Aeromodelling Club, STAB
Annual Review 2014-15

- **ITSP(May,14 –June,14)**– 11 teams completed their projects successfully, Some innovative projects-**Single rotor Hover-craft** (propulsion and Lifting was done by single rotor), **Android controlled RC plane**, Cargo dropper plane, **Ornithopter,** Tri-copter
- **Orientation**- Gave brief description about club activities, **Quad-copter flying show,** Exhibition of different kind of RC plane models and Simulator Session, Balsa glider

Team at the time of Orientation

- **Missile**- Water rocket competition - 40 teams(~150) participated, ~45 min lecture on basis concept of missile, **Hands-on workshop** of water-rocket ,All the required material was provided to all the participants, Technical help was given, Concepts were explained, **Competition-** Participants flew the rocket models which were

made by, Top **3 teams** appreciated after the competition

- **Advance Session on plane(12/08/14)-** It was mainly **for seniors**, Session taken by **SAE team**. In this session, talked on, Aerodynamics, Simulation and verification of structure using simulation software like **ansys, XFLR 5**, Different kind of material used in aircraft, Assembling techniques, Different kind of sensor for autonomous control, How to perform better in competition,

- **RC plane-** Total 54(~220) teams completed successfully. Almost **double** compare to last year
    - **Basics of RC plane**(**03/09/14**) in which people learnt **concepts of RC plane, Propulsion system, Aerodynamics, control, How to design a RC plane and finally participated in the competition**
    - **Design submission**- Before workshops participants decided their plane dimension using the knowledge of **RC- Plane basic session**,
    - **Workshop-**
        - **Mechanical** (22and23/09/14)-People implemented their design with the help of their mentors and team
        - **Electrical**(25/09/14)- Understanding of electric circuit ,Placement of electric component into structure
        - **Flying practice**(27/09/14)- through simulator sessions, Flying test on ground and technical problem correction.
        - **Final competition**(**28/09/14**)-All participants flew their plane by own in a given path, **Top 5 teams** were appreciated by **DRDO director** at the time of **TECH and R&D exhibition**

Plane is taking off in Gymkhana Ground

People are working to make there RC plane

Team with their RC plane

- **Glider Workshop and Session -** Small talk on gliders (Para glider, Rocket glider, Sailplane, Hang glider etc.). Participants were explained that how the gliders are different from plane.
    - Hands-on workshop on two different kind of glider
        - **Balsa Glider**
        - **Walk-along Glider**

Person throwing the balsa glider

One participant is balancing the CG of their glider

- **Hovercraft General Championship (GC):** Before GC conducted session on hovercraft and discussed the physics part of it. Around 10 hostels participated.

Group Photo of General Championship Participants

- **Boomerang:** Before the actual workshop participants were explained the physics part of boomerang. Proper explanation of **gyroscopic principle** and how it is used in boomerang. In workshop people made their own boomerang and after that flew them in open area.

Person throwing Boomerang at SAC ground

Participants making there Boomerang

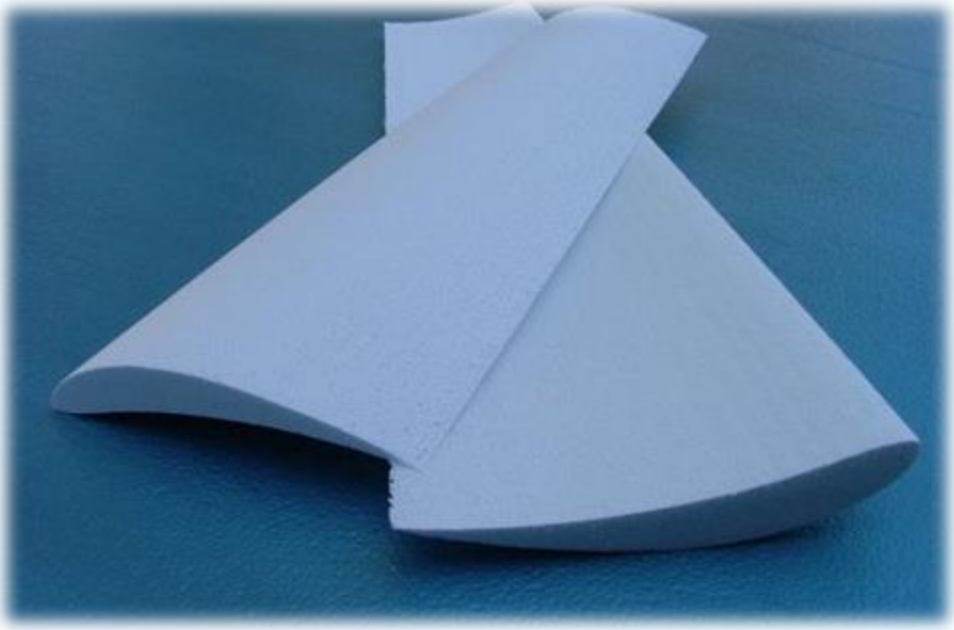
- **Talk by Prof: Hemendra Arya Sir on Hardware in Loop Simulation (HILS):** Good amount of **post graduate and under graduate people** got the benefit of this talk. Few of them were asking for the projects in the same area.

Sir explaining HILS

- **Visits**
  - **Alumni:** 1965 batch alumni visited to the institute, for them we conducted hands-on workshop on water rocket and air show in which Octa-copter and RC – Plane were flown.

Alumni taking rest with new OC after flying the water rockets

  - **School:** Around 100 student of 8th slandered of Witty International School visited to IIT Bombay just to see the technical activates which are happening inside IIT Bombay.
- **Automatic Hot wire 3D foam cutter**: Using this we can cut any kind of 3D wing of thermo-col. We are making this; just reduce the effort of freshman while making the **RC plane**. We have started working on this project, **software part is ready** and now we are working on the hardware part.



This kind of wings can be cut using the 3D foam cutter

Contribution in combine STAB events:

- Tech and R&D exhibition
- Tech treasure hunt
- ITSP

Information might be useful:

Google Group: http://goo.gl/djuh2C

Facebook Page: http://goo.gl/cZph7h

Facebook Group: http://goo.gl/MokI3k

Team:

Manager: Kuldeep Singh

Conveners:

- Abhiroop Rastogi
- Ankit Sharma
- Deepak Yadav
- Shubham Chauhan
- Kuntal Ghosh(PG)

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