



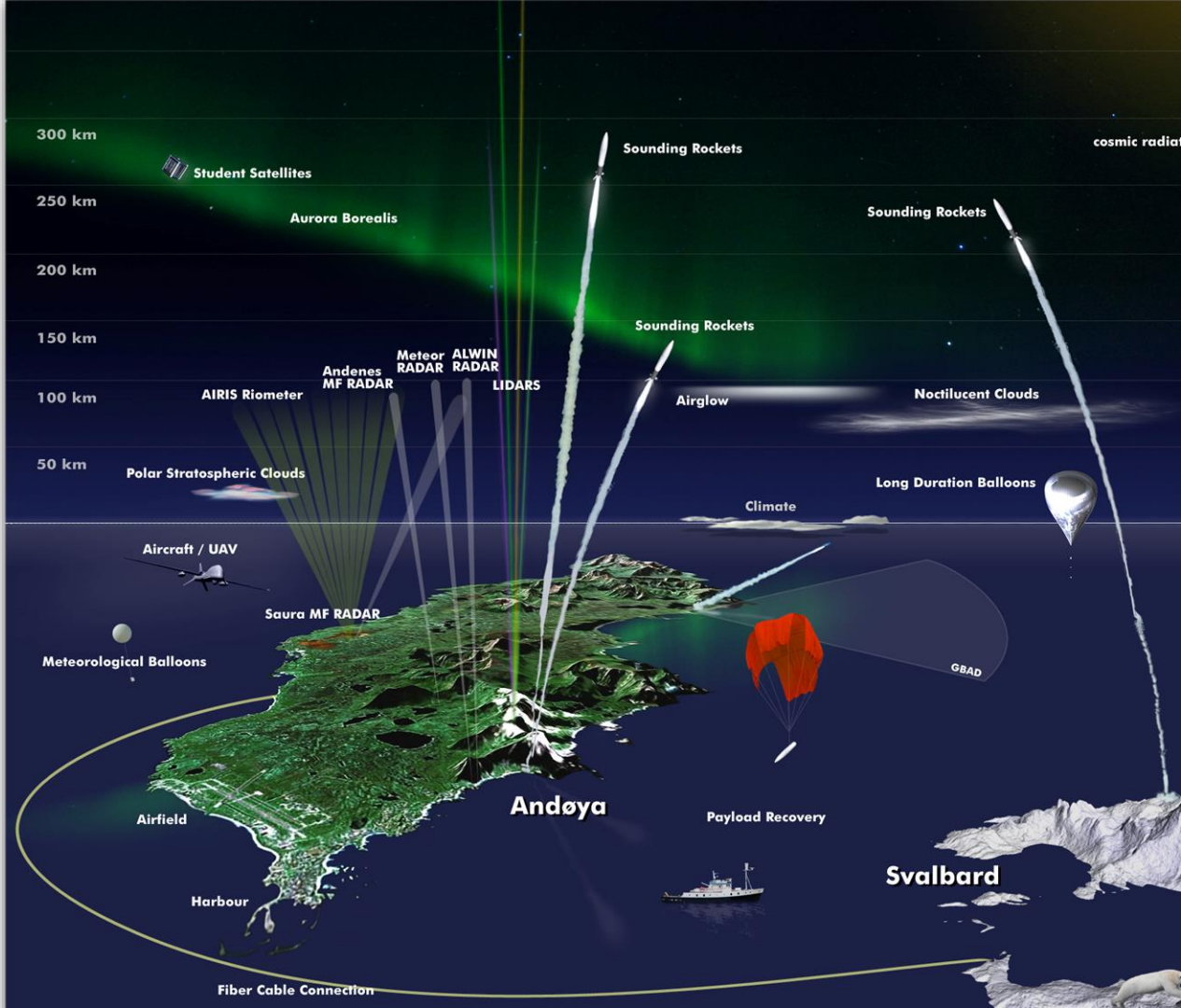
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# On the Student Rocket Program at Andøya Space Center

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*Norwegian Centre for Space-related Education*



