

AIDAA XXII Conference Program

Monday, Sept 9th

08:30 - 13:00	Registration	Registration Desk	
09:30 - 11:00	Welcome and Opening Ceremony Aula Magna	<p>AIDAA Welcome</p> <p>Public Authorities</p> <p>JU - CLEAN SKY</p> <p>ASI/CIRA</p> <p>Italian Aerospace Cluster</p> <p>DAC - Campania Aerospace District</p> <p>DTA - Puglia Aerospace District</p> <p>Main Sponsors Representatives</p> <p>Naples Industry Association</p> <p>Awarding Perseus Prize</p>	<p>Prof. Leonardo Lecce - Chairman of the Conference and President of the AIDAA Naples Section Prof. Franco Persiani, President of the Italian Association of Aeronautics and Astronautics (AIDAA) Prof. L. Pascale (Honorary President of the AIDAA- Naples Section) Prof. G. Trombetti, V. Pres. Campania Region; Prof. M. Marrelli, Provost of the University of Naples "Federico II"; Prof. P. Salatino, Dean of the Engineering School, University of Napoli "Federico II"; Prof. A. Moccia, Head of the Industrial Engineering Department, University of Napoli "Federico II"</p> <p>Dr. E. Dautriat, General Director JU-Clean Sky</p> <p>Dott. E. SAVARESE, Director of the External Relationship</p> <p>Ing. G. Bertolone, President</p> <p>Ing. M. Rosini, AleniaAermacchi Board Member</p> <p>Dr. G. Acierno, President</p> <p>Ing. M. Lucchesini, AleniaAermacchi General Director; Ing. Fabrizio Vinaccia, MBDA General Director</p> <p>Dr. P. Graziano, President (TbC)</p> <p>Prof. F. Bernelli Zazzera, Chairman of the PEGASUS (Cluster of the European Aerospace Universities)</p>
11:00 - 11:30	Coffee Break	II Floor Historical Library	
11:30 - 12:10	Aula Magna Keynote	Ing. F.J. Rodriguez-Carrero (A350 XWB Assembly Boxes Integrator, AIRBUS Operations S. L.) Composites on A350: a Challenge and a step ahead	
12:30 - 13:30	Lunch Time	II Floor Historical Library	

