

**PROGRAM**  
**INTERNATIONAL SEMINAR ON AEROSPACE SCIENCE AND TECHNOLOGY**  
**ISAST VIII - 2020**

November 17, 2020

Time (GMT+7)	Agenda	Duration	Room	PIC
08.00 – 08.15	<b>Registration (Joining the zoom webinar)</b>	15 minutes	Main Room	Secretariat
08.15 – 09.00	<b>Opening Ceremony</b>		Main Room	MC
	*The Rules of Conference Announcement	10 minutes		
	*Indonesia Raya Anthem	5 minutes		
	* Welcome Words and Introduction Address by ISAST General Chair Dr. Effendi Dodi Arisandi	10 minutes		
	* Opening Remarks by Prof. Dr. Thomas Djamaluddin, Chairman of National Institute of Aeronautics and Space of Republic Indonesia	20 minutes		
09.00 – 11.30	<b>Keynote Addresses :</b> <b>09.00 – 09.30</b> <b>Kyle Taylor</b> (Momentum Aeronautics, USA) “Designing and Managing The Certification of An Amphibious Aircraft Including The Challenges and Opportunities”	30 minutes	Main Room	Moderator (Ir. Christianus R. Dewanto, M. Eng.)
	<b>09.30 – 10.00</b> <b>Dr. Yusuke Hiejima</b> (Kanazawa University, Japan) “Effect of Chemical Degradation and Pshycal Damage on Microstructure of Semi-Crystalline Polymers”	30 minutes		
	<b>10.00 – 10.30</b> <b>Prof. Bambang Brodjonegoro, Ph.D.</b> (Ministry of Research and Technology/National Research and Innovation Agency) “Building a National Aerospace Industry Ecosystem”	30 minutes		
	<b>10.30 – 11.00</b> <b>Romie Oktovianus Bura, BEng.(Hons), MRAeS, Ph.D., CIQnR., CIQaR.</b> (Indonesia Defense University) “Aerospace and Defense Technology Innovation in Indonesia”	30 minutes		
	<b>11.00 – 11.30</b> <b>Prof. Dr. Caner Ozdemir</b> (Mersin University, Turkey) “Polarimetric Synthetic Aperture Radar Imaging”	30 minutes		
11.30 – 11.40	<b>Photo Session</b>	10 minutes		MC
11.40– 12.50	<b>Lunch Break</b>	100 minutes		MC
12.50 – 16.00	<b>Parallel Seminar Sessions</b>	190 minutes	Breakout Room A, B, C, D, E	Zoom Host
16.00 – 16.10	<b>Closing Remarks By Dr. Rika Andiarti</b> Deputy Chairman Aeronautics and Space Technology Affairs, LAPAN	10 minutes	Main Room	MC

*\*tentative schedule*

**SEMINAR BREAKOUT ROOM A**

**“Satellite and Aircraft Technologies”**

**Seminar Session 1**

12.50 – 14.00	<b>12.50 – 13.00</b> <b>Opening</b>	10 minutes	Dewi Anggraeni, S.T., M.T.
	<b>13.00 – 13.10</b> <i>Inclination Maneuver Simulation with Non-Impulsive Thruster for Sun-Synchronous Satellite</i> Muhammad Rizki Zuhri and Satriya Utama	10 minutes	
	<b>13.10 – 13.20</b> <i>Calculation and Implementation of Dampers for LAPAN-A4 Satellite Payloads</i> Rendy Kurniawan and Mohammad Farid Huzain	10 minutes	
	<b>13.20 – 13.30</b> <i>Optimization method for star recognition of LAPAN Star Sensor</i> Deddy El Amin, Muhammad Taufik and M Arif Saifudin	10 minutes	
	<b>13.30 – 13.40</b> <i>Preliminary Design of Cubesat Payload for Clouds Coverage Detection Using RGB Camera</i> Maulana Muhammad Azis, Windy Nathalie Ong, Edwar, Lita Kurnia Fitriyanti, Irvan Husni Saugi and Farid Anwar Hidayat	10 minutes	
	<b>13.40 – 13.50</b> <i>Preliminary Design of Atmospheric CO2 Concentrations Payload for CubeSat</i> Haris Prananditya, Shindi Marlina Oktaviani, Edwar Edwar, Aipujana Tiara Santoso and I Made Agus Dwipayana	10 minutes	
	<b>13.50 – 14.00</b> <b>Q&amp;A and Discussion</b>	10 minutes	

