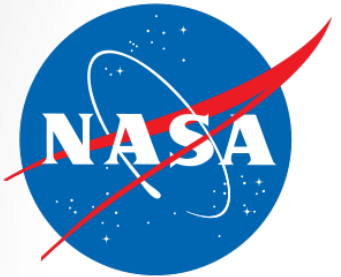


CCMC's Role in Education



- ❑ REDI: CCMC's flagship program

- ❑ Student Research Contest (Rebekah Evans)



- ❑ Active participants in all kinds of Summer/winter Schools

- ❑ Involved in work-study internship program for high schoolers

- ❑ Don Bosco Cristo Rey



- ❑ National Space Club (competitive high school students)

- ❑ Academic year research program (college and high school)



CCMC/SWRC–Universities Space Weather Research Education & Development Initiative (SW REDI)

- Promote space environment awareness as an important component of the new millennium core education.
- Facilitate establishment of SW programs at universities world-wide.
- Involve undergraduate students in support of CCMC/SWRC projects, NASA's missions & NSF facilities.
- Engage students in activities that develop skills and experience beneficial for any future career pursuit.
- **Provide space weather training and space environment situational awareness that is critical for NASA mission operators and engineers**

Y. Zheng (Project Lead),
A. Pulkkinen, M. Kuznetsova, L. Mays, A.
Taktakishvili, R. Evans, A. Chulaki, M.
Maddox, M. Mendoza
Student assistants: M. Romano, J. Bryant, E.
Quigley



SW REDI Training

- Initial intent: train CCMC/SWRC interns
- Open to everybody, international participants are welcome

Highlights of SW REDI Training

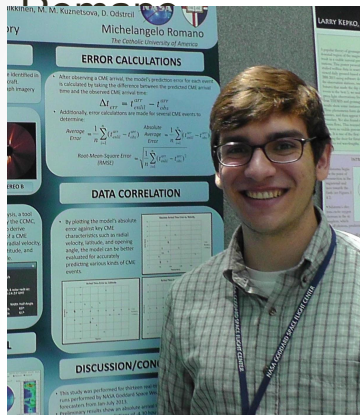
- 1st SW REDI 2-wk long summer boot camp in June 2013 (~35 participants, scientists, researchers, undergraduate, professors)
- 1st SW REDI 2-day long winter boot camp on 28-29 Jan 2014 (~80 participants, mostly mission operators) for mission operators and engineers
- **2nd SW REDI ~2 wk long summer boot camp in June 2014 (2-12 June 2014)**

Uniqueness of SWREDI Internship Opportunity

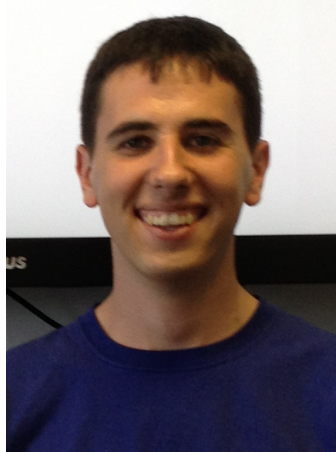
- Nice blend of students with different backgrounds (SW – space weather forecasting, SW- research, SW-software development, SW-media)
- Part-time continuous internship/traineeship opportunity (Michel since summer 2012, DK since summer 2013)
- Advanced internship opportunity

Interns went through SWx training - Summer 2012

Michelangelo Romano

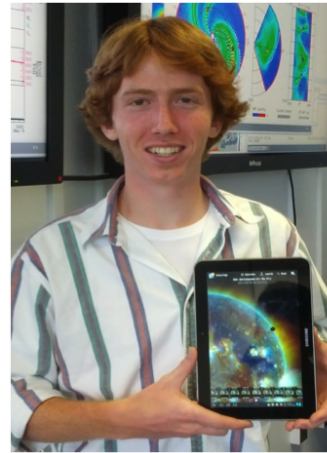


Josh Brvant

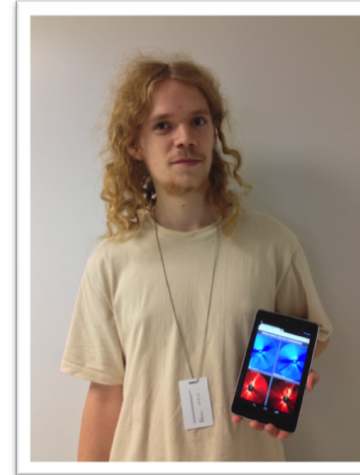


Software development interns

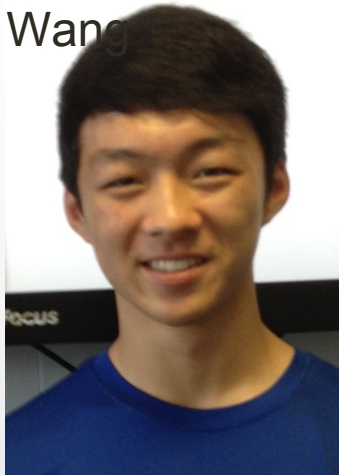
Justin Boblitt



Jack LaSota



James Wang



Mary Aronne



Andrea Karelitz Axel Garcia



Interns went through SWx training - Summer 2013

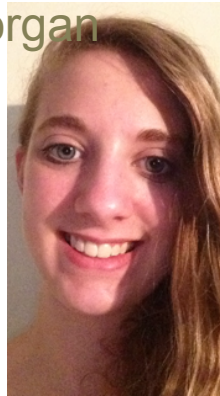
SW-ops interns (undergraduate)