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14:00 - 15:30	Aula Magna Round Table	Round Table Clean Sky, Chairman Giuseppe Pagnano (Clean Sky JU - Coordinating Project Officer): The Role of the European Programs for Italy's Industry Speakers: Maurizio Fornaiuolo (AleniaAermacchi), Luigi Bottasso (AgustaWestland), Franco Tortarolo (AvioAero)
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15:30 - 16:00	Coffee Break	<i>II Floor Historical Library</i>
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		Room "Bobbio"	Room C	Room D	Room E
		Space Engineering and Technology I	Structures and materials	Aircraft Technology I	Aircraft Systems and Operations I
16:00 - 18:20		Technical Session 1	Structures - Methodologies	Aerodynamics and Wind Tunnel Testing	Subsystems and Integration 1
		Chairman: TBD	Chairman: Prof. E. CARRERA (POLITO)	Chairman: Prof. A. SALVETTI (UNIPI)	Chairman: Prof. R. GALATOLO (UNIPI)
16:00 - 16:20		(157) A. PAOLOZZI - I. CIUFOLINI, C. PARIS, G. SINDONI - LARES mission: engineering aspects	(125) E. CARRERA - F. MIGLIORETTI, A. PAGANI, F. ZANGALLO - Effect of loading factors on the analysis of aeronautical structures by components-wise models	(33) P. DELLA VECCHIA - D. CILIBERTI - Numerical aerodynamic analysis on a trapezoidal wing with high lift devices: a comparison with experimental data	(2) P. SERENA GUINZIO - R. GALATOLO, G. DI RITO, F. SCHETTINI, E. DENTI, G. VINELLI, S. PALAZZO - Development of a Fault-Tolerant Electro-Mechanical Actuator for MALE UAVs
16:20 - 16:40		(32) F. TOPPUTO - F. BERNELLI-ZAZZERA - Simulation of Low-Intensity, Low-Temperature Solar Arrays with Software and Hardware Tools	(77) L. M. TREFILETTI - ALAIMO, MILAZZO, TUMINO - FEM design and prototyping of the CFRP sandwich airframe for a hexacopter	(51) L. POLITO - - Contribution to wave drag theory and to its calculation	(24) G. JACAZIO - M. LIBRARO, A. MORNACCHI, M. SORLI - Robust electromechanical actuator for primary flight controls
16:40 - 17:00		(106) S. GREGUCCI - P. PERGOLA, S. MARCUCCIO - Low cost solar panels for microsatellites	(25) S. DE ROSA - FRANCO, CIAPPI - PEDE M.: a new method for the analysis of the stochastic response	(74) G. PEZZELLA - VIVIANI - Aerodynamic Performance Analysis of Three different Vehicle Concepts at Hypersonic Speed	(44) G. DI RITO - R. GALATOLO, E. DENTI, F. SCHETTINI - Reconfiguration Control Laws for Fault-Tolerant Hydraulic Actuators of Fly-By-Wire Helicopters
17:00 - 17:20		(115) M. MELONI - G. VINGIONE, P. FERRAZZOLI, T. PARRINELLO - Recent development in satellite altimetry over land and applications to Cryosat-2 mission	(65) F. MASTRODDI - G. ACCARDO, M. EUGENI, G. ROMANO - Experimental and Numerical Modelling for Flag Flutter	(36) M. R. CHIARELLI - CIABATTARI, CAGNONI, LOMBARDI - A comparison of the drag polar curves of wings using the fluid-structure interaction analyses	(45) G. DI RITO - R. GALATOLO, E. DENTI, F. SCHETTINI - Suitability of Using Closed-Loop Current Controls on EMAs for Aircraft Applications
17:20 - 17:40		(136) T. GIAGNACOVO - E. PETRITOLI - Rad-Hard, In Flight, Reprogrammable Field Programmable Gate Array (FPGA) Architecture For Satellite Computers	(76) C. ORLANDO - A. ALAIMO, A. MILAZZO - A FEM piezoelectric beam model for damping circuit analysis	(128) S. CORCIONE - F. NICOLOSI - Wind tunnel tests of a new commuter aircraft	(47) F. SCHETTINI - R. GALATOLO, E. DENTI, G. DI RITO - A tool for the simulation of All-Electric Aircraft systems
17:40 - 18:00		(28) R. SAVINO - R. AURIGEMMA, P. DELL'AVERSANA, L. GRAMICCIA, J. LONGO, L. MARRAFFA, F. PUNZO - Study and development of a sub-orbital reentry demonstrator.	(170) M. E. BIANCOLINI - E. COSTA, F. LAGASCO - A mesh morphing based technique to efficiently perform FSI analyses for aeroelastic design applications	(3) M. KINTSCHER - T. KÜHN, H. P. MONNER, M. WIEDEMANN - Low Speed Wind Tunnel Test of a Morphing Leading Edge	(161) G. MONACO - F. VARRIALE - Aircraft Seat Engineering & Certification
18:00 - 18:20		(130) G. COLOMBATTI - A. ABOUDAN, G. COLOMBATTI, S. DEBEI, P. PALUMBO, E. FLAMINI - Determination of Mercury librations using BepiColombo HRIC	(173) B. GAMBINO - E. VITIELLO, G. ESPOSITO, G. IANNUZZO - Residual Strength Evaluation for Aerospace Composite Structures with Large Notch Damage in MSC.Nastran SOL 700 Advanced Composite based on Alphastar GENOA Software	(84) G. DROANDI - GIBERTINI, CAMPANARDI, GRASSI, MACCHI, PEVERONI - Wind-Tunnel Rotor Model For Hover And Forward Flight Tests	(30) P. PÉREZ GARCÍA - A. L. RODRIGUEZ VÁZQUEZ, M. ÁNGELES MARTÍN PRATS, V. M. FICO - Magnetometer Calibration Method for Small Calibration Dataset

18.30	Welcome Cocktail	<i>I Floor, Aula Magna Entrance Hall</i>
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AIDAA XXII Conference Program