**Seminar Session 2**

14.00 – 15.00	<b>14.00 – 14.10</b> <i>RESTful API Development of LAPAN Satellite AIS (Automatic Identification System) Data Using Client Credentials Token Security Method (OAuth 2.0)</i> Dicka Ariptian Rahayu, Nurrochman Ferdiansyah, Muazam Nugroho, Rizki Permala and Patria Rachman Hakim	10 minutes	Ir. Atik Bintoro, M.T., APU
	<b>14.10 – 14.20</b> <i>Design and Implementation of Packet Telecommand Decoder based on CCSDS Using FPGA</i> Muhammad Taufik, Deddy El Amin and Muhammad Arif Saifudin	10 minutes	
	<b>14.20 – 14.30</b> <i>Design of a Center of Gravity Measuring Device for LAPAN-A4</i> Puji Rianto and Moh Farid Huzain	10 minutes	
	<b>14.30 – 14.40</b> <i>Performance Evaluation of High-Resolution Satellite Products</i> Fadli Nauval, Tiin Sinatra, Asif Awaludin and Dita Patria	10 minutes	
	<b>14.40 – 14.50</b> <i>Tsunami Post Disaster Robot: Simulation and Implementation of Aerial Path Planning to Explore Unknown Environment</i> Hardefa Rogonondo, Son Kuswadi, Anhar Risnumawan and Eny Kusumawati	10 minutes	
	<b>14.50 – 15.00</b> <b>Q&amp;A and Discussion</b>	10 minutes	

**Seminar Session 3**

15.00 – 16.00	<b>15.00 – 15.10</b> <i>ADS-B Data Processing to Develop Aircraft Kinematics Model Parameters</i> Hisar Manongam Pasaribu, Rully Medianto, Jacky Jusuf, Rizki Oktafianto and Rasyeeda Atiqah	10 minutes	Dewi Anggraeni, S.T., M.T.
	<b>15.10 – 15.20</b> <i>Avionics Subsystem Design and Development for HALE UAV ITB V4</i> Muhamad Falih Akbar, Dewa Mahardika, Muhammad Rizqi, Mochammad Agoes Moelyadi and Muhammad Amin Sulthoni	10 minutes	
	<b>15.20 – 15.30</b> <i>Performance Comparison of Unmanned Aircraft System (UAS) Flight Controller with Independent Flight Test Instrumentation (FTI) During Flight</i> Try Kusuma Wardana, Fuad Surastyo Pranoto and Gunta Akhiri	10 minutes	
	<b>15.30 – 15.40</b> <i>Development of Flight Control Panel Interface for Electronic Flight Control System of High Aspect Ratio Light Utility Aircraft</i> Eries Bagita Jayanti, Sayr Bahri, Novita Atmasari and Adi Wirawan	10 minutes	
	<b>15.40 – 15.50</b> <i>Static Aeroelasticity Analysis of Solar Powered UAV</i> Muhammad Nanda Setiawan, Evan R Suryana and Munadi Munadi	10 minutes	
	<b>15.50 – 16.00</b> <b>Q&amp;A and Discussion</b>	10 minutes	
	16.00 – 16.10	<b>Rejoining to Plenary Room for Closing Ceremony</b>	

**SEMINAR BREAKOUT ROOM B**

**“Design, Modeling, and Simulation”**

**Seminar Session 1**

12.50 – 14.00	<b>12.50 – 13.00</b> <b>Opening</b>	10 minutes	Idris Eko Putro, S.T., M.Sc. AE.
	<b>13.00 – 13.10</b> <i>Conceptual Design of Low Altitude Long Endurance Solar Powered Unmanned Aerial Vehicle</i> Evan R. Suryana and Muhammad Nanda Setiawan	10 minutes	
	<b>13.10 – 13.20</b> <i>Static Stability Analysis On Twin Tail Boom Uav Using Numerical Method</i> Angga Septiyana, M. Luthfi Ramadiansyah, Eries Bagita Jayanti, Kurnia Hidayat, Ardian Rizaldi, Novita Atmasari and Prasetyo Ardi Probo Suseno	10 minutes	
	<b>13.20 – 13.30</b> <i>Hardware-in-the-Loop Simulation of CubeSat Attitude Determination and Control System</i> Suhandinata and Muhammad Nanda Setiawan	10 minutes	
	<b>13.30 – 13.40</b> <i>High Altitude Long Endurance UAV ITB Concept: Past and Future</i> Mochammad Agoes Moelyadi, Muhammad Fikri Zulkarnain and Nu'Man Amri Maliky	10 minutes	
	<b>13.40 – 13.50</b> <i>Computational Fluid Dynamics Analysis and Aircraft Performance Studies of GL-1's Spoiler Extension</i> Taufiq Mulyanto and Muhammad Fikri Zulkarnain	10 minutes	
	<b>13.50 – 14.00</b> <b>Q&amp;A and Discussion</b>	10 minutes	

