



The Catholic University of America space sciences and space weather educational plans

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Contents

- Institute for Astrophysics and Computational Sciences (IACS).
- SigmaSTEM activity.
- Scientific and Engineering Student Internship (SESI) program.
- Space Sciences and Space Weather graduate program.



Institute for Astrophysics and Computational Sciences

- [IACS](#) has a collection of about 50 CUA scientists working at NASA GSFC.
- Research topics cover astrophysics, planetary sciences, solar and heliospheric physics and space weather.
- New 5-year Cooperative Agreement between CUA and NASA GSFC Heliophysics Science Division (also George Mason University, University of Michigan, University of Hampton participating).



SigmaSTEM

- [SigmaSTEM](#) currently NASA-sponsored CUA activity providing professional development instruction to STEM teachers.
- Teachers can take several CUA provided courses for credit. NASA space sciences and space weather part of the curriculum.
- Plans to start utilizing CCMC models and tools as a part of the curriculum.



Scientific and Engineering Student Internship (SESI) Program

- [SESI](#) NSF-sponsored CUA program providing intern opportunities for undergraduates has been in operation for more than 25 years.
- Program operated in close collaboration with NASA GSFC.
- Over the years many SESI students have worked at CCMC.
- SESI will continue providing intern opportunities also at CCMC.



Space Sciences and Space Weather Program

- New CUA graduate program operated in close collaboration with NASA GSFC Heliophysics Science Division. George Mason University another important collaborator.
- Part of the program classes will be taught at NASA GSFC. CCMC models utilized.
- Graduate student research projects linked to space weather-related applications and operational forecasting activities at GSFC Space Weather Center. CCMC models and tools utilized heavily.
- Also undergraduate (research) instruction provided through the program. Again, CCMC tools utilized.
- We are also looking into professional development component in the field of space weather.



CUA summary and needs

- Number of CUA programs utilizing CCMC models and tools.
- CUA plans to (significantly) expand the usage of CCMC models and tools.
- CUA needs continuing CCMC support in connecting with models, modelers, applications and end-users of space weather products. (case study: online [CUA Space Weather Academy](#))