Tuesday, Sept 10th

08:30 - 13:00		Registration Desk			
	Registration	Room "Bobbio"	Room C	Room D	Room E
		Space Engineering and Technology II	Structures and materials	Aircraft Technology II	Aircraft Systems and Operations II
09:00 - 11:00	Technical Session 2	Space Exploration	Structures - Composite Materials	Propulsion and Combustion, Gasdynamic, Heat Transfer 1	Subsystems and Integration 2, Aircraft Maintenance - Failure Analysis
		Chairman: Prof. F. BERNELLI ZAZZERA (POLIMI)	Chairman: Prof. M. MARCHETTI (UNIRO)	Chairman: Prof. L. DE LUCA (UNINA)	Chairman: Prof. A. MOCCIA (UNINA)
09:00 - 09:20		(29) V. GIORGIO - W. CUGNO - EXOMARS 2016 mission: An overview of the Phase C Activities Progress	(6) A. ABENA - F. MARULO, D. MALACARIA, A. MIRAGLIA - Numerical simulation of a ballistic impact on the aeronautical structure in composite material	(43) F. DE ROSA - M. GIRFOGLIO, G. COPPOLA, L. DE LUCA - Global dynamics of gravitational liquid sheet flows	(31) V. M. FICO - PABLO PÉREZ GARCÍA, A. L. RODRÍGUEZ VÁZQUEZ, M. ÁNGELES M. PRATS - Brushless DC Motors Failure Detection using the Continuous Wavelet Transform
09:20 - 09:40		(50) F. TOPPUTO - G. CAPUTO, F. BERNELLI, ZAZZERA - On-Comet Attitude Reconstruction of Rosetta Lander Philae through Solar Arrays Telemetry	(21) S. IANNELLI - E. ANGELINI, M. ALBANO, S. GRASSINI, M. MARCHETTI - Behavior of coated ceramic composites for extra-atmospheric	(166) P. DI MARTINO - TERLIZZI, COLANTUONI Modelling of gas turbine combustion ignition and altitude relight	(55) G. RUFINO - D. ACCARDO, G. FASANO, M. GRASSI - Satellite Advanced Attitude Sensors at UniNa Lab GNC
09:40 - 10:00		(88) R. GARDI - PERSECHINO, SMORALDI - Mars Dust: CIRA answer to the challenge "Seven minutes of Science" for the International Space Apps Challenge	(91) D. FANTERIA - E. PANETTIERI - A non-linear model for in-plane shear damage and failure of composite laminates	(85) G. CAFIERO - G. CEGLIA, S. DISCETTI, A. IANIRO, T. ASTARITA, G. CARDONE - The three-dimensional swirling flow past a sudden expansion	(49) F. SCHETTINI - R. GALATOLO, E. DENTI, G. DI RITO - Evaluation of the avoiding strategies for a prototype Sense and Avoid system of small size UAVs
10:00 - 10:20		(109) R. ARMELLIN - P. DI LIZIA, F. BERNELLI-ZAZZERA, A. ERCOLI FINZI - Scientific use of the Sampler, drill and distribution subsystem (SD2)	(103) P. BETTINI - ERIKA GUERRESCHI, A. BALDI - Study of interlaminar fracture propagation in composite laminates using Fiber Bragg Grating sensors	(41) M. GIRFOGLIO - M. CHIATTO, L. DE LUCA - Fluid-structure coupling effects in synthetic jet devices	(126) U. GAROFALO - A. ROMANO - Vapour cycle for avionics rack temperature control
10:20 - 10:40		(71) S. SGUBINI - G. B. PALMERINI - Evaluation of main parameters in re-entry trajectories	(154) D. LUCARIELLO - DI CAPRIO, MERCURIO Application of analytical models for thin delamination buckling in composite materials panels	(165) G. CINQUE - DI MARTINO, COLANTUONI - Study of volcanic ash particles through PERM lean burn combustor	(46) G. DI RITO - R. GALATOLO, E. DENTI, F. SCHETTINI - Architecture Definition and Safety Assessment of Flight Control Systems for Light Rotary-Wing UAVs
10:40 - 11:00		(69) A. RAPISARDA - E. PENSAVALLE - Vibrational Energy Harvesting – New solution to increase the efficiency of next space transportation and exploration vehicles	(171) A. RICCIO - G. PURGATO, A. RAIMONDO, G. DI FELICE, F. SCARAMUZZINO - Skin Stringers debonding evolution in stiffened composite panels: A novel Numerical Procedure	(172) F. BATTISTA - P. NATALE, M. FERRAIUOLO, A. MARTUCCI, M.FRAGIACOMO, D. RICCI, P. RONCIONI, A. FRENCH, V. SALVATORE - Modelling, Testing and Design Considerations of a GOX/GCH4 Igniter for a HYPROB-SSBB single injector thrust chamber	(104) G. B. PALMERINI - M. SABATINI, P. GASBARRI - Lab activities to simulate in-orbit proximity manoeuvres
11:00 - 11:30	Coffee Break	<i>II Floor Historical Library</i>			
11:30 - 12:10	Aula Magna Keynote	Prof. G. M. Carlomagno (University of Naples "Federico II", Italy) <i>Aerospace and infrared thermography</i>			
12:30 - 13:30	Lunch Time	<i>II Floor, Historical Library</i>			

