

# ZERO ROBOTICS ISS PROGRAMING CHALLENGE

Middle School Summer Program  
Session 2 Tag up  
June 30, 2015



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- Complete and provide info to state coordinator (excel doc.)
- Student accounts (creating student accounts)
- Team Management (add students to the ZR team roster)
- ZR Evaluation (educator, student, training/pre-post)
- Review Schedule of program
- Review location of materials
- Update on new materials
  - Game CoronaSPHERE\_MS\_2D
- Questions
- getmyZRState example



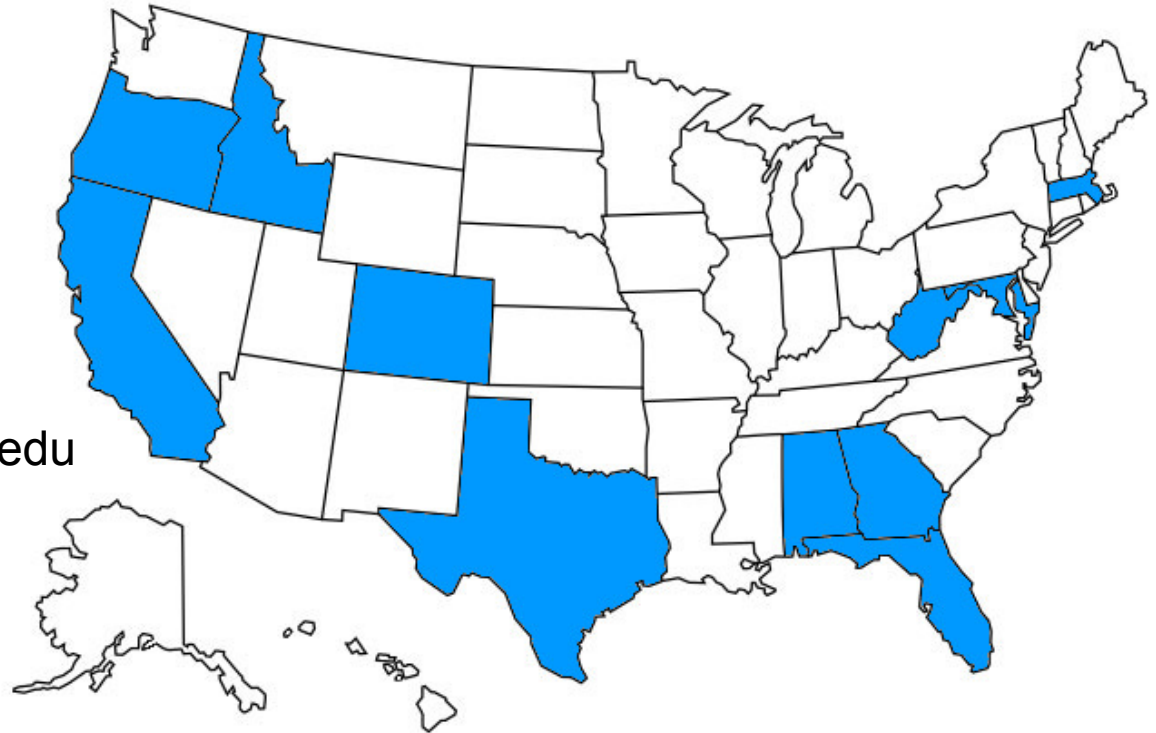
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# How to Ask Questions Today



- Educator Info Missing?
  - Zero Robotics Sign-in Email (Email Address Linked with Google/ZR Website)
  - Communication email
- How do I know?
  - Will be explained shortly
- What do I need to do?
  - Email [zerorobotics@mit.edu](mailto:zerorobotics@mit.edu)
  - Enter in chat window
  - Please include
    - Missing info
    - Organization name
    - State





*What do I do if my student does not have an email account, and does not have parental permission to create an email account?*

1. Email [zerorobotics@mit.edu](mailto:zerorobotics@mit.edu) with the first name and last name of the student
2. The ZR team will set up that student with a “sandbox” account and reply to you with the following details:
  - username: [firstname@zerorobotics.mit.edu](mailto:firstname@zerorobotics.mit.edu)
  - password: zerorobotics

