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|-----------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------|---------------------------------------------------|--------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------|------------------------------------------------------------|-----------------------------------------------|------------------------------------------------------|------------------------------------------------------|----------------------------------------------|-------------------------------------|---------------------------------------------|------------------------------------------|----------------------------------------------------------------------------------------------|--|
| 07:00<br>08:00              | Registration                                                                                                                                                                                                   |                                                  |                                                   |                                                                                                  |                                                                                                     |                                                            |                                               |                                                      |                                                      |                                              |                                     |                                             |                                          |                                                                                              |  |
| 08:00<br>09:00              | Opening Ceremony - Chair: Azevedo J.L. ICAS President BR                                                                                                                                                       |                                                  |                                                   |                                                                                                  |                                                                                                     |                                                            |                                               |                                                      |                                                      |                                              |                                     |                                             |                                          |                                                                                              |  |
| 09:00<br>10:00              | ICAS Daniel & Florence Guggenheim Memorial Lecture, “Aeronautical Innovation – Swedish and European Perspectives”□, Anders Blom, Sweden - Chair: J.L. Azevedo, ICAS President, BR                              |                                                  |                                                   |                                                                                                  |                                                                                                     |                                                            |                                               |                                                      |                                                      |                                              |                                     |                                             |                                          |                                                                                              |  |
| 10:00<br>10:30              | Coffee Break                                                                                                                                                                                                   |                                                  |                                                   |                                                                                                  |                                                                                                     |                                                            |                                               |                                                      |                                                      |                                              |                                     |                                             |                                          |                                                                                              |  |
| 10:30<br>12:00              | 1.1<br>Sustainable Aircraft<br>1 (invited)                                                                                                                                                                     | 2.1<br>MDAO 1                                    | 3.1<br>Unconventional<br>Configurations 1         | 4.1<br>Numerical Methods                                                                         | 5.1<br>GARTEUR 1<br>(invited)                                                                       | 6.1<br>Experimenta<br>Investigations on<br>Laminar Flow    | 7.1<br>Related Topics in<br>Aircraft Design 1 | 8.1<br>Impact                                        | 9.1<br>More / Hybrid /<br>Electric Propulsion<br>1   | 10.1<br>Aircraft<br>Aerodynamics             | 11.1<br>Design Space<br>Exploration | 12.1<br>AMAN / DMAN 1                       | 13.1<br>Airworthiness /<br>Certification | 14.1<br>Future Operations                                                                    |  |
| 12:00<br>13:00              | Lunch Break                                                                                                                                                                                                    |                                                  |                                                   |                                                                                                  |                                                                                                     |                                                            |                                               |                                                      |                                                      |                                              |                                     |                                             |                                          |                                                                                              |  |
| 13:00<br>14:00              | GL1 “Future Airspace – Meeting Demand Through Integration” Lynne Thompson Hopper, USA - Chair: S. Bagassi, ICAS EC member, IT                                                                                  |                                                  |                                                   |                                                                                                  |                                                                                                     |                                                            |                                               |                                                      |                                                      |                                              |                                     |                                             |                                          |                                                                                              |  |
