

Atmospheric System Research Program Update

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2019 ARM User's and ASR PI Joint Meeting
Rockville, Maryland



U.S. DEPARTMENT OF
ENERGY

Office
of Science

Office of Biological
and Environmental Research

Outline

- General updates
- Personnel updates: ASR and AACT
- ASR Funding: Reviews and Selections
 - DOE FOA 0001845 selections (FY18)
 - Early Career selection (FY18)
 - DOE FOA 0002034 updates (FY19)
 - Other Prospective FOAs and timelines
- ASR communications and website updates
- Meeting details

Atmospheric System Research (ASR) program

The ASR program utilizes the long-term cloud, aerosol, precipitation, and meteorological datasets from the Atmospheric Radiation Measurement (ARM) Climate Research Facility, targeted field campaigns, laboratory studies, and process models to address key uncertainties in processes associated with clouds and aerosols that affect the Earth's radiative balance and hydrological cycle and limit the predictive ability of regional and global models.

Priority research areas are aerosol processes, warm boundary-layer processes, convective processes, and high-latitude processes.

The ASR program supports research at the national labs as well as through grants to universities and other research institutions.

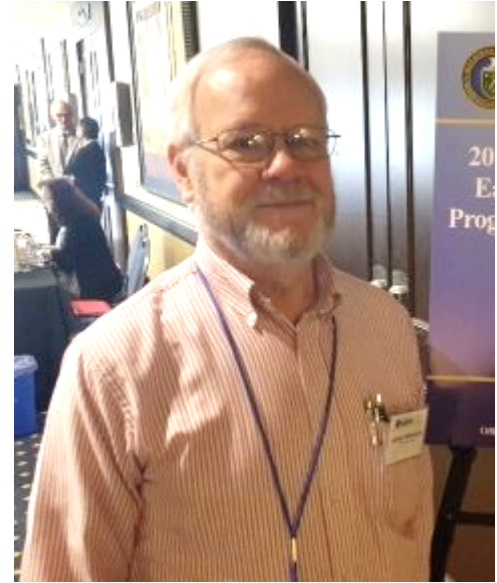
DOE, BER, CESD, and ASR

- DOE Office of Science has a new Director: Dr. Chris Fall
 - First initiative is to communicate DOE science and facilities better to the general public
- CESD released its 2018-2022 Strategic Plan in July 2018.
 - 5 Grand Challenges: the integrated water cycle, biogeochemistry, high-latitudes, drivers and responses in the Earth system, and observation-model integration
 - ASR research priorities are well-aligned with the plan
- DOE started FY19 with a signed Appropriations bill
 - DOE was not one of the agencies directly impacted by the partial shutdown
 - Healthy budget: ASR's budget was \$28M (slight increase over FY18, and large increase over Administration's FY19 request)
- FY20 budget is still up in the air
 - As in past 2 years, planning is difficult

ASR personnel updates

- Ashley Williamson retired from federal service on 29 June 2018
 - Atmospheric Science Program (ASP) manager 2006 – 2009
 - ASR program manager 2009 - 2018

- Approval to hire a second program manager for ASR
 - USAJobs announcement from April had technical issues



ASR Working Group updates

- Tony del Genio (NASA-GISS) stepped down as co-chair of the Convective Processes working group in July 2018
 - Before the Convective Process WG, Tony was co-chair of the Cloud Life Cycle Working group
 - Early adopter of ARM data; pioneering use of ARM for model evaluation and improvement
 - Tony's thoughtfulness, insight, and leadership within ASR over the many years are greatly appreciated

- Greg McFarquhar (Univ. of Oklahoma) joined Gijs de Boer as co-chair of the High Latitude Processes working group in December 2018



ARM-ASR Coordination Team (AACT) - updates

- Allison Aiken (LANL), ARM User Executive Committee Vice-Chair
- Sebastien Biraud (LBNL), ARM User Executive Committee Chair
- Jim Mather (PNNL), ARM Technical Director
- Nicki Hickmon (ANL), ARM Associate Deputy for Operations
- Jennifer Comstock (PNNL), ARM Engineering and Process Manager
- Adam Theisen (ANL), ARM Instrument Operations Manager
- Giri Prakash (ORNL), ARM Data Services Manager
- Shaocheng Xie (LLNL), ARM_Lead Translator
- Jerome Fast (PNNL), PNNL SFA Lead
- Michael Jensen (BNL), BNL-ANL SFA Lead
- Greg McFarquhar (Univ. of Oklahoma), High Latitude Processes WG
- Gijs de Boer (Univ. of Colorado), High Latitude Processes WG
- Nicole Riemer (Univ. of Illinois), Aerosol Processes WG
- Jim Smith (Univ. of California-Irvine), Aerosol Processes WG
- Adam Varble (PNNL), Convective Processes WG
- Rob Wood (Univ. of Washington), Warm Boundary-Layer Processes WG
- Yunyan Zhang (LLNL), Warm Boundary Layer Processes WG

- ASR issued a targeted research call on 11/16/2017 covering three topic areas:
 - **Aerosol processes**
 - **High-latitude atmospheric processes**
 - **Ice cloud processes**
- 70 applications received by 2/28/2018 due date
- 3 review panels will be meeting in April
- Available funding depends on FY2018 appropriations (estimating \$8 M)