Email	Is lead?
FirstName@zerorobotics.mit.edu	<input type="checkbox"/> Is lead? <span>Remove</span>

# ZERO ROBOTICS

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ISS PROGRAMING CHALLENGE

## Invite Students to Your Team



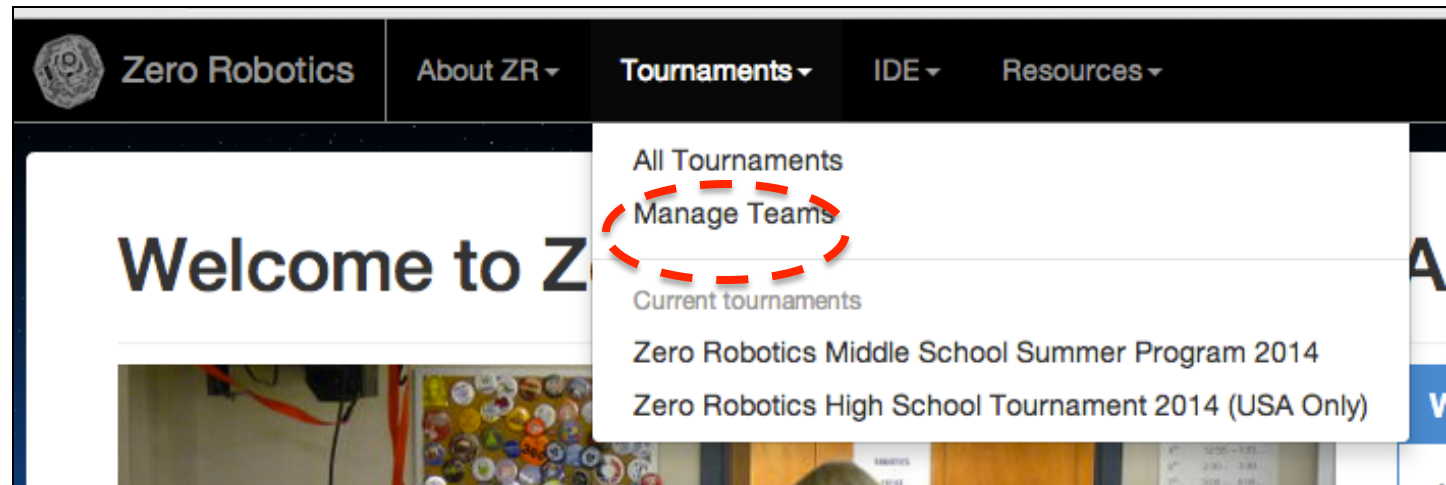
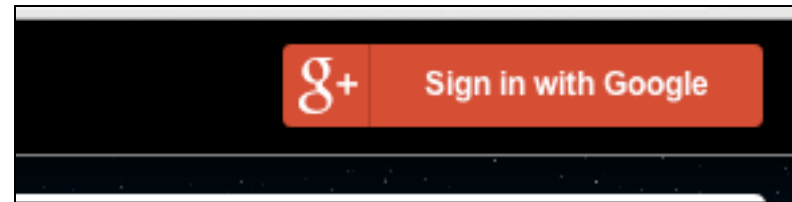
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To begin:

- Log into the ZR website
- From the “Tournaments” menu select “Manage Teams”



# Invite Team Members (cont.)



If you are a team lead a window will open with:

- Team information
- Team Roster

Edit the information as desired

SPECIAL #1 Sample Team
Save

**Team name**

**School**

**City**

**State (US Only)**

**Country**

**Team Website**

**Team Roster**

**New member's email**  Add

Email	Is lead?	
FirstName@zerorobotics.mit.edu	<input type="checkbox"/> Is lead?	<span style="background-color: #C00000; color: white; padding: 2px 5px; border-radius: 3px;">Remove</span>
John_doe@zerorobotics.mit.edu	<input checked="" type="checkbox"/> Is lead?	<span style="background-color: #C00000; color: white; padding: 2px 5px; border-radius: 3px;">Remove</span>

Not a team lead?  
A window will open with the Team Name only like this:

Zero Robotics
About ZR ▾
Tournaments ▾
IDE ▾
Reso

SPECIAL #0 ZR Staff

Remove me from this team





Only Team Leads can add new Team Members

To add team members:

- Type in the team member's email used on the ZR site and click "Add"
- The team member will appear in the roster below.
- Uncheck the "is lead?" box for members that are not team leads.