| 14:10<br>15:40              | 1.2<br>Progress toward<br>sustainable aviation<br>(Electrified<br>Propulsion 1)<br>(invited)                                                                                                                   | 2.2<br>MDAO 2                                    | 3.2<br>UAS 1                                      | 4.2<br>Hypersonic<br>Aerodynamics                                                                | 5.2<br>GARTEUR 2<br>(invited)                                                                       | 6.2<br>Experimental<br>Investigations on<br>Vortical Flows | 7.2<br>Composite Damage<br>and Repairs        | 8.2<br>Aeroelastic<br>Experimental<br>Investigations | 9.2<br>More / Hybrid /<br>Electric Propulsion<br>2   | 10.2<br>Propulsion Systems                   | 11.2<br>UAV Navigation 1            | 12.2<br>AMAN / DMAN 2                       | 13.2<br>Safety / Security                | 14.2<br>Sustainment<br>Digitalisation                                                        |  |
| 15:40<br>16:00              | Break                                                                                                                                                                                                          |                                                  |                                                   |                                                                                                  |                                                                                                     |                                                            |                                               |                                                      |                                                      |                                              |                                     |                                             |                                          |                                                                                              |  |
| 16:00<br>18:00              | 1.3<br>Future Combat Air<br>Systems –<br>Requirements &<br>Technologies<br>(invited)                                                                                                                           | 2.3<br>Technology<br>Assessment                  | 3.3<br>UAS 2                                      | 4.3<br>Assessment of<br>Unconventional<br>Aircraft<br>Configurations<br>Through MDO<br>(invited) | 5.3<br>Actuation Systems                                                                            | 6.3<br>Aeroacoustic<br>Measurements                        | 7.3<br>Advances in<br>Aerostructures          | 8.3<br>Computational<br>Aeroelasticity               | 9.3<br>MDO for<br>Collaborative<br>Propulsion Design | 10.3<br>Flight Modelling<br>and Simulation 1 | 11.3<br>UAV Control and<br>AI       | 12.3<br>Climate /<br>Environment<br>Impacts | 13.3<br>UAV/UAM                          | 14.3<br>Operations<br>Optimisation                                                           |  |
| ROOM<br>LEVEL               | A1<br>4 (entry 5)                                                                                                                                                                                              | A2<br>6                                          | A4<br>6                                           | C1<br>2                                                                                          | C2<br>2                                                                                             | C3<br>2                                                    | 51(Bar 5)<br>5                                | 52(Balcony)<br>5                                     | C4<br>2                                              | 26<br>2                                      | 27<br>2                             | 24+25<br>2                                  | 35+36<br>3                               | 38<br>3                                                                                      |  |
| Tuesday, 06. September 2022 |                                                                                                                                                                                                                |                                                  |                                                   |                                                                                                  |                                                                                                     |                                                            |                                               |                                                      |                                                      |                                              |                                     |                                             |                                          |                                                                                              |  |
| 08:00<br>09:00              | GL 2 “Towards Certification by Analysis for Flight Characteristics” Robert Gregg III , USA - Chair: F. Collier, ICAS EC member, US                                                                             |                                                  |                                                   |                                                                                                  |                                                                                                     |                                                            |                                               |                                                      |                                                      |                                              |                                     |                                             |                                          |                                                                                              |  |
| 09:00<br>10:30              | Interactive Presentations (Coffee will be served after 10:00) - Chair: O. Pinon Fischer, ICAS PC Member, US                                                                                                    |                                                  |                                                   |                                                                                                  |                                                                                                     |                                                            |                                               |                                                      |                                                      |                                              |                                     |                                             |                                          |                                                                                              |  |
| 10:30<br>12:00              | 1.4<br>Next Steps Towards<br>Certification by<br>Analysis (invited)                                                                                                                                            | 2.4<br>Artificial<br>Intelligence<br>Application | 3.4<br>Unconventional<br>Configurations 2         | 4.4<br>Reduced Order<br>Models                                                                   | 5.4<br>Sustainable design,<br>manufacture and<br>maintenance of<br>aerostructures<br>EASN (invited) | 6.4<br>Aerofoil<br>Performance<br>Studies                  | 7.4<br>Emerging Material<br>Processes         | 8.4<br>Related Topics in<br>Aircraft Design 2        | 9.4<br>Supersonic /<br>Hypersonic<br>Propulsion      | 10.4<br>Flight Modelling<br>and Simulation 2 | 11.4<br>UAV Navigation 2            | 12.4<br>Navigation                          | 13.4<br>Human Factors                    | 14.4<br>tbd 3                                                                                |  |