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		Room "Bobbio"	Room C	Room D	Room E
		Space Engineering and Technology III	Structures and materials	Aircraft Technology III	Aircraft Advanced Technology I
13:30 - 15:30	Technical session 3	Space Tourism & Commercial Space Flight	Model Reduction and enhancement in Aerospace Structures	Aircraft Performance, Stability and Control	Aircraft Design - C
		Chairman: Dr. M. HEMSELL (REACTION ENGINES, UK)	Chairman: Prof. H. RIOU (LMT, FR)	Chairman: Prof. M. MATTEI (SUN)	Chairman: Ing. D. CANNOLETTA (ALENIA)
13:30 - 13:50		(75) R. MONTI - - What is next in human exploration	(120) H. RIOU - A. BARBARULO, L. KOVALEVSKY, P. LADEVEZE - A new model reduction technique to handle mid-frequency vibrations	(114) E. VALTORTA - J. SOO KO - Airline Pilot Training – A Comprehensive and Innovative Approach to Upset Recovery Training	(13) P. SALZANO - I. BERTINO - Alenia Aermacchi: a world-class capability in integration and testing
13:50 - 14:10		(137) S. CHIESA - G. RUSSO, S. CORPINO, M. FIORITI - Status and Perspectives of Hypersonic Systems and Technologies with Emphasis on the Role of Sub-orbital Flight	(168) M. PETROLO - E. CARRERA - Structural Analysis of Damaged Structures through 1D Refined Models	(16) A. TEIMOURIAN - D. FIROUZBAKHT - Flight simulation of a civil high wing unmanned aerial vehicle	(144) P. IANNELLI - - A comparative analysis of optimization strategies for High-Lift system optimization
14:10 - 14:30		(12) G. RUSSO - A. AUTINO - The Space Tourism Program of Space Renaissance Italia	(121) M. CAPALDO - NÉRON, LADEVÈZE, GUIDAULT - A data compression technique for PGD reduced-order modeling	(17) A. TEIMOURIAN - D. FIROUZBAKHT - A practical method for determination of the moments of inertia of unmanned aerial vehicles	(164) M. ESPOSITO - M. BARILE, A. DE FENZA, L. LECCE - Multibody Model Validation for a landing gear system of a general aviation aircraft
14:30 - 14:50		(10) R. SAVINO - G. RUSSO, V. CARANDENTE, V. D'ORIANO - HyPlane for Space Tourism and Business Transportation	(146) G. PUEL - D. AUBRY - Fatigue simulation of aeronautic parts using time-homogenized models	(73) C. GRILLO - MONTANO, MURGIA, PATTI - Flight Control Research Laboratory Unmanned Aerial System :Wind Shear On-Line Identification	(82) G. BUONOMO - MUSTO, BIANCO, ROTONDO, PEZZELLA, MINGIONE - Aerothermal analysis of an Aircraft Nacelle in the Framework of a Fully Coupled Approach
14:50 - 15:10		(110) M. HEMSELL - - SKYLON: An Example of Commercial Launch System Development	(20) G. DAVI' - MILAZZO, ORLANDO - A model for multilayered beams undergoing end loads	(97) A. MANNARINO - P. MANTEGAZZA - Adaptive control of nonlinear aeroelastic systems through recurrent neural networks	(52) V. LOIA - - Technical Manual Empowered By Semantic Technologies
15:10 - 15:30		(160) M. MARINI - A. SMORALDI, L. CUTRONE, M. ZANCHETTA, R. VARVILL - Analysis of LAPCAT A2 Vehicle Scimitar Engine Nozzle	(163) M. GHERLIONE - M. DI SCIUVA, P. CERRACCHIO, M. MATTONE, A. TESSLER - The inverse Finite Element Method for shape sensing of aerospace structures	(48) F. SCHETTINI - R. GALATOLO, E. DENTI, G. DI RITO - A methodology for the identification of inertial properties of small size UAVs	(141) G. BUONOMO - MUSTO, BIANCO, ROTONDO, PEZZELLA, MINGIONE - Model Sensitivity Analysis for the Numerical Simulation of an Engine Air Cooling System
15:30 - 16:00	Coffee Break	II Floor Historical Library			
16:00 - 16:40	Aula Magna Keynote	Mr. A. Bergweiler (Space Affairs, Germany) SPACE TOURISM - from an early childhood's dream to reality			
16:40 - 17:40	Aula Magna Keynote	Special Session on History of Aeronautics (in collaboration with AAAF) Philippe Jung (AAAF) : Année Mondiale Roland Garros 2013 Vincenzo Miano: History of the Aviation Industry in Campania (Tbc) Francesco Fortunato: Aviation Industry and Innovation in Naples Documentary movie: 100 Years of AleniaAermacchi			
20.30	Gala Dinner	Cenacolo belvedere via Aniello Falcone 122, 80127 Napoli (www.cenacolobelvedere.it) Guest star: Soprano Rosalba IULA			