# ANDØYA SPACE CENTER





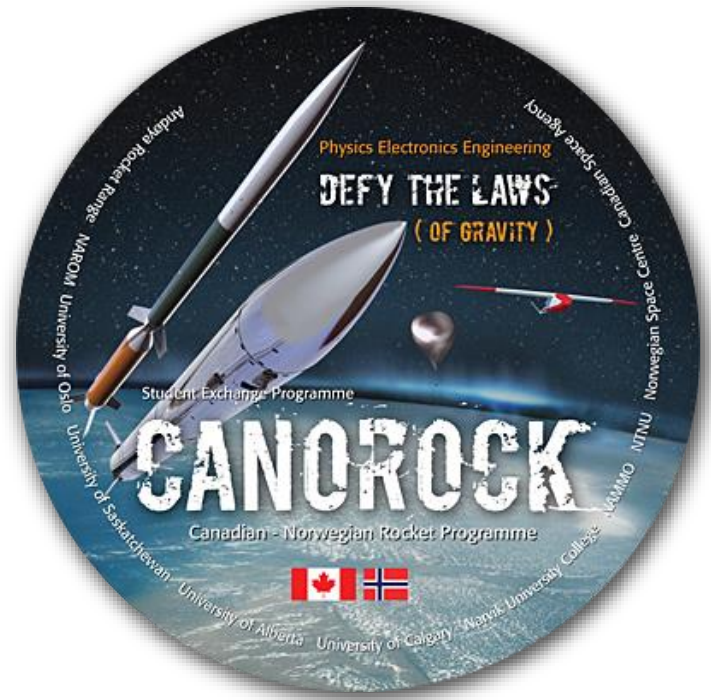
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# CaNoRock program

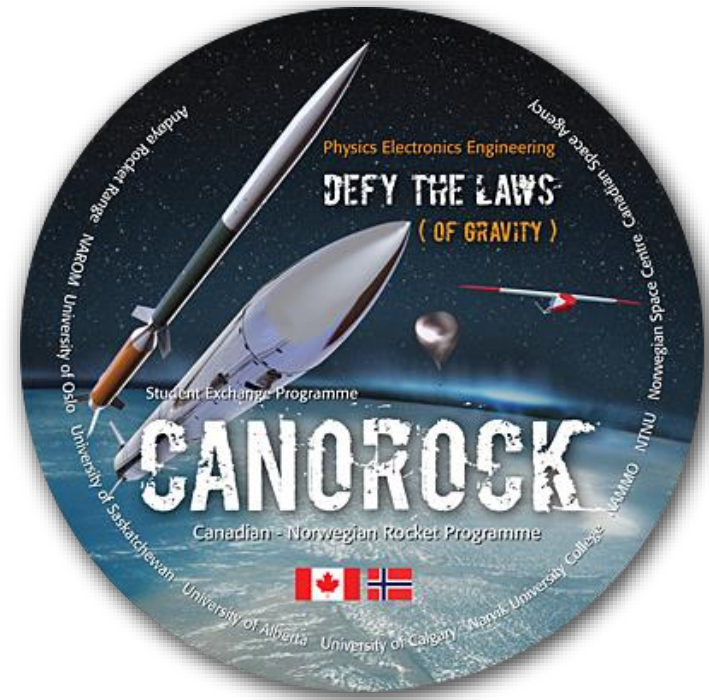
- Kick-off in January 2011 with CaNoRock III
- Students from universities of Oslo, Bergen, Trondheim, Saskatchewan, Calgary, Alberta and Østfold
- Building payload
- Launching the rocket





# Goals

- Motivation for students to join space activities
- Acquire enhanced knowledge in electronics, physics and engineering, specialized in rockets but also balloons and other platforms