| 12:00<br>13:00              | Lunch Break                                                                                                                                                                                                    |                                                  |                                                   |                                                                                                  |                                                                                                     |                                                            |                                               |                                                      |                                                      |                                              |                                     |                                             |                                          |                                                                                              |  |
| 13:00<br>14:00              | ICAS Enoch Thulin Lecture for Innovation in Aeronautics□“Reflections on Active Aeroelastic Control and the Multidisciplinary Design Optimization of Aircraft” Eli Livne - Chair: C. Atkin, ICAS PPSC Chair, GB |                                                  |                                                   |                                                                                                  |                                                                                                     |                                                            |                                               |                                                      |                                                      |                                              |                                     |                                             |                                          |                                                                                              |  |
| 14:00<br>15:30              | 1.5<br>ICAS Digital<br>Pioneering Initiative<br>(invited)                                                                                                                                                      | 2.5<br>More Electric<br>Aircraft                 | 3.5<br>Supersonic and<br>Hypersonic Aircraft<br>1 | 4.5<br>Geometry Handling<br>and Other CFD<br>Applications                                        | 5.5<br>Wing Transition<br>Control                                                                   | 6.5<br>Unconventional<br>Airframes                         | 7.5<br>Fabrication<br>Techniques              | 8.5<br>Sustainable Aircraft<br>2 (invited)           | 9.5<br>ISABE (invited)                               | 10.5<br>Aircraft Handling<br>Qualities       | 11.5<br>UAV Control 1               | 12.5<br>UAV & Small A/C                     | 13.5<br>Additive<br>Manufacturing        | 14.5<br>Aerospace<br>Education and Skill<br>Development                                      |  |
| 15:30<br>16:00              | Break                                                                                                                                                                                                          |                                                  |                                                   |                                                                                                  |                                                                                                     |                                                            |                                               |                                                      |                                                      |                                              |                                     |                                             |                                          |                                                                                              |  |
| 16:00<br>18:00              | 1.6<br>Development of a<br>Framework for<br>Validation of<br>Computational<br>Tools (NATO AVT-<br>297) (invited)                                                                                               | 2.6<br>Digital<br>Collaboration                  | 3.6<br>Urban Air Mobility                         | 4.6<br>Scale Resolving<br>Simulations                                                            | 5.6<br>Fluid Dynamics<br>Phenomena                                                                  | 6.6<br>Airframe<br>Characterization                        | 7.6<br>Aerospace Grade<br>Composites          | 8.6<br>Design of Aircraft<br>Structures 1            | 9.6<br>Nacelle 1                                     | 10.6<br>Flight Controller<br>Design 1        | 11.6<br>UAV Control 2               | 12.6<br>Electric<br>Components              | 13.6<br>Manufacturing<br>Management      | 14.6<br>John J. Green / DLR<br>Design Challenge /<br>AIAA student award<br>lecture (invited) |  |
| 18:00<br>19:30              | ICAS Speed Mentoring: For all early careers (students and young professionals) Meeting professionals from companies, research institutes, and universities in aeronautics all over the world                   |                                                  |                                                   |                                                                                                  |                                                                                                     |                                                            |                                               |                                                      |                                                      |                                              |                                     |                                             |                                          |                                                                                              |  |

Wednesday, 07. September 2022

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|----------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------|----------------------------------------------|---------------------------------------|--------------------------------------------------|------------------------------------------|----------------------------------------|-----------------------------------------|----------------------------------------------------|-------------------------------------|-------------------------------------|---------------------------------------------------------------|--------------------------------|----------------------------------------------|
| 08:00<br>10:00<br>10:00<br>10:30 | GL 3 Panel session “Towards Sustainable Air Transport” - Chair: J.L. Azevedo, ICAS President, , BR                                                                                                                                                                                                       |                                |                                              |                                       |                                                  |                                          |                                        |                                         |                                                    |                                     |                                     |                                                               |                                |                                              |