### Team Roster

New member's email  Add

Email	Is lead?	
FirstName@zerorobotics.mit.edu	<input type="checkbox"/> Is lead?	<span>Remove</span>
John_doe@zerorobotics.mit.edu	<input checked="" type="checkbox"/> Is lead?	<span>Remove</span>

Reminder: Each user added as a Team Member must have already created a ZR account



- **Educator**

- **PRE-surveys must be complete before start of program**
- If you did not participate in a group training and have not completed an educator pre-survey, you must complete this survey asap: <http://zrindedpre.questionpro.com>
- **POST-survey must be completed on the last day of program – link will be sent in wk 4**

- **Student**

- **PRE-surveys must be complete on first day of program**
- All Students must complete this survey on the first day of the program: <http://zrmidstudentpre.questionpro.com>
- **POST-survey must be completed on the last day of program – link will be sent in wk 4**



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Schedule	Competition Elements	Curriculum Units
Week 1	Introduction	To Infinity and Beyond!
Week 2	Field Day	Developing a Strategy
Week 3	Intramurals/Practice Regional Competition	Time to Play!
Week 4	Regional Competition	Going the Distance
Week 5	ISS Collaboration	Reach for the Stars
Mid- Aug	ISS Finals!	

*Note: Due to ISS availability, the ISS Finals date is not fixed until ~3 weeks before event.*



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# Schedule 2 Code Submittal dates



Week	Day	Time	Submit Code for:
1			
2			
3	Friday, July 24	5 PM	Practice Regional Competition
4	Friday, July 31	5 PM	Regional Competition
5	Thursday, Aug 6	5 PM	ISS Competition
ISS Finals Event			



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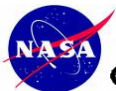




- Intro video
  - (<https://drive.google.com/file/d/0B38lGau1pqgFZHhhSTZCSHJvbW8/view>)
- Review location of materials
- Update on new materials
  - Game CoronaSPHERES\_MS\_2D
- Simulation errors
  - When there are too many requests to simulate the server may go down
  - Sometimes the IDE will be stuck on “running” after simulation button is hit
  - When this happens contact **zerorobotics@mit.edu** and we will get it fixed as soon as we can



- UROPs – your MIT undergraduate mentors
- Office hours
  - Links will be sent out
- On all emails to UROPs, cc **zerorobotics@mit.edu** for speediest response
  - Can set up team-specific appointment times if needed
- ZR Forum
  - ZR website → Resources → Forum
- Your State Coordinator



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- Tips - Sharing code
  - Students share with educator
    - Intramural competitions
    - For submitting code
  - Remember to “Save As”
- Tips - Submitting code to a competition
  - Create game program in game mode (not Free Mode):  
CoronaSPHERES\_MS\_2D
  - Remember the check box
- See tutorials for complete details
  - Intramural Game Mode– for details about sharing code
  - How to Submit Code



# Questions?



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# getMyZRState



“**getMyZRState**” retrieves ZR state information (position, velocity, pointing vector, rates) for current satellite

	My_ZR_State			
Position	X: 0.0	Y: 0.0	Z: 0.0	[0] [1] [2]
Velocity	Vx: 0.0	Vy: 0.0	Vz: 0.0	[3] [4] [5]
Pointing vector	Nx: 0.0	Ny: 0.0	Nz: 0.0	[6] [7] [8]
Rotation rates	$\omega_x$ : 0.0	$\omega_y$ : 0.0	$\omega_z$ : 0.0	[9] [10] [11]



myZRstate[0] = x-coordinate

myZRstate[1] = y-coordinate

myZRstate[2] = z-coordinate



```
loop
  get My ZRState myZRstate
  if step == 0
    then GoToPositionA
  else if step == 1
    then GoToPositionC
  else step = 0
```