

# GENERAL HOUSEKEEPING

A stylized, glowing blue flower with a dark center, set against a dark background with a starry pattern. The flower has multiple layers of petals, and the center is a dark, circular shape. The background is dark with many small, white, star-like specks scattered throughout.

- Wifi Server:

- Password:

# Today

## CEDAR/GEM Student Day June 19<sup>th</sup>, 2016

Times	Activity	
8:00 am – 9:00 am	Registration and Student Breakfast	
9:00 am – 9:20 am	Introduction to GEM	
9:20 am – 9:40 am	Introduction to CEDAR	
9:40 am – 9:55 am	Student Tutorial: Magnetospheric Geography	Narges Ahmadi
10:55 am – 10:10 am	Student Tutorial: Ionospheric Geography	Bea Gallardo-Lacourt
10:10 am – 10:25 am	Break – Ice Breaker	
10:25 am – 10:40 am	Student Tutorial: Storms and Substorms	Katie Raymer
10:40 am – 10:55 am	Student Tutorial: MI coupling	Anthony Saikin
10:55 am – 11:25 am	Faculty Tutorial: Winds in the Thermosphere	Astrid Maute
11:25 am – 11:55 am	Faculty Tutorial: Particle Acceleration	Christine Gabrielse
11:55 am – 12:55 pm	Lunch (GEM and CEDAR separate)	
12:55 pm – 1:25 pm	Faculty Tutorial: Currents, Electrojets, and Instabilities	John Sahr
1:25 pm – 1:55 pm	Faculty Tutorial: Reconnection	Paul Cassak
1:55 pm – 2:25 pm	Faculty Tutorial: Aurora and the Ionosphere	Jean-Pierre St-Maurice
2:25 pm – 2:45 pm	Break	
2:45 pm – 3:15 pm	Faculty Tutorial: Space Weather (plus HAARP)	Bill Bristow
3:15 pm – 3:30 pm	Student Tutorial: CCMC Models and Other Tools	Maulik Patel
3:30 pm – 4:00 pm	Faculty Tutorial: Large Scale Modeling	Alex Glocer
4:00 pm – 4:30 pm	Faculty Tutorial: Ground and Space Instruments to Study the Ionosphere	Anja Stromme
4:30 pm – 6:00 pm	Annual CEDAR soccer match	
6:00 pm – onward	CEDAR – GEM Reception	

Color	Lead by
	Joint CEDAR-GEM
	CEDAR
	GEM

### Activities throughout the week:

- **Monday June 20<sup>th</sup> starting at 6:30 pm:** Career panel dinner (GEM and CEDAR)
- **Tuesday June 21<sup>st</sup> from 12:00 pm – 1:30 pm:** CEDAR lunch panel (All invited, food only for CEDAR students)
- **Thursday June 23<sup>rd</sup> at 6:30 pm:** GEM-CEDAR Banquet (GEM and CEDAR)