**Seminar Session 2**

14.00 – 15.00	<b>14.00 – 14.10</b> <i>Lateral Stability Control for LAPAN Missile using Incremental based Model Reference Adaptive Control</i> Agil Istiqomah, Suma'Inna and Idris Eko Putro	10 minutes	Herry Purnomo, S.T., M.T.
	<b>14.10 – 14.20</b> <i>Preliminary Design of Dual-System Hybrid VTOL UAV for Medical Delivery Purpose</i> Fahmi Abdillah Sambodo, Willy Wahyanto and Marco Wijaya	10 minutes	
	<b>14.20 – 14.30</b> <i>Closed Loop Handling Quality Simulation of FXX Experimental Fighter Aircraft with Various Control Augmentation Systems</i> Hindawan Hariowibowo, Ony Arifianto, Hisar M Pasaribu and Hari Muhammad	10 minutes	
	<b>14.30 – 14.40</b> <i>Performance Comparison Analysis of Flattened Whitcomb Winglet Using Computational Fluid Dynamics</i> Sayid Achmad Munthahar, Dewangga Alfarisy, Rafael Stevenson, Mileniawan Januar Ramadhani and Ema Amalia	10 minutes	
	<b>14.40 – 14.50</b> <i>The Implementation of The Chevron Design for The Noise Reduction Technology: A Review</i> Muhammad Afiq Farahi Abd Rahim and Norilmi Amilia Ismail	10 minutes	
	<b>14.50 – 15.00</b> <b>Q&amp;A and Discussion</b>	10 minutes	

<b>Seminar Session 3</b>			
15.00 – 15.50	<b>15.00 – 15.10</b> <i>Development of Primary Flight Display Human Machine Interface for Flight Control Panel Model Verification</i> Novita Atmasari, Sayr Bahri and Eries Bagita Jayanti	10 minutes	Idris Eko Putro, S.T., M.Sc. AE.
	<b>15.10 – 15.20</b> <i>Guidance and Control of 2nd Stage RKX-200EB Missile Using Proportional Navigation Approach</i> Rahmat Alfi Duhri and Idris Eko Putro	10 minutes	
	<b>15.20 – 15.30</b> <i>Transition Flight Simulation of a Hybrid VTOL Fixed-Wing Drone</i> Imam Safi'I, Achmad Chafid Asyary and Ony Arifianto	10 minutes	
	<b>15.30 – 15.40</b> Numerical Study of Three-Dimensional Flow Characteristics Around Backward Swept Angle 0°, 15°, and 30° on Wing Airfoil Eppler 562 Setyo Hariyadi, Sutardi Sutardi and Wawan Aries Widodo	10 minutes	
	<b>15.40 – 15.50</b> <b>Q&amp;A and Discussion</b>	10 minutes	
16.00 – 16.10	<b>16.00 – 16.10</b> <b>Rejoining to Plenary Room for Closing Ceremony</b>	10 minutes	

