



USDA-ARS SCINet Newsletter: April 2020

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New Opportunities

SCINet Training Program

A message from the SCINet CSIO Deb Peters:

The SCINet initiative is developing a suite of training opportunities designed for scientists interested in different training experiences. Free online courses that you take at your own pace are available now (described below).

We are also in the process of purchasing licenses for ARS researchers to take [Coursera](#) courses with certification. Watch for an email from myself about this certification program later in May. Information about how to obtain a license will also be posted on the [Free Online Training page](#) in May or June. Additionally, we are working with [The Carpentries](#) to offer more structured remote training in R, Python, git, and Unix this summer.

We are excited to provide these new opportunities for ARS researchers to augment their research skills during this period of maximized telework.

Deb Peters, SCINet CSIO

Free Online Computational Training (Self-paced)

Make use of your work-from-home time with computational training!

A large list of free tutorials and courses has been compiled on the [Free Online Training page](#). Training topics include:

- Python, R, SAS, and MATLAB programming,
- statistics,
- AI and machine learning,
- GIS,
- Google Earth Engine,
- Git and GitHub,
- reproducibility, productivity, and integration management tools,
- bioinformatics and ecology domain learning.

SCINet-funded Training (Coursera & The Carpentries)

- ARS researchers: browse the [Coursera](#) website for courses you may be interested in or visit the [Free Online Training page](#) for suggested courses. The SCINet initiative is in the process of purchasing licenses to take Coursera courses with certification. Information about how to obtain a license is expected to be emailed and also posted on the Free Online Training page in May/June.
- Structured multi-day remote training in R, Python, git, and Unix from [The Carpentries](#) will be offered this summer. Stay tuned to the [Upcoming Events page](#) for more information.

SCINet Online Science Tutorials

Browse our growing set of SCINet science tutorials created by ARS scientists and the SCINet Virtual Research Support Core. Our [ARS Science Tutorials page](#) now includes Ceres Onboarding and Intro to Unix for new HPC users, two geospatial computing tutorials, a QTL Analysis tutorial for breeding, and machine learning training material.

SCINet Postdocs

[SCINet-funded 2-year postdoc positions](#), based at various locations across the US are still available. These postdocs will be administered through the Oak Ridge Institute for Science and Education (ORISE) and will focus on cross-disciplinary, cross-location, computational research projects.



[Cloud Computing & Artificial Intelligence \(AI\) in Agriculture](#)

[High Performance Computing](#)

[Bioinformatics Analyses](#)

[Applied Machine Learning](#)

[High Performance Computing & Prediction of Geospatial Dynamics](#)

Research Highlights

The ARS Arthropod Genomics Research (AGR) working group: Agency-wide advancement in research capabilities to address stakeholder concerns

Integrating genome-scale investigations through adoption of new technologies and analytic methods into ARS research programs remains a significant challenge. The control of damage inflicted by arthropod pests within agricultural and forestry production systems is a major concern of stakeholders and a focus of ARS research. The ARS Arthropod Genomics Research (AGR) working group is seeking active multidisciplinary collaborations to advance the Agency mission.

Read about how the AGR working group's community organization efforts, training, and research tool development have produced positive outcomes for working group members and the Agency in this [news post](#) by Dr. Brad Coates.



The SCINet-LTAR phenology working group: Improving the accuracy of agriculturally-relevant models to meet growing and changing food demand



Increasing agricultural production under variable growing conditions (such as temperature and rainfall) while decreasing environmental impacts hinges on accurate models and methods to monitor agricultural production consistently and efficiently. Which methods or instruments for tracking plant productivity and crop production provide the best estimate with greatest cost efficiency? This is one question that scientists are working to answer using

nationwide LTAR network field sites.

Read about how the LTAR Phenology working group conducts research on growing season dynamics in agroecosystems using high-performance computing in this [news post](#) by Dr. Dawn Browning.

Do you use SCINet for your research?

Contact scinet_vrsc@usda.gov for a chance to be featured in the newsletter!

SCINet User Tips

Speeding Up Your Globus File Transfer

Using Globus is the best practice for file transfer to Ceres, the SCINet HPC. Transfer speed depends on your location's internet connection. Note that by default the option "verify file integrity after transfer" is selected (see Transfer & Sync Options at the bottom of the Globus web app screen). If you deselect it, transfers will go faster.

Do you have tips or useful links to share?

Email them to scinet_vrsc@usda.gov to be included on the SCINet website and in future newsletters.

SCINet Website Update



SCINet Scientific Computing Initiative

[Sign up for an account](#) [News](#) [User Guides](#) [Working Groups](#) [Training](#) [Use Cases](#) [Support](#) [About](#)

[Opportunities](#)



The SCINet site is up and running on the official .gov web domain [https://scinet.usda.gov/!](https://scinet.usda.gov/)

New content is constantly being added to the site. Since the last quarterly newsletter we've added a [calendar of planned downtime](#), an [Upcoming Events page](#), SCINet use cases for [plant breeding](#) and [genomics](#), [information on free online computational tutorials](#), and more!

Please send any website feedback to scinet_vrsc@usda.gov.

How to Get Started



Simply [request a SCINet account](#) (eAuthentication required) to get started. Upon approval, you will receive instructions for logging into SCINet and accessing Basecamp.

Checkout the [new SCINet website](#) for more info on how SCINet can enable your research.

Read the [SCINet FAQs](#) covering general info, accounts/login, software, storage, data transfer, support/policy/O&M, parallel computing, and technical issues.

Contribute / Contact

For questions about this newsletter or to contribute content, please email

scinet_vrsc@usda.gov

For feedback on the SCINet website, SCINet policy and development questions, or for technical assistance with your SCINet account: [Contact Information](#)

SCINet Leadership Team

Deb Peters, Acting ARS Chief Science Information Officer

Stan Kosecki, Acting SCINet Project Manager

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Brian Scheffler, Ex Officio

[SCINet Website | Comments](#)

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