# What is GEM?

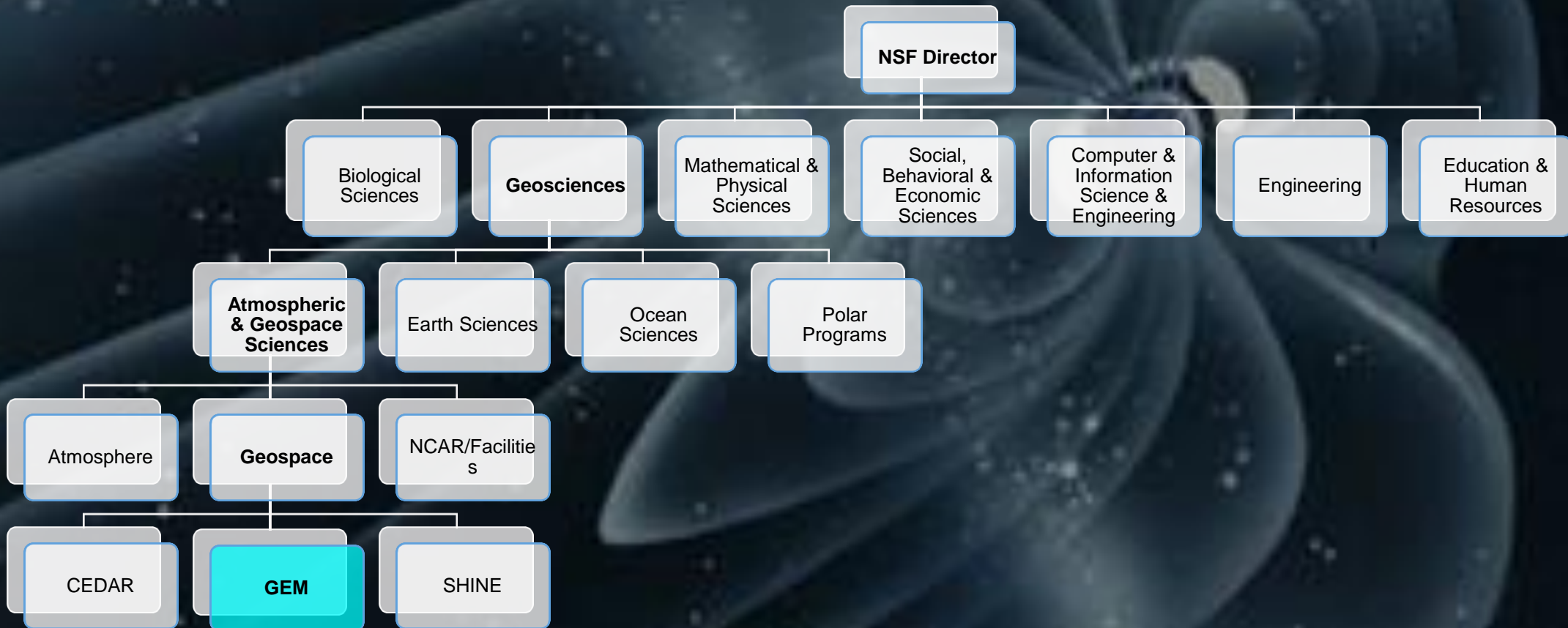
Robert C. Allen and Anthony A. Saikin

GEM Student Representatives



# GEM

- Geospace Environmental Modeling
  - A National Science Foundation (NSF) funding program



# GEM

- Geospace Environmental Modeling
  - A community of magnetospheric researches



# GEM

- Geospace Environmental Modeling
  - An annual summer workshop



# GEM History

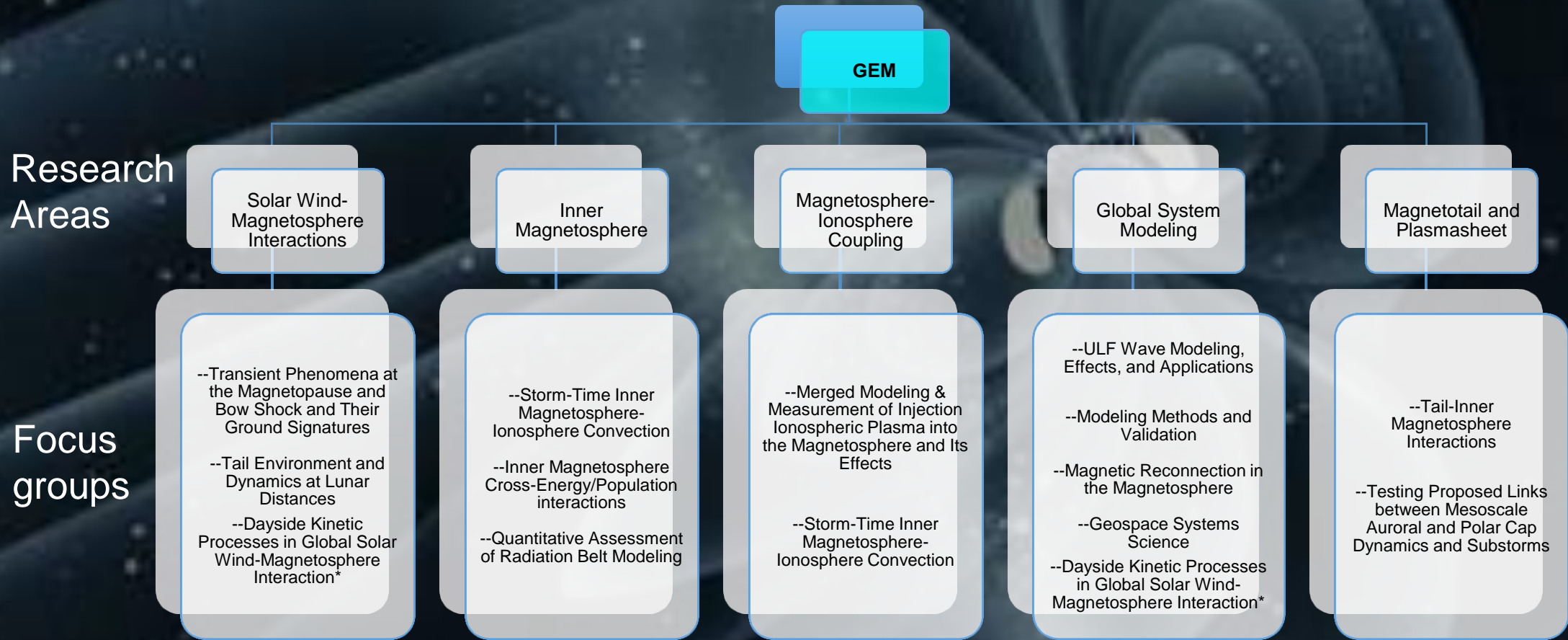
- 1985: Coupling, Energetics, and Dynamics of Atmospheric Regions (CEDAR) founded.
- 1986: GEM program proposed to NSF Director
- 1988-1991: Four planning workshops held
- “As humans extend their frontiers beyond the surface of their home planet – moving technological systems, observations, and colonies into space – accurate predictions of weather and climate in space become increasingly important. New scientific data and theoretical models are required to achieve this predictive capability. Therefore a major new research initiative is proposed entitled Geospace Environment Modeling (GEM)” – *Geospace Environment Modeling: A Program of Solar-Terrestrial Research in Global Geosciences - May 1988*
- 1991: First GEM campaign (Funding)
- 1992: First GEM summer workshop
- 1999: Solar Heliospheric & Interplanetary Environment (SHINE) founded
- 2016: The GEM summer workshop is still going strong