<b>SEMINAR BREAKOUT ROOM C</b>			
<b>“Structural, Composite, Rocket Propellant, and Atmospheric Science”</b>			
<b>Seminar Session 1</b>			
12.50 – 14.00	<b>12.50 – 13.00</b> Opening	10 minutes	Sayr Bahri, S.T., M.T.
	<b>13.00 – 13.10</b> <i>Tensile, Shear, and Compressive Strength of Glass, Glass/Carbon, and Kevlar/Carbon Reinforced Vinylester for Marine Application</i> Kosim Abdurohman and Mohammad Adhitya	10 minutes	
	<b>13.10 – 13.20</b> <i>Load and Stress Analysis of POD Part on Aircraft LSA (LAPAN Surveillance)</i> Rian Suari Aritonang, Agus Bayu Utama and Awang Rahmadi Nuranto	10 minutes	
	<b>13.20 – 13.30</b> <i>Numerical Analysis on the Tail-boom Structure of LSU-05 NG Aircraft with Cross-section Profile Variation</i> Abian Nurrohmad, Darren Kirana, Rizky Fitriansyah, Fajar Ariwandono and Agus Bayu Utama	10 minutes	
	<b>13.30 – 13.40</b> <i>Sandwich Composite Honeycomb Structure Material Strength Analysis Using Flexural Testing and Compressive Test</i> Nurul Lailatul Muzayadah, Muhammad Farhan Ramadhan, Kukuh Indra Jaya, Afid Nugroho, Awang Rahmadi and Rian Suari Aritonang	10 minutes	
	<b>13.40 – 13.50</b> <i>Effect of Seawater Immersion on Mechanical Properties of Glass/Vinylester Composites for Marine Application</i> Kosim Abdurohman and Mohammad Adhitya	10 minutes	
	<b>13.50 – 14.00</b> <b>Q&amp;A and Discussion</b>	10 minutes	
<b>Seminar Session 2</b>			
14.00 – 15.00	<b>14.00 – 14.10</b> <i>Toward Understanding On The Mass Flow Generate Noise in The Inlet Duct Engine Measurement</i> Subagyo Subagyo, Malinda Sabrina and F. Andree Yohanes	10 minutes	Prof. Dr. Heri Budi Wibowo, M.T.
	<b>14.10 – 14.20</b> <i>TDI Addition Sequence in the Propellant Production Process and Parameters for Scale Down/Up</i> Heri Budi Wibowo, Luthfia Hajar Abdillah and Retno Ardianingsih	10 minutes	
	<b>14.20 – 14.30</b> <i>Theoretical Method for Determining Density Composite Propellant and Their Correlation with Homogeneity</i> Bayu Prianto, Henny Setyaningsih and Anita Pinalia	10 minutes	
	<b>14.30 – 14.40</b> <i>The Effect of Plasticizer DOA on AP/HTPB Composite Propellant Characteristics</i> Anita Pinalia, Bayu Prianto and Henny Setyaningsih	10 minutes	
	<b>14.40 – 14.50</b> <i>Effect of NCO/OH-Aluminium on Hardness for Mixing Evaluation from View of Composition Design of Solid Propellant</i> Afni Restasari and Retno Ardianingsih	10 minutes	
	<b>14.50 – 15.00</b> <b>Q&amp;A and Discussion</b>	10 minutes	

<b>Seminar Session 3</b>			
15.00 – 15.50	<b>15.00 – 15.10</b>	<i>Spatiotemporal Characteristic of Rainfall during Jakarta's Flood (January 1st, 2020) based on Global Satellite Mapping of Precipitation</i> Dita Fatria Andarini and Anis Purwaningsih	10 minutes
	<b>15.10 – 15.20</b>	<i>Impact of Cross Equatorial Northerly Surge (Cens) on Jakarta Heavy Rainfall and Its Interaction with Tropical Cyclone (Case Study: 18-25 February 2020)</i> Elfira Saufina, Trismidianto, Risyanto, Ibnu Fathrio and Wendi Harjupa	10 minutes
	<b>15.20 – 15.30</b>	<i>Indonesia Offshore Wind Energy: Initial Wind Resource Potential Perspective from Reanalysis Dataset</i> Prima Mangesthy Hati Maria, Aditya Mulya Pratama and Amalia Nurlatifah	10 minutes
	<b>15.30 – 15.40</b>	<i>Himawari-8 Rainfall Estimation from Infrared Channels Based on Machine Learning Methods</i> Risyanto, Farid Lasmono and Teguh Harjana	10 minutes
	<b>15.40 – 15.50</b>	<b>Q&amp;A and Discussion</b>	10 minutes
16.00 – 16.10	<b>16.00 – 16.10</b>	<b>Rejoining to Plenary Room for Closing Ceremony</b>	10 minutes

Sayr Bahri,  
S.T., M.T.

