

RockOn 2009 – A Hands On Sounding Rocket Workshop Agenda

Wallops Flight Facility
June 21 – 26, 2009

Day 1, Sunday (June 21, 2009)

- 10:30A (30) Security and Registration (Continues until 11:00)
- 11:00 (20) Welcome and Introductions
- 11:20 (30) Overview of Goals and Review of Workshop Vision and Agenda
- 11:50 (10) Logistics for Workshop (Directions, security, etc)
- 12:00 (10) Travel to Wallops
- 12:10 (20) Cars through after-hours security
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- 12:30 (30) Lunch at Wallops (Provided) and Overview of Sounding Rockets and RockSat
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- 1:00 (30) Team Forming and Team Activity
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- 1:30 (15) Break and travel to Workshop room
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- 1:45 (15) Workshop Facilities Overview
- 2:00 (15) Kit Distribution and Overview
- 2:15 (15) Geiger Counter Overview
- 2:30 (60) Geiger Counter Build [Total 2.5 hrs + Testing] – Part I
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- 3:30 (15) Break
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- 3:45 (90) Geiger Counter Build – Part II
- 5:15 (40) Geiger Counter Testing
- 5:55 (05) Clean up and storage of equipment and hardware
- 6:00 Dinner on your own

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Day 2, Monday (June 22, 2009)

- 7:15 A (15) Arrive and get through security
- 7:30 (30) Hot Breakfast (Provided) Mandatory Wallops Safety Briefing (during breakfast)
- 8:00 (10) Overview of Day 2 Activities
- 8:10 (50) Geiger Counter Conformal Coating (outside and weather permitting)
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- 9:00 (10) Break
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- 9:10 (15) AVR PCB Overview
- 9:25 (80) AVR PCB Assembly and Testing [Total 5.0 hrs] – Part I
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- 9:45 (15) Break (Snacks Provided)
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- 10:00 (90) AVR PCB Assembly and Testing – Part II
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- 11:30 (30) Lunch (Provided)
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- 12:00 (60) AVR PCB Assembly and Testing – Part III
- Overview of Flight Pin and G-switch
- Connect and test Geiger counter (If cure is complete)
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- 1:00 (10) Break (Snacks Provided)
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- 1:10 (70) AVR PCB Assembly and Testing – Part IV
- Power On Systems Test (POST) – Lesson 0 Software slides
- AVR Checkout
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- 2:20 (10) Break (Snacks Provided)
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- 2:30 (60) Introduction to the Atmel AVR
- Introduction to Analog and Digital (25)
- Introduction to C Programming (25)
- Big Picture (10)
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- 3:30 (10) Break (Snacks Provided)
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- 3:40 (110) AVR Programming and Testing [Total 7.0 hrs] – Part I
- Lesson 0: Power On Systems Test – POST (10)
- Lesson 1: Blink an LED (40)
- Lesson 2: Flash Memory (40)
- Lesson 3: Data Retrieval Utility (30)
- 5:30 (5) Recap of Day 2, plan for Day 3, and Adjourn (Dinner on your own)

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Day 3, Tuesday (June 23, 2009)

7:00 (45) Hot Breakfast (Provided)

8:00 (10) Overview of Day 3 Activities

8:10 (110) AVR Programming and Testing – Part II
- Lesson 4: Analog to Digital Converter (30)
- Lesson 5: Data Parser (50)
- Lesson 6: Geiger Counter (30)

10:00 (15) Break

10:15 (90) AVR Programming and Testing – Part III
- Lesson 7: Timers (40)
- Lesson 8: Flight Code Programming (50)

11:45 (30) Lunch (Provided)

12:15 (120) AVR Programming and Testing – Part IV
- Lesson 9: Flight Code Testing (60)
- Lesson 10: Flight Preparation Testing (40)

2:15 (15) Break (Snacks Provided)

2:30 (20) Overview of Mechanical Integration

2:50 (60) Plate > Mechanical Integration [Total 2.0 hrs] – Part I

3:50 (20) Break (Snacks Provided)

4:10 (60) Plate > Mechanical Integration – Part II

5:10 (20) Recap of Day 3 and plan for Day 4

5:30 Adjourn (Dinner on your own)

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Day 4, Wednesday (June 24, 2009)

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| 7:00 | (30) | Hot Breakfast (Provided) |
| 7:30 | (10) | Overview of Day 4 Activities |
| 7:40 | (55) | Plate Integrated Full Systems Test and Final Check Out |
| 8:35 | (05) | ARMED – Integrated Plate Assembly – Ready for Can Integration |
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| 8:40 | (20) | Break |
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| 9:00 | (15) | Mechanical Can Integration Overview |
| 9:15 | (120) | Can > Mechanical Integration |
| 11:15 | (15) | Final GO / NOGO for Can handoff to Wallops |
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| 11:30 | (30) | Lunch (Provided) – Eat Quick |
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| 12:00 | (15) | Travel to Rocket Integration site |
| 12:15 | (15) | Hand in Hardware for Integration with Rocket |
| 12:30 | (120) | Can / Rocket Mechanical and Electrical Integration |
| 2:30 | (30) | Pictures |
| 3:00 | (60) | Skin Integration |
| 4:00 | (120+) | Begin pressure test (Attendance not required) |
| ~6:00 | | Dinner on your own |

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Day 5, Thursday (June 25, 2009)

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| 8:15 | (45) | Hot Breakfast (Provided) |
| 9:00 | (10) | Overview of Day 5 Activities |
| 9:10 | (20) | Introduction to Data Analysis with Microsoft Excel |
| 9:30 | (60) | Complete Sensor Calibration with previously recorded data sets |
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| 10:30 | (15) | Break |
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| 10:45 | (15) | Future Flight Opportunities |
| 11:00 | (60) | RockSat Presentations |
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| 12:00 | (30) | Lunch (Provided) |
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| 12:30 | (60) | Wallops Tour |
| 1:30 | (15) | Launch Day Logistics Overview |
| 1:45 | | Adjourn or see below* |

*Possible Launch Site Visit and Photo Op – Launch/Recovery Operations Overview

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Day 6, Friday (June 26, 2009)

4:00 A (30) Cold Breakfast Hotel (Provided)

4:30 (30) Travel to launch viewing site

5:00 (60) Wait for launch

6:00 (60) Launch!

7:00 (300) Recovery Operations - May return to hotel
Hot Breakfast Available

12:00 (30) Lunch (Provided)

12:30 (60) Can / Rocket De-integration

1:30 (60) Can De-integration

1:15 (15) Break

2:45 (30) Stack De-integration

3:15 (60) Plate Data/Failure Analysis

4:15 (15) Break

4:30 (30) Finish Data/Failure Analysis and Prepare for Discussion

5:00 (120) Seafood Celebration Dinner, Party, Awards, and Thanks
- Teams Discuss Unique Results from Data and the Workshop
(learned, liked, disliked, etc)

7:00 (30) Pack up and clean up and head home

If weather or issue delays this launch, Saturday schedule will be issued on Friday morning.