# Evolution of GEM

- 1991
  - Boundary Layer Campaign
    - WG 1: Boundary Magnetic & Electric Fields
    - WG 2: Particle Entry, Boundary Structure, & Transport
    - WG 3: Current Systems & Mapping
- 2016
  - Current Research Areas
    - Dayside, including boundary layers & plasma/energy entry (Dayside)
    - Inner Magnetosphere and storms (IMS)
    - Tail, including plasma sheet and substorms (Tail)
    - Magnetosphere-ionosphere coupling, aurora (MIC)
    - Geospace General Circulation Model (GGCM)



# GEM Focus Groups



\* Listed in multiple Research Areas

# What Makes GEM Special

- Community-initiated: Run by Steering Committee
  - Comprised of community scientists
  - Controls everything...(except the funding)
- Focused on the Earth's magnetosphere
  - Coupling to the atmosphere and solar wind
  - Dynamic properties of geospace
- Strategic: Operates via focus groups
  - Focus on particular aspects of the space environment
- Ultimate Goal: GGCM with predictive capabilities

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# GEM Steering Committee

- President: Mike Wiltberger
- President-elect: Jacob Bortnik
- At-large members: Robyn Millan, Drew Turner, Paul Cassak, Weichao Tu
- Research area coordinators: Katariina Nykyri, Steve Petrinec, Andrei Runov, Matina Gkiolidou, Scot Elkington, Seth Claudepierre, Marc Lessard, Shin Ohtani, Frank Toffoletto, Alex Glocer
- Agency liaisons: NSF, NOAA, NASA
- Community liaisons: SHINE, CEDAR, CCMC
- National liaisons: Canada, Europe, Japan, China, Korea, Mexico, Argentina, Taiwan, Australia
- Communications coordinator: Peter Chi
- Student representatives: Robert Allen and Anthony Saikin

# Be part of the community

- Communications
  - GEMwiki: website
    - [http://www-ssc.igpp.ucla.edu/gemwiki/index.php/GEM\\_Student\\_Forum](http://www-ssc.igpp.ucla.edu/gemwiki/index.php/GEM_Student_Forum)
  - GEM Messenger: electronic newsletter
    - Subscribe by emailing Peter Chi <[editor@igpp.ucla.edu](mailto:editor@igpp.ucla.edu)>
- Meetings
  - Summer workshop (Where we are now)
  - Mini-GEM at AGU (Sunday before AGU)
- GEM is a very welcoming environment. Feel free to participate in whatever manner best suits yourself and your research. If anyone has any questions or concerns, please come find either of us and we will gladly help.

# Thank You

- Questions, Comments, Concerns?
- Download this and other student tutorials at the GEMwiki Student Forum:
- [http://www-ssc.igppa.ucla.edu/gemwiki/index.php/GEM\\_Student\\_Forum](http://www-ssc.igppa.ucla.edu/gemwiki/index.php/GEM_Student_Forum)