<b>SEMINAR BREAKOUT ROOM D</b>			
<b>“Sensors, Communication, and Telemetry System”</b>			
<b>Seminar Session 1</b>			
12.50 – 14 .00	<b>12.50 – 13.00</b> Opening	10 minutes	Agus Hendra Wahyudi, Ph.D.
	<b>13.00 – 13.10</b> <i>Development of Camera Lens Focus Controller On Payload LAPAN-A4 Satellite</i> Rommy Hartono, Dede Ardianto, Rakhmad Yatim and A Hadi Syafrudin	10 minutes	
	<b>13.10 – 13.20</b> <i>Utilization of MAVROS for Electro Optical Seeker Subsystem in the Design of ROS Based Architecture for Autonomous Guided Platform</i> Rhenetou Virginio and Widyawardana Adiprawita	10 minutes	
	<b>13.20 – 13.30</b> <i>Comparison Study of Various Color-Based and Contour-Based Pumpkin Counter Method for Aerial Farm Monitoring</i> Leonardi, Aulia S. Adi, Rafi Amjadrasyd and Eko M. Budi	10 minutes	
	<b>13.30 – 13.40</b> <i>Propulsion for orbit control option on Lapan-A5 Constellation</i> Adi Farmasiantoro	10 minutes	
	<b>13.40 – 13.50</b> <i>Utilization of LAPAN-A2 Voice Repeater as alternative post-disaster communication (Case Study: Palu)</i> Reyza Pratama, Ega Asti Anggari and Sonny Dwi Harsono	10 minutes	
	<b>13.50 – 14.00</b> Q&A and Discussion	10 minutes	
<b>Seminar Session 2</b>			
14.00 – 15.00	<b>14.00 – 14.10</b> <i>Algorithms for Detecting Vessel Spoofing of Space Based AIS Data</i> Abdul Karim, Satriya Utama and Maulana Ali Arifin	10 minutes	Dipl. Ing. Agus Bayu Utama, M.Sc.ME.
	<b>14.10 – 14.20</b> <i>Preliminary Study of the Potential Utilization of Imagery from LAPAN-A4 Satellites</i> Ega Asti Anggari, Agus Herawan and Sartika Salaswati	10 minutes	
	<b>14.20 – 14.30</b> <i>Gain to Noise Temperature Ratio Software for S-Band Antenna</i> Reyza Pratama, Zhauhar Rainaldy Ardhana, Rizki Permala and Nur Salma Yusuf Hasanah	10 minutes	
	<b>14.30 – 14.40</b> <i>Design and Analysis of E-plane Horn Antenna Array for Linearly Polarised SAR System on Light Surveillance Aircraft (LSA)</i> Agus Hendra Wahyudi	10 minutes	
	<b>14.40 – 14.50</b> <i>Quality of LAPAN Website as a Medium for Digital Information of Aeronautics and Space Dissemination in The Era of Industrial Revolution 4.0</i> Igif G Prihanto, Budhi Riyanto, Suwardi, Hendy Gunawan, Elly Kuntjahyowati, Arief Indriarto Haris, Ardito Adi Ramadhan and Lakmi Makarti	10 minutes	
	<b>14.50 – 15.00</b> Q&A and Discussion	10 minutes	
<b>Seminar Session 3</b>			



15.00 – 15.50	<b>15.00 – 15.10</b> <i>LEO-to-GEO Laser Communication - An Enhancement of the Communication Capability of Micro/Nano-satellites</i> Phong Xuan Do and Shinichi Nakasuka	10 minutes	Agus Hendra Wahyudi, Ph.D.
	<b>15.10 – 15.20</b> <i>Low Earth Orbit Multi-mission Satellite Transceiver Based on Software Defined Radio</i> Eriko Nasemudin Nasser and Widya Roza	10 minutes	
	<b>15.20 – 15.30</b> <i>Implementation of Informed RRT* on a Pre-Mapped Octomap Generated by RTAB Map</i> Widyawardana Adiprawita, Muhammad Adhipatunus, Reinard Rahardian Andhykaputra Setiadji and Ronggur Mahendra Widyaputra	10 minutes	
	<b>15.30 – 15.40</b> <i>On-Board Drone Detection for Drone Chasing and Collision Avoidance through a Single Mounted Camera</i> Muhammad Khairul Makirin, Leonard Matheus Wastupranata and Alexander Daffa	10 minutes	
	<b>15.40 – 15.50</b> <b>Q&amp;A and Discussion</b>	10 minutes	
16.00 – 16.10	<b>16.00 – 16.10</b> <b>Rejoining to Plenary Room for Closing Ceremony</b>	10 minutes	

