# SCHEDULE

| TUESDAY, MAY 20, 2014 | |
|---|---|
| 08:00 | Registration |
| 08:30 | **J. Muylaert, von Karman Institute for Fluid Dynamics (VKI), Belgium**<br>Welcome address<br>Introduction |
| 08:45 | **D. Breyne, Optimal Aircraft Design (OAD), Belgium:**<br>**The Aircraft design process in general / How to start efficiently the conceptual design**<br>The importance of clearly defining the specifications<br>Life cycle considerations, Murphy law<br>The art of the compromise<br>How to start efficiently the conceptual design: use of statistical data, optimisation, ... |
| 09:30 | **R. Decuypere, Vrije Universiteit Brussels (VUB) & KULeuven, Belgium**<br>**The history of UAVs** |
| 10:15 | Coffee break (including poster session & workshop) |
| 11:00 | **K. Krueger, GEM, USA**<br>**Design consideration during the conceptual design**<br>Conceptual design (advanced): design consideration (structural, manufacturing, regulation)<br>General configuration, wing, tails, fuselage, landing gear, powerplant |
| 12:15 | Lunch (walking dinner including poster session & workshop) |
| 13:45 | **P. Hendrick, Université Libre de Bruxelles (ULB), Belgium**<br>**Powerplant integration at the stage of the conceptual design**<br>Conceptual design (advanced): powerplant integration (engine, propeller, cowling, efficiency, effect of speed, altitude, ...)<br>UAV/Light aircraft (Electric Vs Thermic), pro & cons |
| 15:00 | Coffee break (including poster session & workshop) |
| 15:45 | **W. Anemaat, DARcorporation, USA**<br>**Aerodynamic and performance analysis during the preliminary design**<br>Preliminary design: Aerodynamic analysis (lift, drag, high lift devices, ...)<br>Tools, rule of thumbs, feeling, common sense, examples, ...<br>Preliminary design: Performance analysis (Stall, Takeoff, Landing, climb cruise) - Tools |
| 17:00 | Reception |

| WEDNESDAY, MAY 21, 2014 | |
|---|---|
| 08:30 | **SKYWIN: presentation of Skywin** |
| 09:00 | **S. Ozgen, Middle East Technical University (METU), Turkey**<br>**Sizing methods (matrix methods and carpet plots)** |
| 10:15 | Coffee break (including poster session & workshop) |
| 11:00 | **W. Anemaat, DARcorporation, USA**<br>**Weight and stability analysis during the preliminary design**<br>Preliminary design: weight analysis, CG positions, Inertia,- Tools<br>Preliminary design: stability analysis, load analysis, V-n diagram -Tools |
| 12:15 | Lunch (walking dinner including poster session & workshop) |
| 13:45 | **S. Ozgen, METU, Turkey**<br>**Regulation and safety consideration** |
| 15:00 | Coffee break (including poster session & workshop) |
| 15:45 | **How to check your design**<br>**D. Breyne, OAD, Belgium: Using statistics**<br>**J. Muylaert, VKI, Belgium: Using simulations and wind tunnel tests**<br>**K. Krueger, GEM, USA : Flight tests** |
| 16:45 | Visit of the labs |

| THURSDAY, MAY 22, 2014 | |
|---|---|
| 08:30 | **K. Krueger, GEM, USA : From theory to practice**<br>From theory to practice: safety, production, profitability, costs, ... considerations<br>How not to go broke building airplanes<br>the usual result of most new efforts |
| 09:45 | **W. Anemaat, DARcorporation, USA : Aircraft design: dos and don'ts rules** |
| 10:45 | Coffee break (including poster session & workshop) |
| 11:30 | **D. Breyne, OAD, Belgium : Unusual concepts (to be defined)** |
| 12:15 | Asymmetric airplane (BV-141, Boomerang, ...) |
| 13:45 | Solar plane |
| 14:30 | **(K. Misegades, USA) presented by K. Krueger: Lessons learned & the future of the light aircraft**<br>The KM-1: experiences of a first-time amateur aircraft designer |
| 15:15 | Coffee break |
| 15:45 | Design project presented by the Teams (5' per project) |
| 17:00 | **Closing Ceremony: M. Carbonaro, former VKI director**<br>**Design competition awards** |