Corey Koller Dhanesh
 Krishnarao

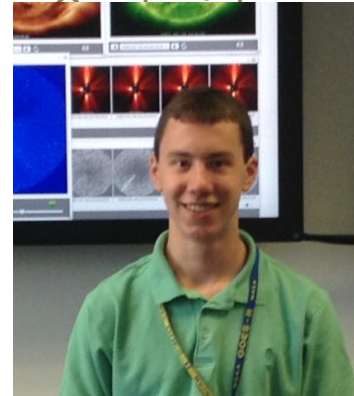
Zak Titus Anthony Pritchard

High school interns via National Space Club

Rachel
Morgan



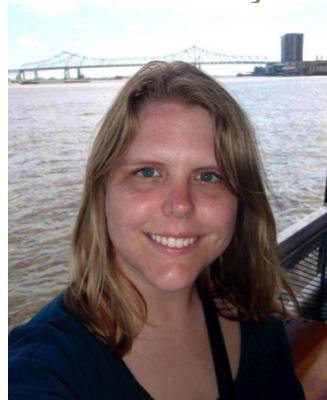
Dan



Megha



Media Intern
Caitlin Bailey



Advanced (2nd year) SW-Osp
interns certified as Level 2+
space weather forecasters
(16h/w)



Fun



Left themselves behind

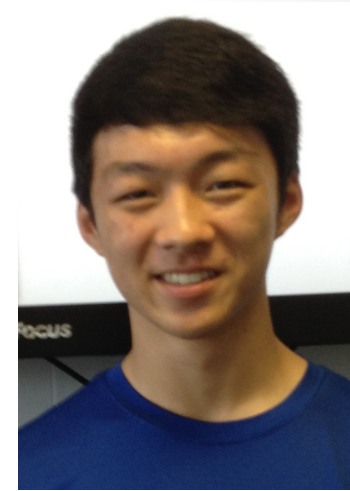


Accomplishments

- 5 certified students working with us year-around and get compensated for their SWx monitoring/forecasting duties over the weekends and evenings
- Space weather Research
- Software development (STEREO CAT, iswa mobile app)
- Quality videos

James Wang

- ❖ High school intern – summer 2012 and later the academic year intern Fall 2012 – May 2013
- ❖ Admitted into UCLA starting Fall 2013
- ❖ The internship experience at CCMC has helped James securing an internship opportunity at a chemical engineering lab there at UCLA. He will perform research in the fields of chemical kinetics and catalysis in summer 2014



Dhanesh Krishnarao

- SWx forecaster intern in summer 2013, also embarked on some research projects
- Will be working at CCMC as an advanced intern this summer (assisting SW REDI boot camp and research)
- Jacob Kastner Memorial Scholarship - 2014 American University
- Presented a poster at the 24th Annual Robyn Rafferty Mathias Student Research Conference
- Presenting a poster at the April APS Meeting in Savannah, GA with funding from American University Provost, College of Arts and Sciences Grant, and the Department of Physics
- Both posters on research on the prominence of sulfur in interstellar extinction done under UJ Sofia



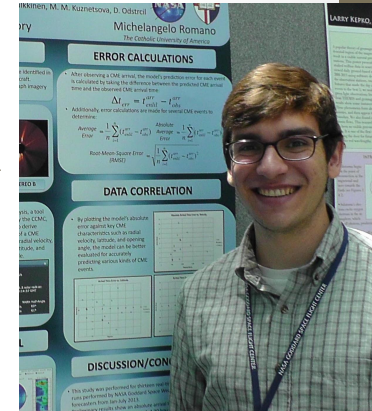
Corey Koller

UMD – College Park

- SWx forecaster intern in summer 2013 and working part-time with CCMC/SWRC since then
- Achieved deans list Fall 2013 – May 2014
- The upper-class University of Maryland honor society
- Summer internship opportunity at Aberdeen Proving Grounds – US Army (NASA experience has helped!)

Michelangelo Romano^{CUA}

- SWx forecaster intern since summer 2012 and working part-time with CCMC/SWRC since then in different capacities – research, education and forecasting
- Summer internship opportunity at one of the CUA physics labs to broaden research experiences



High school interns research project achievement

- Kiran Kang
 - Yale outstanding award in physics & astronomy
 - Lockheed Martin second place award
 - Excellence in physics award
 - Best research award
 - Student travel grant to Fall 2013 AGU
- Richie Supkowski
 - First place in Regional PJAS competition
 - Excellence award for Earth and Space Science



Work-study internship program

- Don Bosco Cristo Rey high schoolers
 - Jenny Mendez-Guerrero (Fall 2012 – May 2013)
 - Joshua Villas (Fall 2012 – May 2013)
 - Erica Chukwu (Fall 2013 – May 2014)

Academic year research program for high school students

- Jimmy Wang
- Kiran Kang
- Min Kang
- Richie Supkowski
- Daniel Comberiate



SW REDI Boot Camp. June 2-12, 2014

SW REDI Boot Camp. June 4-13, 2013

Student Research Contest

- Existing categories
 - Solar-Heliospheric - SHINE
 - Magnetospheric - GEM
 - Ionosphere-Thermosphere CEDAR
- New category
 - Space Weather - Space Weather Workshop

Rebekah Evans (lead)



2013 CCMC Student Research Contest Winners

[Colin Komar](#), West Virginia University

Locating Magnetic Reconnection at Earth's Dayside Magnetopause in Global MHD Simulations, presented at GEM in June 2013, paper accepted to JGR, July 2013.

[Soojeong Jang](#), Kyung Hee University. Korea,

Comparison of the WSA-ENLIL Model with Three Cone Types, presented at SHINE in June 2013 and SPD/AAS in July 2013.