ASR FY2018 research call FOA 0001845

- ASR issued a targeted research call on 11/16/2017 covering three topic areas:
 - **Aerosol processes**
 - **High-latitude atmospheric processes**
 - **Ice cloud processes**
- 70 applications received by 2/28/2018 due date
- 3 review panels met in April 2018
- FY18 appropriations bill was passed in late March 2018
- Funding: \$10.7M for 19 projects
- 38 reviewers (panels and mail-in)

ASR FY2018 research call FOA 0001845 Projects

- **Aerosol processes**

- Will Cantrell, Don Collins, Jesse Kroll, Alexander Laskin, Jim Smith, Allison Steiner, Matt West

- **High-latitude atmospheric processes**

- Bart Geerts, Adele Igel, Aaron Kennedy, Zhanqing Li, Jay Mace, Matthew Sturm

- **Ice cloud processes**

- Christine Chiu, Paul DeMott, Matthew Kumjian, Xiaohong Liu, Vaughan Phillips, Alexander Ryzhkov

*Note that several projects fit in more than one topical area
See ASR projects webpage page for more details*

DOE FY2018 Early Career call FOA 0001761

- BER CESD topic was Atmospheric Processes (POC: Sally McFarlane)
- Pre-applications were processed and Encourage/discourage notices sent out by 2/28/2018
- 25 applications from universities and DOE national labs were received by 4/4/2018 due date
- 4 projects were selected; PIs join ASR science team
 - Susannah Burrows (PNNL)
 - Naruki Hiranuma (West Texas A&M Univ.)
 - Kerri Pratt (Univ. of Michigan)
 - ManishKumar Shrivastava (PNNL)

Next Atmospheric Processes topic will likely be in FY2021

ASR FY2019 research call FOA 0002034

- ASR issued a targeted research call on 12/26/2019 covering four topic areas:
 - **Aerosol processes at ARM sites**
 - **Warm boundary-layer atmospheric processes**
 - **Convective cloud processes**
 - **Southern Ocean cloud and aerosol processes**
- 110 Pre-applications by 1/28/2019
- 94 applications received by 3/14/2019 due date
- 3 review panels met in May
- Decision process is on-going.
 - Approval to spend \$13.2M
 - Expect to make 20 to 24 awards
 - End of the fiscal year paperwork crunch means that formal declination letters may not arrive until late summer

Prospective new FOAs in 2019 (for 2020 funding)

- For FY20 we plan another ASR topical research call later in calendar 2019 (trying, again, for early fall).
 - We anticipate it will be targeted topically to complement research areas funded in FY 2019, priorities in working group areas, and ongoing and upcoming ARM field campaigns
 - Data products topic (2-year projects) is a possibility, but not a certainty

ASR FOA	fiscal year of funding	# proposals submitted	# proposals selected	total funding	selection rate
1174	2015	96	19	\$9.2 M	20%
1431	2016	26	6	\$2.2 M	23%
1430	2016	101	19	\$12.0 M	19%
1638	2017	74	15	\$9.3 M	20%
1845	2018	70	19	\$10.7 M	27%

} 20%

FOA timelines over the years

	Release	Pre-apps	Enc/Dis	Proposals	Panel
FOA 1174, FY15	5-Aug	5-Sep	17-Sep	7-Nov	Feb
FOA 1430, FY16	2-Oct	3-Nov	20-Nov	20-Jan	Mar
FOA 1638, FY17	19-Aug	21-Sep	7-Oct	22-Nov	Feb
FOA 1845, FY18	16-Nov	20-Dec	18-Jan	28-Feb	Apr
FOA 2034, FY19	26-Dec	28-Jan	11-Feb	14-Mar	May

- Timelines have varied
- Last 2 years, delays in getting additional approvals for FOA release
- FY17, delays in getting approvals for decisions
- Result – all new decisions, most progress reports, and no-cost extensions are happening at the busiest time of the year

Website and communications updates

- The ASR Communications team at PNNL is working on updating the ASR website.
 - Better linkages and information sharing between the ARM and ASR websites
 - Modernization of software and design
 - Easier to search for highlights, publications, and news
- **Video demonstration!**
- If you have questions or comments, please share them with Hanna Goss
- Updated web content about ASR program priorities and working groups - after new program manager is hired
- Continue to provide programmatic updates through newsletter
 - topic suggestions are welcomed

A few meeting announcements and reminders

- Once again, there are no formal evening sessions.
 - Sign-up sheets for informal evening meeting rooms are at the registration table
- Upload session presentations after the meeting at <https://asr.science.energy.gov/meetings/stm/2019-joint-meeting>
- Breakout session reports from session chairs are due by Monday, 15 July
 - concise narrative discussing key findings, decisions, issues, needs, and/or future plans and action items
 - Serve as a record/reminder for participants and program managers of the discussion that results from the presentations during the meeting
 - Reports will be uploaded by the session organizer at <https://asr.science.energy.gov/meetings/stm/2019/agenda>