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Wednesday, Sept 11th

08:30 - 13:00		Registration Desk			
		Room "Bobbio"	Room C	Room D	Room E
		Space Engineering and Technology IV	Structures and materials	Aircraft Technology IV	Aircraft Systems and Operations III
		Space Mission & Applications	Structures - Modeling	Aircraft Design - A	Air Traffic Control, Avionics
		Chairman: TBD	Chairman: Prof. M. DI SCIUVA (POLITO)	Chairman: Prof. C. CARDANI (CARDANI)	Chairman: Prof. M. BORRI (POLIMI)
09:00 - 09:20	Technical session 4	(1) E. BARBERA - A. MOCCIA, F. CALTAGIRONE, G. RUELLO - Polarimetric data for soil moisture retrieval. Preliminary results on the capability of SAR data for landslides monitoring	(122) R. PECORA - F. AMOROSO, G. AMENDOLA, M. MAGNIFICO - Flutter Analysis of a Large Aircraft Model for Wind Tunnel Tests	(15) I. DIMINO - P. VITIELLO - Real-Time DSP Experiments on Adaptive Aircraft Windows for Active Noise Reduction	(37) A. D'OTTAVIO - S. CHIESA, V. NICOLE, G. DI MEO - Augmented GNSS for Precision Approaches of Unmanned Aerial Vehicles: Risks and Safety Analysis
09:20 - 09:40		(62) V. BOCCIA - A. RENGA, M. D'ERRICO, G. RUFINO, A. MOCCIA, M.D. GRAZIANO, C. ARAGNO, S. ZOFFOLI - Application of SAR data from COSMO-SkyMed and ALOS for coastal area Bathymetry in the Gulf of Naples	(59) F. ROMANO - DI CAPRIO, MERCURIO - Low weight design of impact damaged CFRP stiffened panels by new design criteria and PFA	(169) M. VISCARDI - - From Numerical Modeling to Acoustic Virtual Prototyping	(40) G. A. DI MEO - S. CHIESA, A. CAVALLO - Avionic design for civil-military interoperability in Single European Sky
09:40 - 10:00		(70) L. DE LUCA - M. LAVAGNA, F. MAGGI, P. TADINI, C. PARDINI, L. ANSELMO, M. GRASSI, D. PAVARIN, A. FRANCESCONI, S. CHIESA, N. VIOLA, U. TANCREDI, C. BONNAL - Large Debris Removal Mission in LEO based on Hybrid Propulsion	(99) P. BETTINI - D. SALA, G. SALA - Numerical and experimental study of Fiber Bragg Grating sensors for Structural Health and Usage Monitoring Systems	(134) P. L. VITAGLIANO - CATALANO, MINERVINO, QUAGLIARELLA - Flow simulation of a prop-fan configuration based upon structured mesh with sliding boundaries	(57) L. M. PARRILLA - M. SANCHEZ, F. GUERRERO, A. L. RODRIGUEZ, M. M. PRATS - Architecture and Implementation of a Middleware Interface for AFDX and ARINC 429
10:00 - 10:20		(159) R. FORTEZZA - R. SAVINO, G. RUSSO - MISTRAL: Air-Launchable Micro-Satellite with Re-entry Capability	(102) P. BETTINI - E. GUERRESCHI, L. DI LANDRO, - Decoupling techniques of strain and temperature measurements for FBG sensors	(64) L. TRAINELLI - ANSELMINI, BALLARIN, D'A., ZULIANI - Series hybrid reconfiguration of a general aviation aircraft: preliminary design	(61) M. OREFICE - D. ACCARDO, G. FASANO, F. CORRARO - Tracking Architectures and Algorithms based on Cooperative and Non-Cooperative Sensors for Multiple UAV Applications
10:20 - 10:40		(131) G. PATRIZI - S. DELL'AGNELLO, G. O. DELLE MONACHE, R. VITTORI, D. G. CURRIE, G. BIANCO, R. PEARLMAN, C. CANTONE, A. BONI, S. BERARDI, M. TIBUZZI, M. MARTINI, N. INTAGLIETTA, M. MAIELLO, E. CIOCCI, C. LOPS, L. SALVATORI - ETRUSCO-2: an ASI-INFN project of technological development and "SCF-Test" of GNSS laser retroreflector array	(113) G. JAIANI - - Elastic cusped rod, plate, prismatic and standard shell models	(66) S. GEMMA - F. MASTRODDI - Non-linear modelling for Multi-Disciplinary and Multi-Objective Optimization of a complete aircraft	(107) F. MATARESE - P. MONTEFUSCO, J. NEVES, A. ROCHA - A Methodology to Harmonise Safety, Security and Cost-effectiveness in ATC
10:40 - 11:00		(155) I. CIUFOLINI - A. PAOLOZZI, G. SINDONI, C. PARIS - LARES Satellite: the best test particle for testing General Relativity	(53) A. BARRACCO - A. ALAIMO, A. MILAZZO, C. ORLANDO - Artificial Neural Networks comparison for a SHM procedure applied to Composite Structure	(135) G. MINGIONE - E. IULIANO, B. ESPOSITO - EXTICE: EXTreme ICing Environment	(81) M. D. GRAZIANO - M. D'ERRICO - Vessel traffic monitoring in the new Arctic routes
11:00 - 11:20		(26) S. DEBEI - G. COLOMBATTI, A. ABOUDAN, C. BETTANINI, E. FRISO, F. CUCCIARRÈ, E. SEGATO, P. BENVENUTI, F. ESPOSITO, C. MOLFESE, L. MARTY, P. SCHIPANI, S. PIRROTTA, R. MUGNUOLO, THE DREAMS TEAM. - DREAMS package for "dusty" Mars	(127) M. PERILLO - BASSANESE, DI FAZIO - Multi-disciplinary Robust Optimization: Composite FEM-based Design	(140) F. BERTINI - DAL MAS, VASSIO, AMPELLIO - Multidisciplinary Optimization for gas turbines design	(42) M. FIORITI - S. CHIESA, S. CORPINO, A. FURLAN - Hybrid Configuration Advanced APU concept for future TProp
11:20 - 11:50		Coffee Break			
		II Floor Historical Library			
11:50 - 12:30	Aula Magna Keynote	<p align="center">Mr. G. Tumino, S. Mancuso (European Space Agency, Paris, France) Concrete steps to prepare the future of aerospace: from the intermediate experimental vehicle to the innovative space vehicle</p>			
12:30 - 13:30		Lunch Time			
		II Floor, Historical Library			

