hypervelocity Space Debris Impact
143	File System for Aircraft Maintenance Records Based on Blockchain and IPFS
146	Data-Driven Model Discovery and Control: Real-Time Implementation to Highly Maneuverable Aircraft Lateral-Directional Dynamics
147	Trends in SAR Satellite Design: From Tons of Mass to Hundreds of Kilograms in Designing SAR Satellite
149	Early Detection of Wildfires in the European Area with Nano-Satellite Constellations
150	Optimization of the Aeroacoustics and Aerodynamics of a wind turbine airfoil with Serrations using Multi-Criteria Decision Making
151	Future Trends and Challenges of Autonomous and Robotic Systems in Air and Space Technologies
152	Preliminary Design of Asteroid Mining Tycoon Game
155	Deep Reinforcement Learning for Trajectory Generation and Optimization of UAVs
156	Petrography of Vigarano Type NWA 5508 Carbonaceous Chondrite
157	An Immutable Navigation Database on Blockchain
158	Formation Control of Unmanned Aerial Vehicles for Dynamically Changing Formations Facing Suddenly Emerging Environmental Features
159	Performance Analysis of System Identification Techniques for a Rocket
160	Prototype of a Martian Rover Programmed by Mamdani Inference Method with Fuzzy Logic
161	Ranking the Criteria for Assessing Space Debris Removal Technics by BMW and FUCOM Methods
162	Investigation of the Behavior of an Aircraft Wing Exposed to Lightning Strike with an Analytical-Based Model
164	Robust Trajectory Optimization of Constrained Re-Entry Flight
173	A Survey of Prominent Image Processing Research on Needle-Type Instrument Reading on Aircraft
176	The Solution of Helicopter Ground Resonance Instability
177	Quaternion Interpolation Under the Angular Velocity Constraint
181	Effect of Airfoil Thickness on Flow over the Cambered Airfoils
185	Numerical Investigation of Hybrid Rocket Nozzle Heat Transfer and Test Validation
190	Comparative Study on Vibration Control Using Reinforcement Learning
191	Analysis of GDOP Based on GEO Satellite
192	External Magnetic Field Contributions to B-Dot Attitude Control of a Nanosatellite
193	An Analytical Investigation of Propeller Whirl Flutter
194	Onboard Gyro Calibration for Small Satellites Using Star Tracker Measurements
195	Modeling and Simulation of Pre-Apogee Trajectories for Low Altitude Rockets
196	Evaluation of Modern Deep Learning Architectures in Remote Sensing Scene Classification
197	Sufficiency Assessment of Assembly Areas After Kahramanmaraş Earthquakes 2023 by Remote Sensing
198	The Effect of Injector Geometry on Performance of a Lab-Scale Hybrid Rocket Motor
204	Estimation of Strain Values of Aluminum Based Aviation Materials by Using Artificial Neural Network
205	Launch Vehicle Selection with TOPSIS: Multi-criteria Decision Making for Space Mission
206	Tether Experiment: PocketQube Deployed from a CubeSat
207	Air Aid Bridge Problem for the Case of Possible Istanbul Earthquake
209	Field of View and Accuracy Improvement of a Coarse Sun Sensor
214	Artificial Neural Network Based Initial Orbit Determination for Angle-Only Data
216	TUBITAK UZAY Spaceborne GNSS Receiver System for LEO Applications
217	Enhancing Disturbance Rejection in Minisatellite Attitude Control: A Comparative Study
218	Prevention of Aviation Accidents with Prediction of Cognitive States
222	Effect of Airfoil Thickness on Flow over the Symmetric Airfoils: Part I-Experimental Analysis
226	Trajectory Optimization for a Single Stage Launcher with Constrained Conditions
227	Decision for The Next Unmanned Aerial Vehicle Considering Regional Operational Requirements Based on Z-Fuzzy Best-Worst Method
228	Aircraft State Estimation via KF&AKF Methods
229	Antenna Orientation Control for LEO Satellites
230	Electrical Power Subsystem of IMECE Satellite

233	Cost Effect of Launch Site Location on Multistage Rocket Design to Be Used in Geostationary Satellite Launch Missions
234	Design and Development of Reflector Telescope
235	Turkey's First Space-Qualified Electric Propulsion System Developed at TUBITAK UZAY for GEO Communication Satellite Project
237	Determination of Caspian Sea Coastal Changes Using Remote Sensing and Geographic Information Systems
238	An Artificial Neural Network Approach to Predict Strain Gauge Results of Unidirectional Laminated Composites' Tensile Test
239	Post-Disaster Area Monitoring with Swarm UAV System for Effective Search and Rescue
240	The Effects of Thickness and Stacking Sequence on Crippling Phenomenon for Laminated Composites Structures
241	A Multi-Drone System for Formation Flight and Solo Attack
242	Landing with Confidence: The Role of Digital Twin in UAV Precision Landing
243	SAR Satellite Orbit Design and Power Consideration
244	Flight Control System Design for Fixed Wing Aircraft
246	Attitude Guidance Effects on Image Quality for Spaceborne Electro-Optic Imagers with TDI
247	Assessment of Atmospheric Radiation Effects on Aircraft Safety Analysis
248	A Lyapunov-based Nonlinear Discrete-Time Controller Design for Attitude Control of Quadrotor Unmanned Aerial Vehicles
249	Thermal Buckling Analysis of Rectangular Plate Structures by Differential Quadrature Method
252	Computational Investigation of Turbulent Shock Wave Boundary Layer Interaction via Secondary Recirculation Induced Wall Jet
253	Free Vibration Analysis of Accelerated Helicopter Rotor Blade
254	The Design and Development of the High-Altitude "ECubeSat" Model for Academic and Professional Purposes
255	Simulation of Counter-UAV Tactics Against Drone Swarms: A Serious Game Approach
257	Wideband Circularly Polarized Antenna for Multiband GNSS Receiver on IMECE
258	Perturbation Effect to Orbit Motion of Satellite for Positioning System
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280	Orbital Transfer Performance Analysis for the First Turkish Lunar Mission
281	Turkish First Indigenous 100V Satellite Power Subsystem
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283	Instrument Overview of the Turkish Lunar Mission Optical Payloads
284	Battery Discharge Regulator based on Weinberg Converter for High Power Communication Satellites
285	Electric Propulsion System Including Hall-Effect Thruster for IMECE Satellite
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288	Object-Oriented Extraction of Highway Bridges Using Very High Resolution Digital Aerial Images and Digital Surface Model