C-UAS

C-UAS – Center for Unmanned Aircraft Systems
INDUSTRY ADVISORY BOARD MEETING
National Science Foundation (NSF) • Industry / University Cooperative Research Center
8 August - 9 August, 2017 • NOAA, College Park, Maryland

A G E N D A

Tuesday, 8 August 2017 – NOAA Auditorium

7:30 AM	*Registration*
8:00 AM	Welcome and Meeting Objectives, **Tim McLain**, Director, C-UAS
8:10 AM	Introductions
8:20 AM	*Break and Social Time*
8:50 AM	C-UAS Overview and Meeting Details, **Tim McLain**, Director, C-UAS
9:15 AM	LIFE Form Process Review & NSF Questionnaire, **Eric Sundstrom**, NSF Assessment Coordinator
9:35 AM	**CU** Project Proposals, Eric Frew, Site Director
9:35 AM	CU17-01 Robust Communication Services in Complex Environments, **Eric Frew**
9:40 AM	CU17-02 sUAS Communications and Navigation in the NASA UTM, **Brian Argrow & Dale Lawrence**
9:45 AM	CU17-03 Active Collaborative Sensing, Learning and Planning with Humans in UAS, **Nisar Ahmed**
9:50 AM	(New) CU17-05 Small UAS Turbulence and Gust Measurement and Model, **Dale Lawrence, John Farnsworth, Brian Argrow, & Sean Humbert**
9:55 AM	*LIFE Forms*
10:00 AM	CU17-04 User-Adaptive Assurances for Enhancing Trust, **Eric Frew, Nisar Ahmed, Dale Lawrence, & Brian Argrow**
10:05 AM	(New) CU17-05 Verification & Validation of Autonomous Systems: Systematic Quantification of Failure Risks, **Eric Frew & Sriram Sankaranarayanan**
10:10 AM	(New) CU17-06 Robust Fault Detection and Mitigation for Small UAS, **Dale Lawrence, Eric Frew, & Nisar Ahmed**
10:15 AM	(New) CU17-07 Cycloidal Propellers for Seamless Transition Between Vertical and Forward Flight, **John Farnsworth**
10:20 AM	(New) CU17-08 Path Following and Advanced Maneuvers for Small Fixed-wing UAS in Wind, **Dale Lawrence & Eric Frew**
10:25 AM	*Interactive Session (Proposal Discussion Time) and LIFE Forms*
11:15 AM	**UM** New Project Proposals, Ella Atkins, Site Director
11:15 AM	(New) UM17-01 Very Flexible UAS for Aeroelastic Data Collection and Control Development, **Carlos Cesnik**
11:20 AM	(New) UM17-02 Emergency Flight Planning with IoT and Onboard Sensor Data used in Decision Making, **Ella Atkins**
11:25 AM	(New) UM17-03 Exploring Vulnerabilities in Multi-UAV Systems for Swarm Defence: A Control-Theoretic Approach, **Dimitra Panagou**
11:30 AM	(New) UM17-04 Simulation of Individual and Swarms of UAS through Realistic Atmospheric Conditions, **Karthik Duraisamy**
11:35 AM	(New) UM17-05 Electronic Geofencing Guidance and Control with UAS Traffic Management (UTM), **Ella Atkins**
11:40 AM	*Interactive Session (Proposal Discussion Time) and LIFE Forms*
12:30 PM	*LUNCH*

1:30 PM	**VT** Project Proposals, Craig Woolsey and Kevin Kochersberger, Site Directors
1:30 PM	VT17-01 UAV/UGV Cooperative Classification for Online UGV Route Planning and Localization, **Kevin Kochersberger**
1:35 PM	VT17-02 Agile Control for Inspection, **Matt Hebdon, Pratap Tokekar, Mayur Patil, Craig Woolsey**
1:40 PM	VT17-03 Security Aware Control Algorithms, **Mazen Farhood**
1:45 PM	(New) VT17-04 Autonomy Test & Evaluation, Verification & Validation (ATEVV): An Exploratory Case Study of Motion Planning and Control, **Mazen Farhood & Craig Woolsey**
1:50 PM	(New) VT17-05 Synthesis of Formally Specified, Configurable Hardware Monitors for Flight Control Software, **Cameron Patterson & Mazen Farhood**
1:55 PM	(New) VT17-06 Intelligent Visual Tracking System for Small UAS, **Kevin Kochersberger & Craig Woolsey**
2:00 PM	Joint BYU-VT17-01 Small Aircraft Flight Encounters (SAFE) Database and Algorithms, **Craig Woolsey, Karl Warnick, & Randy Beard**
2:05 PM	*Interactive Session (Proposal Discussion Time) and LIFE Forms*
2:55 PM	**BYU** Project Proposals, Randy Beard, Site Director
2:55 PM	BYU17-01 Robust Target Tracking, **Randy Beard & Mike Goodrich**
3:00 PM	BYU17-02 Navigation in Cluttered Terrain with Intermittent GPS, **Tim McLain & Randy Beard**
3:05 PM	(New) BYU17-03 Aerodynamic Performance of Multiple Interacting Rotors and Lifting Surfaces, **Andrew Ning**
3:10 PM	BYU17-04 s-UAV-based Infrastructure Monitoring, **John Hedengren & Kevin Franke**
3:15 PM	*LIFE Forms*
3:20 PM	BYU17-05 Robust Moving Target Handoff in GPS Denied Environments, **Randy Beard & Mike Jensen**
3:25 PM	BYU17-06 Optimization of Heterogeneous Group of Vehicles for Achieving Multiple Mission Level Objectives, **Cammy Peterson & Andrew Ning**
3:30 PM	(New) BYU17-07 Electronically Steered Arrays (ESAs) for Onboard UAS Satellite Communications, **Karl Warnick**
3:35 PM	(New) Joint BYU-CU17-02 Multiple Aircraft Sensing System (MASS), **Randy Beard & Eric Frew**
3:40 PM	BYU17-08 Probabilistic Programming for Perceptually Driven Autonomous Agents, **David Wingate**
3:45 PM	(New) BYU17-09 Counter UAS-Mitigation of Unauthorized Unmanned Air Systems, **Karl Warnick & Randy Beard**
3:50 PM	*Interactive Session (Proposal Discussion Time) and LIFE Forms*
4:40 PM	Initial Project Voting
5:00 PM	Graduate Student Poster Session (*breakout room 1602*) Guest & New Member Workshop (*auditorium*)
6:00 PM	Adjourn

A G E N D A

Wednesday, 9 August 2017 – NOAA Auditorium

7:30 AM   *Social Time*

8:00 AM   Welcome and agenda overview, **Tim McLain** -- Scheduling of next IAB meeting

8:10 AM   NSF Questionnaires, **Eric Sundstrom**, NSF Assessment Coordinator

8:30 AM   Georgia Tech/Penn State Discussion, **Tim McLain**, Director, C-UAS

8:40 AM   Membership, Funding, and Budget Update, **Site Directors**

9:20 AM   *BREAK*

9:30 AM   Center Operations Discussion, **Derek Kingston**, IAB Chair

10:00 AM   Project Reviews (Members and Guests), *breakout room 1602*
                  Faculty Meeting, *main auditorium*

12:00 PM   *BREAK- **Grab Box Lunches***

12:30 PM   Member Presentations, *breakout room 1602* (Lunch Continued)

1:00 PM   *BREAK*

1:15 PM   IAB Project Final Voting – Qualtrics survey, *breakout room 1602*

1:40 PM   Final Results Shown

1:50 PM   Closing remarks, **Tim McLain**

2:00 PM   *Adjourn*