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Wednesday, Sept 11th

		Room "Bobbio"	Room C	Room D	Room E
		Space Engineering and Technology V	Structures and materials	Aircraft Technology V	Aircraft Systems and Operations IV
13:30 - 15:30	Technical session 5	Space Simulation & Modeling	Materials	Aircr. Tech. Supp., Production, Non-conventional A/c	Aircraft Navigation, Aircraft Operations
		Chairman: Prof.S. DEBEI (UNIPADOVA)	Chairman: Prof. G. SALA (POLIMI)	Chairman: Ing. V. RUSSO (AIAN)	Chairman: Prof. G. DEL CORE (UNIPARTENOPE)
13:30 - 13:50		(14) A. DELFINI - VASSALLI, VOLPINI, ALBANO, NISTICÒ, MARCHETTI, POSCENTE, MERLINO, LANCIANI - Test facility and method for the evaluation of thermal cycling effects on components for space applications	(22) S. RUSSO - - Thermoplastic concepts for A/C Door	(8) J. SOO KO - J. MIN AHN - korea in-flight simulator aircraft development	(7) G. MIGLIACCIO - G. MENGALI, R. GALATOLO - Collision Avoidance Systems for Autonomous Civil UAVs
13:50 - 14:10		(54) F. TOPPUTO - ZONGFU LUO, F. BERNELLI-ZAZZERA - Analysis of Ballistic Capture Orbits in the Real n-Body Problem	(149) V. PAGLIARULO - V. LOPRESTO, M. MATRECANO, V. ANTONUCCI, A. ROCCO, M. R. RICCIARDI, P. FERRARO - Electronic Speckle Pattern Interferometry (ESPI) for impact damages evaluation on CFP	(143) M. ACANFORA - L. LECCE - The stability of an Airship in Different Empennages Configurations	(147) G. DEL CORE - G. LIOTTI - FADEC Logic and Icing Prevention in Aircraft Fuel Lines
14:10 - 14:30		(83) D. CARDILE - S. CHIESA, N. VIOLA, M. A. VISCIO - General methodology for demonstration mission design	(89) P. BETTINI - A. M. GRANDE, P. BETTINI, L. DI LANDRO, C. GIACOMUZZO, A. FRANCESCONI, G. SALA - Evaluation tests on Self-Healing ionomers for space applications	(9) P. ROMANO - P. RUOCCO, A. DE FENZA, D. D'ORAZIO, M.BARILE, L. LECCE - Development of a Finite Element Model for Inflatable Winglet	(35) G. B. PALMERINI - M. SIMONE, A. SIMONE - Advantages of GNSS-based terminal procedures
14:30 - 14:50		(98) S. TACCA - P. DI LIZIA, M. MASSARI - Generalized predictive thermal control of a thermal-vacuum chamber for space qualification tests	(27) S. PAPPADA' - A. SALOMI, JEANETTE MONTANARO, A. PASSARO, ORAZIO MANNI, A. MAFFEZZOLI - Advanced induction welding for thermoplastic composites in the aerospace sector	(4) A. VERGANI - AINARDI, TRICARICO - AleniaAermacchi Production System	(38) E. D'AMATO - S. BASSOLILLO, M. MATTEI, G. SCAPATICCI - Ant Colony Algorithm for Path Planning of a Quadrotor UAV
14:50 - 15:10		(100) F. CURTI - M. PARISSÉ, L. ANSALONE, E. NARDI, M. MORIANI, P. CASSIANO, F. M. TESTI - Multi-purpose Experimental Test-bed for Space and Planetary Exploration	(119) D. MICHELI - A. VRICELLA, R. PASTORE, M. MARCHETTI - Radar Absorbing Materials for Cube Stealth Satellite	(101) P. BETTINI - M. MOSCHETTI, E. VILLA, L. DI LANDRO, G. SALA - Design of SMA actuators in antagonistic configuration: development of a technological demonstrator for space applications	(158) A. DE MARCO - L. LECCE, J. D'AURIA - Collision risk studies using the open source flight dynamics model software library JSBSim
15:30 - 16:00	Coffee Break	II Floor Historical Library			
16:00 - 18:00	AIDAA Annual Meeting	Room "Bobbio"			
19.30	Concert	Conservatorio S. Pietro a Maiella, Historical Hall			