|                                  | Coffee Break                                                                                                                                                                                                                                                                                             |                                |                                              |                                       |                                                  |                                          |                                        |                                         |                                                    |                                     |                                     |                                                               |                                |                                              |
| 10:30<br>12:00                   | 1.7<br>Wake Impact Severity Assessment (WISA) for arrivals and departures as part of SESAR 2020 Wave 2 (invited)                                                                                                                                                                                         | 2.7<br>HMI & Cabin Design      | 3.7<br>Hybrid-Electric Aircraft & LH2 1      | 4.7<br>Applied CFD                    | 5.7<br>IFAR (invited)                            | 6.7<br>High Lift Devices                 | 7.7<br>Numerical Modeling of Materials | 8.7<br>Testing and Measurements         | 9.7<br>Nacelle 2                                   | 10.7<br>Flight Controller Design 2  | 11.7<br>Systems of Systems Analysis | 12.7<br>Universities - part of the Innovation chain (invited) | 13.7<br>Advanced Manufacturing | 14.7<br>System Condition & Emergency Systems |
| 12:00<br>13:00<br>13:00<br>13:45 | Lunch Break                                                                                                                                                                                                                                                                                              |                                |                                              |                                       |                                                  |                                          |                                        |                                         |                                                    |                                     |                                     |                                                               |                                |                                              |
|                                  | “Developing and Flying the Gripen E” Marcus Wandt, Sweden - Chair: G. Holmberg, ICAS Treasurer, SE                                                                                                                                                                                                       |                                |                                              |                                       |                                                  |                                          |                                        |                                         |                                                    |                                     |                                     |                                                               |                                |                                              |
| 13:55<br>15:55                   | 1.8<br>Progress toward sustainable Aviation (Electrified Propulsion 2) (invited)                                                                                                                                                                                                                         | 2.8<br>Design Methods          | 3.8<br>Hybrid-Electric Aircraft & LH2 2      | 4.8<br>High Order Methods             | 5.8<br>tbd 2                                     | 6.8<br>Council Meeting                   | 7.8<br>UAV Path Planning               | 8.8<br>Morphing                         | 9.8<br>Propulsion System & Aircraft Performance 1  | 10.8<br>Flight Test and Equipment 1 | 11.8<br>Simulation                  | 12.8<br>Lift and Stall Control                                | 13.8<br>Operation              | 14.8<br>Cabin & Cargo                        |
| 15:55<br>16:15                   | Break                                                                                                                                                                                                                                                                                                    |                                |                                              |                                       |                                                  |                                          |                                        |                                         |                                                    |                                     |                                     |                                                               |                                |                                              |
| 16:15<br>18:45                   | 1.9<br>Progress toward sustainable aviation (Single Aisle Seat Class Transport Concepts) (invited)                                                                                                                                                                                                       | 2.9<br>Sustainable Aircraft 1  | 3.9<br>UAS 3                                 | 4.9<br>CFD Applications 1             | 5.9<br>Experimental Configuration Studies        | 6.9<br>Council Meeting ext.              | 7.9<br>Metallic Structures             | 8.9<br>Vibration and Damping 1          | 9.9<br>Combustion & Heat Transfer                  | 10.9<br>Flight Test and Equipment 2 | 11.9<br>MBSE 1                      | 12.9<br>DLR/LuFo session on the green deal (invited)          | 13.9<br>Network                | 14.9<br>System Design                        |
| ROOM                             | A1                                                                                                                                                                                                                                                                                                       | A2                             | A4                                           | C1                                    | C2                                               | C3                                       | 51(Bar 5)                              | 52(Balcony)                             | C4                                                 | 26                                  | 27                                  | 24+25                                                         | 35+36                          | 38                                           |
| LEVEL                            | 4 (entry 5)                                                                                                                                                                                                                                                                                              | 6                              | 6                                            | 2                                     | 2                                                | 2                                        | 5                                      | 5                                       | 2                                                  | 2                                   | 2                                   | 2                                                             | 3                              | 3                                            |
