

Agricultural Genome to Phenome Initiative



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Why AG2P Research is Important

The genetics and genomics of crops and livestock have more in common than they do differences. However, those conducting the research generally collaborate with others working on closely related species rather than those working in dissimilar systems. There are research and breeding procedures that could work across plant and animal species. Data access and storage needs may be managed similarly. Artificial intelligence and machine learning could be applied likewise across these research communities. Sharing this information between the plant and animal kingdoms can eliminate redundancy, streamline the research process and reduce associated costs, thus improving the entire research pipeline.

Activities for Connections

The AG2PI team hosts activities for a broad range of researchers to connect to and learn from one another.

- **Virtual Field Days:** Held on the third Wednesday of each month. Topics range from sharing research methods, approaches, capacities and identifying research challenges.
- **Workshops:** Virtual in-depth studies to help researchers from different backgrounds build knowledge, vocabulary, and technical expertise across disciplines. The workshops range from a single event to multi-sessions, depending on the topic. Workshops often have limited participation so it is important to register early!
- **Conferences:** held to identify gaps in knowledge, infrastructure, protocols, coordination, and opportunities within the G2P communities. These focus will be on topics that cross species boundaries such as cyberinfrastructure, bioinformatics, imaging, statistics, data storage, sharing and re-use.

Sign up for our mailing list to receive information about these events.

Executive Board:

Jennifer Clarke, University of Nebraska–Lincoln
Jack Dekkers, Iowa State University
David Ertl, Iowa Corn Growers Association
Carolyn Lawrence-Dill, Iowa State University

Eric Lyons, University of Arizona
Brenda Murdoch, University of Idaho
Patrick Schnable, Iowa State University
Christopher Tuggle, Iowa State University

AG2PI connects crop and livestock scientists to each other and to scientists working in data, statistics, engineering and social sciences to identify shared problems and collaborate on solutions in genomes-to-phenomes science.

WWW.AG2PI.ORG

Seed Grant Program

AG2PI awards seed grants that connect existing communities to jointly address shared research needs and opportunities as well as to identify gaps in physical infrastructure and data management.

AG2PI awarded seven seed grants in Spring 2021 and 11 in Fall 2021. RFPs are currently out for a third round of awards ("Round 3") and for single events ("rolling" grants). Funding will prioritize projects that promise AG2P cross-kingdom work, are collaborative, and promote one of the following four areas:

1. data sharing and storage,
2. cross-fertilization of ideas,
3. educational resources or training,
4. ethical, legal, social, ecological & economic perspectives,
5. advance genome engineering tools for crop/livestock improvement,
6. mitigate environmental impacts from ag production,
7. Encourage development of carbon capture and grain crop cover with respect to root stocks.

These awards are offered at three tiers:

- I. Emerging ideas (up to \$20,000)
- II. Early development of promising projects (up to \$50,000)
- III. Established projects (up to \$75,000).

To learn more about criteria, topic areas, submission guidelines and deadlines, go to the seed grants page on the AG2PI website:

www.ag2pi.org/seed-grants.

Form a Working Group!

To help direct the future of genome-to-phenome science, consider forming a working group on a topic of your choice, but here a few ideas to get you started thinking:

- ❖ Technology development
- ❖ Environmental mitigation
- ❖ Cross-sector collaborations

Funds are available in our two seed grant programs for town hall events to kick start working groups (AG2PI rolling grants) and for coordinating working group activities (AG2PI Round 3 grants).



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