AIDAA XXII Conference Program

Thursday, Sept 12th

08:30 - 13:00		Registration Desk			
		Room "Bobbio"	Room C	Room D	Room E
		Space Engineering and Technology VI	Structures and materials	Aircraft Technology VI	Aircraft Advanced Technology II
09:00 - 11:00	Technical session 6	Space Systems	Structures - Crack and Damage tolerance	Aircraft Design - B	Propulsion and Combustion, Gasdynamic, Heat Transfer 2
		Chairman: Ing. G. RUSSO (AIAN)	Chairman: Prof. G. L. GHIRINGHELLI (POLIMI)	Chairman: Prof. A. FREDIANI (UNIPI)	Chairman: Ing. S. BORRELLI (CIRA)
09:00 - 09:20		(139) M. A. VISCIO - N. VIOLA, E. GARGIOLI - A Space Tug for Earth satellites servicing.	(19) A. SASSO - L. LUPONIO, D. MALACARIA, F. MARULO - Implicit Nonlinear Simulation of Progressive Failure Analysis of Composite Plates	(92) V. CIPOLLA - A. FREDIANI, F. OLIVIERO, M. PINUCCI, E. RIZZO, R. ROSSI - A ultralight amphibian PrandtlPlane: the final design	(39) F.P. BONETTI - A. ESPOSITO, O. SENNECA, V. CASO 2, C. ALLOUIS2 - Graphite combustion in high enthalpy supersonic flow
09:20 - 09:40		(78) D. CINQUEGRANA - G. PEZZELLA, P. CATALANO - Aerodynamic and Aerothermodynamic of the USV3 Re-Entry Vehicle	(23) K. REZVANI - S. RICCI - Using Principal Component Analysis for Damage Detection of Aerospace Structures	(34) D. CILIBERTI - F. NICOLOSI, P. DELLA VECCHIA - A new approach in aircraft vertical tailplane design	(87) G. CEGLIA - DISCETTI, IANIRO, MICHAELIS, ASTARITA, CARDONE - Three-dimensional organization of the flow structure in an aero-engine lean premixing prevaporized burner
09:40 - 10:00		(111) M. DE STEFANO FUMO - G. GUIDOTTI, C. RICHIELLO, L. VECCHIONE - USV3 System Development Overview	(67) V. RISTORI - E. TROIANI, GORAN IVETIC - Damage Tolerance in Composite Aeronautical Structures	(94) V. CIPOLLA - F. DI CIÒ, A. FREDIANI, F. OLIVIERO, M. ROCCALDO, R. ROSSI - A ultralight amphibious PrandtlPlane: water tank tests on a scaled	(108) N. GIUSTI - PI. PERGOLA, S. MARCUCCIO - Recent developments in ionic liquid field emission electric propulsion
10:00 - 10:20		(5) M. E. D'ELIA - CANDELA, CARANDENTE, SAVINO - Plasma effect on Radio-Frequency communications for lifting re-entry vehicles Plasma effect on Radio-Frequency communications for lifting re-entry vehicles	(90) M. ZACCARIOTTO - LUONGO, GALVANETTO - Simulation of damage and crack propagation in structural materials with the Peridynamics theory	(95) V. CIPOLLA - A. FREDIANI, G. GIBERTINI, F. OLIVIERO - A ultralight amphibious PrandtlPlane: wind tunnel tests	(151) A. CAVALIERE - A. CHINNICI, R. RAGUCCI - An Isothermal Characterization of Fluid-dynamic Configurations for Ultra-lean Mixture Combustion Stabilization
10:20 - 10:40		(138) L. BIANCHI - VILLADEI W. - Small Satellites: roles and perspectives	(96) V. BINANTE - A. FREDIANI, L. LAVORINI - Numerical validation of a new energetic fracture criterion in Elastic-plastic Fracture Mechanics for Aluminum Alloys.	(112) A. CAROZZA - G. MINGIONE, G. PEZZELLA - Computational flow field analyses on aeronautical oil cooling systems	(153) D. CINQUEGRANA - CATALANO, PEZZELLA - A Reduced Order Model for a rapid evaluation of SCIROCCO PWT nozzles flowfield
10:40 - 11:00		(56) C. BURATTINI - F. GUGLIERMETTI, F. BISEGNA, M. MARCHETTI - A comfort based interior design project of an habitation module for the International Space Station	(118) A. FREDIANI - V. BINANTE - Application of the Fracture Mechanics methodologies in Aeronautics to improve the safety of railway transport	#N/A	(162) C. S. GRECO - G. CARDONE - Experimental investigation on the heat transfer of impinging synthetic jet in different regimes
11:00 - 11:30		Coffee Break			
		II Floor Historical Library			
11:30 - 12:10	Aula Magna Keynote	Keynote: Dr. J. N. Kudva (President and CEO, NextGen Aeronautics Inc., Torrance, CA, USA) <i>Twenty-five Years of Adaptive and Morphing Structures - A Subjective Retrospective</i>			
12:10 - 12:50	Aula Magna Keynote	Prof. John Halpin <i>Requirements for Certification of Composite Airframes: Historical Evolution</i>			
13:00 - 14:00		Lunch Time			
		II Floor, Historical Library			