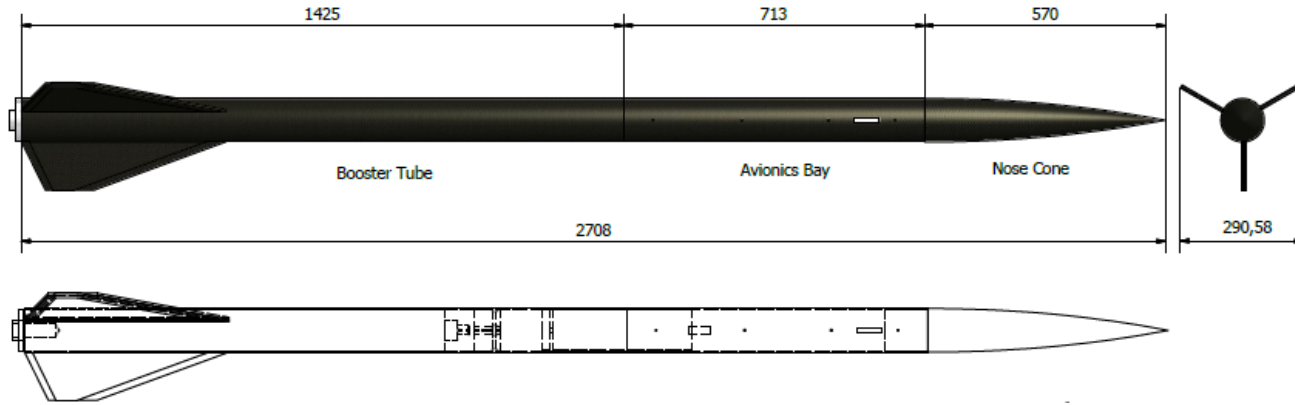
# CRV-7



## Type: CRV7 (C-14)

- ✓ Diameter: 69.85mm
- ✓ Length: 1033mm
- ✓ Loaded weight: 6.5kg
- ✓ Propellant weight: 4.6kg
- ✓ Burnout time: 2.34s
- ✓ Specific impulse: 2238 m/s
- ✓ Fins: Folding fins

# Mongoose 98



## Payload Structure

Body: carbon fiber

Fin: 3 carbon fiber fins

Nose cone: glass fiber

Length: 2708 mm

Diameter: 102.8mm

## Motor: Pro 98-6G

13766N2500-P

✓ Diameter: 98 mm

✓ Length: 1010mm

✓ Burn time: 5.38 s

✓ Loaded weight: 11.668 kg

✓ Propellant weight: 6.778 kg

✓ Total impulse: 13 766.0 Ns

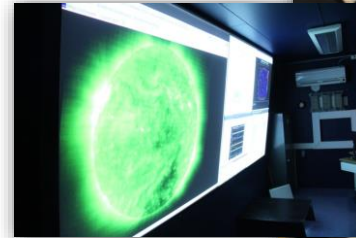
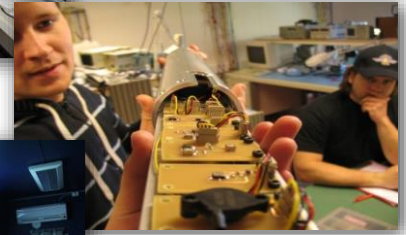
✓ Average thrust: 2 562 N

✓ ISP: 2031 m/s

✓ Manufacturer: Cesaroni technology

# Course content

- Group work: researchers, technicians, engineers, even PhD-students/experimenters. ;)
- Collaboration before and during launch
- Facilities at Andøya Space Center
- Guidance by ASC personell

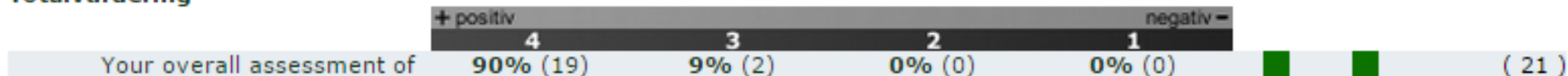




# Results

## Example: Overall assessment CaNoRock 10 – October 2014

### Totalvurdering



- \* One of the best experience in my life, really. I'm so glad that I was chosen for this. I can barely express my feelings and my gratitude as it was really like a one week dream.
- \* No regrets! One of the best opportunities I have ever gotten to take.
- \* A Blast. Wonderful time, thank you for everything. It was a great experience to be exposed to the real world of rockets and atmospheric research/instrumentation.
- \* Jeg har hatt det helt sinnsykt jævlig vilt heftig wicked FETT!!!!!! :D:D:D:D TAKK TIL DERE ALLE!
- \* Synes programmet var veldig bra, men skulle ønske det var mer labb og undervisning, ble litt mye dø-tid
- \* Great experienc . I am so happy to have had the opportunity to attend.
- \* Can I come back? It was fantastic. Very few complaints. the leaders were knowledgeable and professionals who clearly cared about us and the content.
- \* The week went over very faaast. Was very nice with you guys!

# Status quo and outlook

- **EuroRock/CaNoRock 28. September – 2. October 2015**
  - European countries are invited. Switzerland, University of Alberta, Tromsø and Oslo...
- **CaNoRock – Canadian Norwegian sounding rocket program**
  - University of Oslo, Tromsø, Saskatchewan, Calgary, Alberta, Royal Military college of Canada
  - In addition students from, France, Switzerland have participated in 2014 and 2015
- **Space Technology**
  - Narvik University College
- **Space Technology II**
  - Norwegian University of Science and Technology
- **European Space Camp**
  - International summer space camp for upper secondary school students – [www.spacecamp.no](http://www.spacecamp.no)
- **Andøy Upper Secondary School**
  - Student rocket project
- **Nordic Teacher Space Camp**
  - Summer space camp for teachers

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- Snar
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**The Koselig**  
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Nominal: AZ: 335, EL: 75  
5 aug 2014 08:59:31 UTC

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