| Thursday, 08. September 2022     |                                                                                                                                                                                                                                                                                                          |                                |                                              |                                       |                                                  |                                          |                                        |                                         |                                                    |                                     |                                     |                                                               |                                |                                              |
| 08:00<br>09:30<br>09:30<br>10:00 | General lecture V: ICAS/IFAR „Transforming Aviation towards Zero Emission - to mitigate the climate impact“ I. Yimer, NRC Canada, B. Sainjon, ONERA France, M. Fischer, DLR Germany, Y. Watanabe, JAXA Japan, P. Krus, SARC Sweden - Chair: D. Mavris, ICAS PC Chair, US                                 |                                |                                              |                                       |                                                  |                                          |                                        |                                         |                                                    |                                     |                                     |                                                               |                                |                                              |
|                                  | Coffee Break                                                                                                                                                                                                                                                                                             |                                |                                              |                                       |                                                  |                                          |                                        |                                         |                                                    |                                     |                                     |                                                               |                                |                                              |
| 10:00<br>12:30                   | 1.10<br>Selected Highlights from Clean Sky/Clean Aviation 1 (invited)                                                                                                                                                                                                                                    | 2.10<br>Sustainable Aircraft 2 | 3.10<br>Hybrid-Electric Aircraft & LH2 3     | 4.10<br>CFD Applications 2            | 5.10<br>Turbulence Modelling                     | 6.10<br>Wind Tunnel Testing Technology 1 | 7.10<br>Fatigue Analysis               | 8.10<br>Vibration and Damping 2         | 9.10<br>Propellers, Fan & Compressors              | 10.10<br>Flight Control             | 11.10<br>Systems Architecting       | 12.10<br>Student Final                                        | 13.10<br>Trajectory            | 14.10<br>Sustainment Systems                 |
| 12:30<br>13:30                   | Lunch Break                                                                                                                                                                                                                                                                                              |                                |                                              |                                       |                                                  |                                          |                                        |                                         |                                                    |                                     |                                     |                                                               |                                |                                              |
| 13:30<br>15:30                   | 1.11<br>Selected Highlights from Clean Sky/Clean Aviation 2 (invited)                                                                                                                                                                                                                                    | 2.11<br>Wing Design            | 3.11<br>Supersonic and Hypersonic Aircraft 2 | 4.11<br>Transition and Flow Stability | 5.11<br>Aeroacoustics and Sonic Boom Predictions | 6.11<br>Wind Tunnel Testing Technology 2 | 7.11<br>UAV Design                     | 8.11<br>Design of Aircraft Structures 2 | 9.11<br>Propulsion System & Aircraft Performance 2 | 10.11<br>Flight Modelling           | 11.11<br>MBSE 2                     | 12.11<br>Icing                                                | 13.11<br>UTM / UAM             | 14.11<br>tbd 1                               |
| 15:30<br>16:00                   | Break                                                                                                                                                                                                                                                                                                    |                                |                                              |                                       |                                                  |                                          |                                        |                                         |                                                    |                                     |                                     |                                                               |                                |                                              |
| 16:00<br>17:00<br>17:00<br>17:30 | 16:00-17:00 ICAS von Karman Lecture: “Clean Sky Programme Achievements and Clean Aviation Outlook” S.Klauke CTO Airbus , E. Dalbies CTO SAFRAN, M. Protti Head of Advanced Research Leonardo Aircraft - Chair: A. Krein Executive Director Clean Aviation JU GER, J.L. Azevedo, ICAS President Brazil, , |                                |                                              |                                       |                                                  |                                          |                                        |                                         |                                                    |                                     |                                     |                                                               |                                |                                              |
|                                  | Closing Ceremony - Chair: Azevedo J.L. ICAS President BR                                                                                                                                                                                                                                                 |                                |                                              |                                       |                                                  |                                          |                                        |                                         |                                                    |                                     |                                     |                                                               |                                |                                              |