AIDAA XXII Conference Program

Thursday, Sept 12th

		Room "Bobbio"	Room C	Room D	Room E
		Space Engineering and Technology VII	Structures and materials	Aircraft Technology VII	Structures and materials
		Space Engineering and Technology 2	Structures Engineering	Rotary Wing Systems	Structures - Morphing structures
		Chairman: Ing. P. MESSIDORO (TAS)	Chairman: Ing. B. GAMBINO (ALENIA)	Chairman: Prof. M. GENNARETTI (UNIROMA3)	Chairman: Ing. A. CONCILIO (CIRA)
14:00 - 16:00	Technical session 7	(133) P. MESSIDORO - M. A. PERINO - From STEPS to STEPS 2: Development of Space Exploration Technologies in the Piedmont Aerospace District	(79) B. WOODS - M.I. FRISWELL - Development of a One-directional Stiffness Element for the Fish Bone Active Camber Mechanism	(156) S. MODINI - GRAZIANI, BERNARDINI, GENNARETTI - Blade Vortex Generator interaction 2D Modelling for rotor noise Control Systems	(60) S. FOURNIER - A. AIROLDI, E. BORLANDELLI, G. SALA - Flexible composite supports for morphing skins
14:00 - 14:20		(68) A. CHIESA - COSTANZA, FOSSATI, PENSAVALLE - Italian Technologies for Active Space Debris Removal: the CADET Project	(167) L. MAIO - BOFFA, DI PALMA, RICCI, MONACO - Experimental and Numerical Assessment of Ultrasonic Wave Propagation in Sensorized Carbon Fiber-Reinforced Epoxy Laminates	(86) V. ARTALE - A. ALAIMO, C. MILAZZO, A. RICCIARDELLO - A Quaternion based Mathematical Model and Control of a Hexacopter	(63) S. AMEDURI - - A Leading Edge Morphing Architecture for Droop Nose Effect
14:20 - 14:40		(72) S. CAPOROSSI - I. CRUCIANI, C. FERRARIS, C. ROUX - VEGA FPSA, a Configurable Multi-Mission Flight Software	(145) C. PARIS - C. VENDITTOZZI, M. BASAGLIA - Experimentation of Fiber Optic FBG Sensors in a CFRP Aerospace Component.	(123) E. FERRAUTO - DANIELE, DELLA VECCHIA - Horizontal axis hydroturbine shroud airfoil analysis and optimization	(105) A. DE GASPARI - S. RICCI - Active Camber Morphing Wings Based on Compliant Structures
14:40 - 15:00		(80) A. RENGA - TANCREDI, GRASSI - Handling of ionospheric delays for Carrier Phase Differential GPS in LEO formation flying	(18) M. ALBANO - IANELLI, C.VASSALLI, D. FRANCESCONI, A.DELFINI, R. VIOTTO, M. MARCHETTI - An advanced thermal protection system for hypersonic vehicles.	(150) G. BERNARDINI - ANOBILE, GENNARETTI - Genetic Algorithm with Surrogate Wake Inflow Models for Helicopter Rotor Optimal Design	(116) M. MAGNIFICO - G.AMENDOLA, R.PECORA, F.AMOROSO - Preliminary design of a compliant mechanism for rib morphing implementation.
15:00 - 15:20		(58) A. PISCULLI - L. FELICETTI, M. SABATINI, P. GASBARRI, G. B. PALMERINI - A Hybrid Formulation for Modelling Multibody Spacecraft	(148) E. CARRERA - E. ZAPPINO, A. FERRARESE, M. MONTABONE, - Aeroelastic design of Versatile Thermal Insulation (VTI) panels	(152) R. GORI - M. MOLICA COLELLA, J. SERAFINI, M. GENNARETTI - Assessment of a state-space aeroelastic rotor model for rotorcraft dynamics analysis	(117) G. AMENDOLA - M. MAGNIFICO, R. PECORA, F. AMOROSO - Preliminary design of a novel morphing rib architecture based on lumped elastic properties
15:20 - 15:40					
16:00 - 16:30		Coffee Break			
		<i>II Floor Historical Library</i>			
16:30 - 17:30	Aula Magna	Closing ceremony and awarding of prizes			