

# SPEX Wiki Home

RIT SPEX wishes to inspire students, develop novel technologies and pursue projects with cubesats, radio telemetry and high-altitude ballooning.



RIT SPEX: Week 5

Thomas Tarazevits posted on Sep 20, 2016

Hello everyone,

On Saturday we started working on Concept of Operations documents for each subsystem, we'll be working on these over the next two weeks. Next Saturday, we'll review the subsystem requirements, making sure they are clear, concise, and comprehensive and go over the first pass at the risk assessment matrix. Then we'll be coming together for our first design review in 2 weeks. This will be an opportunity to verify that all subsystem requirements are met and that we have a clear path going forward as we start to write the proposal.

Start thinking of satellite names. Every space mission needs a cool name!

Also the swag form has now closed and Chris Pape is working on processing the order. Stay tuned for updates

## Agenda

- Subsystem Update
- Requirements Review
- Risk Assessment Review
- Work on ConOp/Risk Matrix/Budgets

The meeting is **Saturday 9/24 at 12pm in HLC 14-2575.**

T.J. Tarazevits

Student Director, RIT Space Exploration



RIT SPEX: Week 4

Thomas Tarazevits posted on Sep 20, 2016

Hello everyone,

I'd like to thank everyone for their hard work so far. We've made great progress on the subsystem requirements and we'll be moving onto the next phase Saturday.

## Concept of Operations

"The Concept of Operations is a document describing the characteristics of a proposed [system](#) from the viewpoint of an individual who will use that system. It is used to communicate the [quantitative](#) and [qualitative](#) system characteristics to all [stakeholders](#)." - Wikipedia

Each subsystem will be working on a ConOp document that combines subsystem requirements, engineering requirements, components, and mission process into a document that covers that subsystem's role in the overall mission.

## Risk Assessment Matrix

We'll be looking at the various failure modes each subsystem may face during the mission. Each risk has two values, severity and likelihood, which when multiplied together shows the level that risk presents to the mission. This will help inform of what risks need to be mitigated to ensure a successful mission. We'll be growing and refining this matrix over the length of the project.

## Spacecraft Budgets

As we get a better idea of what kind of components will be going into the vehicle, we'll be able to start budgeting for these components. Common budgets are Mass/Volume/Power/Data. Each subsystem must share the limited resources available to the satellite bus. This will help inform us as we make design choices for the satellite.

## Agenda

- Subsystem Update
- Project Update
- Risk Assessment Matrix
- Link Budget
- Concept of Operations

We're meeting as usual **Saturday in HLC 14-2575 at 12pm**

## Welcome to the SPEX Wiki

This is the homepage of a dedicated online knowledge base for RIT Space Exploration (SPEX). The SPEX Wiki contains project documentation, tutorials, research, and other resources.

**You are viewing the public wiki space.** To view the internal branch of the SPEX Wiki that may contain private information, [click here](#).

To request permission to view the internal SPEX Wiki pages, contact [Phil Linden](#).



### Help & Support

The fastest way to get help is to message [@phil.linden](#) in [#wiki](#) on [spexsuperslack.slack.com](#)

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RIT SPEX: Week 3

Thomas Tarazevits posted on Sep 20, 2016

Hello everyone,

Last weekend went really well and we made a lot of great progress on defining the mission and subsystem requirements. The next major milestone for the CSLI is to define a Concept of Operations for each subsystem. This is a document that defines how the satellite will meet its subsystem requirements. This includes the mission plan, major components, and timeline to flight. This is the bulk of the design process before we start writing the CSLI documents and will take several weeks.

We'll be meeting **Saturday, at 12pm in HLC 14-2575/14-2585.**

## Agenda

- Subsystem Update
- Wrap up Subsystem Requirements
- ConOp Overview

## SPEX Swag

Chris Pape has been working on swag orders. There are three options in different price ranges: T-Shirts, Polos, and Jackets

Fill out the form if you are interested. Since the price is subject to the quantity that you order, we're going to consider responses on the form as commitments to purchase once the order goes out.

## Project Sign-ups

We have several side projects in addition to the CSLI. These will happen only if there is interest. All of these projects have a short timeline (~semester) and will be hands-on. If you're looking to be more involved and don't have much work to do in your subsystem, I encourage you to sign up!

## Team Roster

Dr. Patru (EE professor and SPEX advisor) would like a team roster. This will also be useful to determine our knowledge base.

Name

email

major/minor (if applicable)

year level (in major)

certifications/experiences/projects/other (e.g. licensed amateur radio operator)

any co-op experience

This is our main contact list. Some of your information is already on the form from the club fair/past rosters.

Hope everyone is having a great week and I'll see you all Saturday!

T.J. Tarazevits

Student Director, RIT Space Exploration