**SEMINAR BREAKOUT ROOM E**

**“Sensors, Communication, and Telemetry System”**

**Seminar Session 1**

12.50 – 14 .00	<b>12.50 – 13.00</b> Opening	10 minutes	Frida Kurniawati, S.T.
	<b>13.00 – 13.10</b> Processing Multi GPS with Single Chip FPGA Effendi Dodi Arisandi, Yi Yang	10 minutes	
	<b>13.10 – 13.20</b> <i>Real-time IMU Sensor Data Transmission Through PCM (Pulse Code Modulation) Concept Based on Telemetry System Design</i> Faisa Mutho'Affifah, Satrya Puruhita, Muhammad Adiba, Nurul Rohmah and Effendi Arisandi	10 minutes	
	<b>13.20 – 13.30</b> <i>Study of Real-Time Rocket Direction Using Software Defined Radio</i> Rustamaji, Afrido Prayogi, Sri Kliwati and Wahyu Widada	10 minutes	
	<b>13.30 – 13.40</b> <i>Implementation of ADS-B Receiver Using Software Define Radio (SDR)</i> Reyza Pratama and Nurul Fadilah	10 minutes	
	<b>13.40 – 13.50</b> <i>Infrared-based SACLOS Guidance Testing in Wind Tunnel</i> Larasmoyo Nugroho and Muhammad Hanifuddin Al Fadli	10 minutes	
	<b>13.50 – 14.00</b> <b>Q&amp;A and Discussion</b>	10 minutes	

**Seminar Session 2**

14.00 – 15.00	<b>14.00 – 14.10</b> <i>Measurement Interference S-Band Frequency in Parepare Remote Sensing Ground Station</i> Arif Hidayat	10 minutes	Dr. Mabe Siahhaan, M.Si.
	<b>14.10 – 14.20</b> <i>Development Payload Data Handling Stream Verification Based on FPGA</i> A. Hadi Syafrudin, Khairunnisa, Gafur Bahari and Widya Roza	10 minutes	
	<b>14.20 – 14.30</b> <i>Data Acquisition Hardware Module of the Automated Measurement System for Wheel</i> Arba Robbani, Reza Darmakusuma and Harry Septanto	10 minutes	
	<b>14.30 – 14.40</b> <i>Data Acquisition Software for Wheel Drive Electronics Automated Measurement System</i> Adiwena Putra, Reza Darmakusuma and Harry Septanto	10 minutes	
	<b>14.40 – 14.50</b> <i>Clutter Removal Improvement of Marine Radar for Weather Observation</i> Asif Awaludin, Ginaldi Ari Nugroho and Tiin Sinatra	10 minutes	
	<b>14.50 – 15.00</b> <b>Q&amp;A and Discussion</b>	10 minutes	

### Seminar Session 3

15.00 – 15.50	<b>15.00 – 15.10</b> <i>Early Development of Horizon Detection System based on OpenCV and Python</i> Andreas P. Adi	10 minutes	Frida Kurniawati, S.T.
	<b>15.10 – 15.20</b> <i>Investigation of Power Distribution of The 3x1 Microstrip Antenna for SAR Sensor</i> Dwiky Wahyudi, Yosi R Hais and Farohaji Kurniawan	10 minutes	
	<b>15.20 – 15.30</b> <i>Design and Simulation of Substrate Integrated Waveguide Horn Antenna for UAV Radar Autolanding Sensor</i> Thomi Ariq and Agus Hendra Wahyudi	10 minutes	
	<b>15.30 – 15.40</b> <i>Application of GSMaP on Estimating Rainfall Condition in Jakarta During 16 December</i> Amalia Nurlatifah, Indah Susanti, Sinta Berliana Sipayung and Hidayatul Latifah	10 minutes	
	<b>15.40 – 15.50</b> <b>Q&amp;A and Discussion</b>	10 minutes	
16.00 – 16.10	<b>16.00 – 16.10</b> <b>Rejoining to Plenary Room for Closing Ceremony</b>	10 minutes	