

North Eastern Space Applications Centre

"Two Weeks Course on UAV Remote Sensing – Technological Advances and Applications"

Date: 06th Nov – 17th November, 2017

Day	9:00 to 10:00	10:00 to 11:00	11:00 to 12:00	12:00 to 13:00	13:00 to 14:00	14:00 to 17:00
Nov 06/Day 1	Registration	Inaugural function	Tea/Assignments/ Library/Discussions	L01	Lunch	P01
Nov 07/Day 2	L02	L03	---//---	L04	---//---	P02
Nov 08/Day 3	L05	L06	---//---	L07	---//---	P02
Nov 09/Day 4	L08	L09	---//---	L10	---//---	P03
Nov 10/Day 5	L11	L12	---//---	L13	---//---	P03
Nov 11/Day 6	Saturday-Field Trip to Cherrapunjee					
Nov 12/Day 7	Sunday-Break					
Nov 13/Day 8	L14	P03	---//---	P03	---//---	P04
Nov 14/Day 9	P04	P04	---//---	P04	---//---	P05
Nov 15/Day 10	Mini Projects: Project – 01 Project – 02 Project – 03 Project – 04 Project – 05 Project - 06					
Nov 16/Day 11						
Nov 17/Day 12	Presentation on Mini Projects		---//---	Feedback from participants-open discussion	---//---	Valedictory Function

Venues:

Registration: 06/11/2017: 09:00-10:00 hrs (Auditorium)

Inaugural Session – Auditorium

Theory sessions: Director's Conference Hall, I floor NESAC building

Practical Sessions: Computer lab, Ground floor

COURSE DETAILS

S.No.	Inaugural Events	Speaker
1	Welcome Speech, Overview of the course, Address by Chief Guest, vote of thanks	NESAC
	Theory Sessions	Faculty
	Introduction to UAV Remote Sensing	
6	L01 : Overview of UAV Remote Sensing	Shri PLN Raju, Director, NESAC
7	L02 : Physics of Remote Sensing	Dr Arup Borgohain, NESAC
	UAV Assembly & Design	
9	L03 : UAV principles & Components	Shri Chirag Gupta, NESAC
10	L04 : Fixed wing UAVs-design, assembly, operation and flight planning	Shri Chirag Gupta, NESAC
11	L05 : UAV applications & case studies performed by NGISRSC	Shri Atho, NGISRSC
12	L06 : UAS Advances in Design and Assembly	Shri Atho, NGISRSC
	Flight Planning	
13	L07 : Global Positioning System	Shri Anjan Debnath, NESAC
14	L08 : Navigation, orientation and sensing payloads & Ground control station	Shri Chirag Gupta, NESAC
	UAV Photogrammetry and Data Acquisition	
15	L09 : UAV Photogrammetry & UAV Data Acquisition	Shri Victor Saikhom, NESAC
16	L10 : UAV Data processing methods- Geometric corrections, information extraction, accuracy and level of information	Shri Victor Saikhom, NESAC
	UAV Data Processing	
17	L11 : UAV SAR and Hyperspectral Remote Sensing- Introduction, Application Issues & Challenges/ LIDAR remote sensing applications using UAV	Shri Abdul Qadir Khan, NESAC/ Shri Arjun B.M., NESAC
18	L12 : UAV data processing : 3D Point cloud, DEM & Orthophoto/3D reconstruction	Shri Abdul Qadir Khan, NESAC
19	L13 : Introduction to Computer Vision for 3D Scene Reconstruction & Open source tools for UAV data processing	Shri PS Singh, NESAC
20	L14 : Advancements and Challenges in UAV RS	Dr Dibyajyoti Chutia, NESAC
21	Discussion on Mini projects (participants and project coordinators)	Project Coordinators Dr. Rocky Pebam/ Ms. Suranjana Borah, NESAC Shri Victor Saikhom/Ms. Meghavi Prashnani, NESAC Shri M Somorjit Singh/Ms. Swakangkha Ghosh, NESAC Dr Jenita Nongkynrih/ Shri Santanu Das NESAC Smt. Jonali Goswami, Shri Abdul Q Khan, NESAC Shri Arjun B.M./ Shri Shanbor Kurbah, NESAC

Practical Sessions		
22	P01: Visit to NESAC facilities & Demonstration of NESAC UAVs	Shri Chirag Gupta, Shri Anjan Debnath, Ms. Meghavi Prashnani, Ms. Swakangkha Ghosh
23	P02 : Hands on Simulator Training	Shri Chirag Gupta, NESAC
24	P03 : Mission planning & hands on training Autonomous/Manual flight Exercises for nadir/oblique view, data acquisition	Shri Victor Saikhom Chirag Gupta, NESAC
25	P04 : UAV Data processing – Hands On	Shri Victor Saikhom, Ms. Meghavi Prashnani, Ms. Swakangkha Ghosh/Shri Abdul Q Khan, NESAC
26	P05 : Open Source 3D Scene Reconstruction	Shri PS Singh/ Ms. Meghavi, NESAC
Mini Projects		Project Coordinators
27	Mini Project [Group 1] – Urban applications	Dr Jenita Nongkynrih/ Shri Santanu Das, NESAC
28	Mini Project [Group 2] – Agricultural applications	Smt. Jonali Goswami/Shri Abdul Q Khan, NESAC
29	Mini Project [Group 3] – Terrain & 3D applications	Shri Victor Saikhom/Ms. Meghavi Prashnani, NESAC
30	Mini Project [Group 4] – Landslide studies	Shri M Somorjit Singh/Ms. Swakangkha Ghosh, NESAC
31	Mini Project [Group 5] – Forestry applications	Dr. Rocky Pebam/ Ms. Suranjana Borah, NESAC
32	Mini Project [Group 6] – River erosion studies	Shri Arjun B.M./ Shri Shanbor Kurbah, NESAC
Valedictory Function		
33	<ul style="list-style-type: none"> - Presentation of Mini projects - Feedbacks from participants - Distribution of certificates - Group photo - Vote of thanks - High tea – session ends 	All participants and NESAC staffs

Distribution: Director NESAC, Admin Officer, All Scientists, Concerned faculty and staff, Purchase & Stores officer, Security, course participants, All notice boards, NESAC website.