

U.S. Culture Collection Network (USCCN)

Update provided to the APS Collections and Germplasm Committee

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1

USCCN 1.0 Recap (2012 - 2020)

- ▶ A community of ex situ microbial germplasm collections that facilitates the safe and responsible utilization of microbial resources for research, education, industry, medicine, and agriculture to the betterment of humankind.
- ▶ Established as a Research Coordination Network (RCN) with funding from NSF
 - ▶ Strengthen contacts among U.S. collections & global collaborations
 - ▶ Address collections challenges
 - ▶ Coordinate community efforts for preserving collections (BMPs, cyberinfrastructure plans, etc.)
- ▶ Activities: meetings, workshops, blogs, webinars, website & database, publications

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2

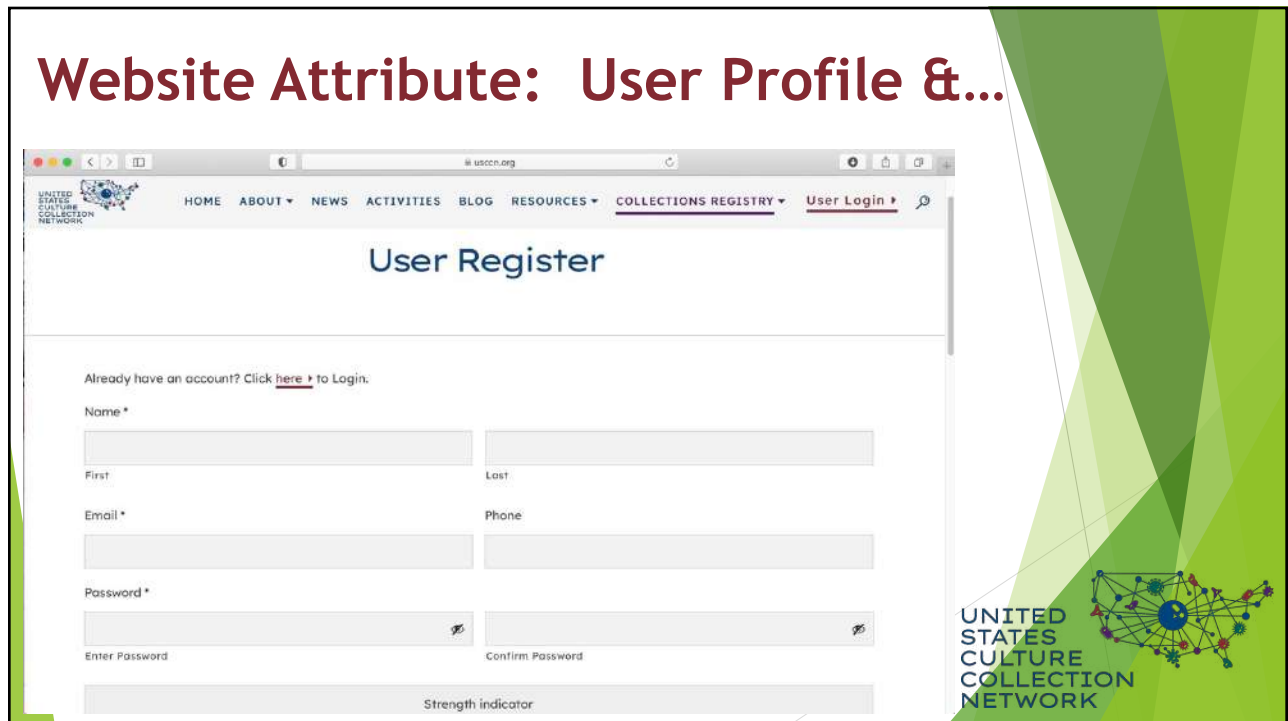
New Website Launched 2020



www.usccn.org

3

Website Attribute: User Profile &...



4

...Collections Registry & ...

The screenshot shows the 'Collection Manager' registration page. At the top, there is a navigation menu with links for HOME, ABOUT, NEWS, ACTIVITIES, BLOG, RESOURCES, COLLECTIONS REGISTRY, and a Logout button. The main heading is 'Collection Manager'. Below this, there are three tabs: 'Register collection', 'My Collections', and 'Edit Profile'. The 'Register collection' tab is active. The form contains several sections:

- A note: 'Responses to the following questions (1-28) will be components of the USCCN online searchable database available to all users.'
- Fields for: 1. Name of Collection Point of Contact, 2. Current Position, 3. Collection phone number, 4. Collection email, 5. Collection website (if applicable), and 6. Collection name and abbreviation.
- Question 10: 'What type of organisms are included in the Collection?' with checkboxes for Fungi, Bacteria, Algae, Yeast, and Other (please describe).
- Question 11: 'How many of each type of genus are included in the Collection?' with a table for 'Species' and 'Quantity'.
- An option to 'Upload a spreadsheet listing out each species along with the quantity.'

5

...Searchable Database

The screenshot shows the 'Culture Collections' searchable database interface. At the top, there is a navigation menu with links for HOME, ABOUT, NEWS, ACTIVITIES, BLOG, RESOURCES, COLLECTIONS REGISTRY, and a User Login button. The main heading is 'Culture Collections'. Below this, there is a search section with the text 'Find repositories that meet these criteria :'. This section includes a search input field, a dropdown menu for 'Type of organisms included in the collection', a text input for 'Host associations', and a text input for 'Main Subjects or Fields'. To the right of the search section, there is a paragraph describing the database: 'The USCCN searchable database consists of plant associated, microbial culture collections from universities and government agencies. The information contained herein has been reported voluntarily and is intended to facilitate exchange of information, the development of standards, and networking among all kinds of collections. These include those that currently distribute materials to the research community (publicly available), collections that aspire to become a publicly available resource (aspiring), and scientists with research collections (research)'. Below this paragraph are two buttons: 'Submit Your Collection' and 'Participate in the Network'. At the bottom right, there is a logo for the 'UNITED STATES CULTURE COLLECTION NETWORK' featuring a globe with various colored dots representing different collection points.

6

USCCN 2.0 (2021 +)

- ▶ Partner with *Phytobiomes Alliance* - new NSF proposal submission - *USCCN 2.0; management & logistics*
- ▶ 3 Proposal Aims:
 1. Increase participation in USCCN via registry & database, communication activities
 2. Cultivate long-term viability of USCCN and participating collections
 3. Enhance links with other collection registries and repositories

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7





**PHYTOBIOMES
ALLIANCE**

INTERNATIONAL ALLIANCE FOR PHYTOBIOMES RESEARCH

*A nonprofit consortium of industry,
academic, and governmental
scientists*

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8

Phytobiomes: Complex Systems of Plant-based Agriculture

“Biomes”: Site specific environments

The diagram illustrates a complex system of plant-based agriculture. At the top right, a blue cloud labeled "Climate, Weather, Water" has rain falling. In the center, a vertical stack shows "Plants" (a field of green stalks) and "Soils" (a red tractor). To the left, a green circle contains "Microbiomes and Macroorganisms/Macrofauna" with a list: Viruses, Archaea, Bacteria, Amoeba, Oomycetes, Algae, Fungi, and Nematode. To the right, another green circle contains "Arthropods, Other Animals and Plants" with a list: Insects, Arachnids, Myriapods, Worms, Birds, Rodents, Ruminants, and Weeds. A sun is in the top left. At the bottom center, text reads "All influenced by Management Practices". At the bottom right is the "UNITED STATES CULTURE COLLECTION NETWORK" logo with a globe icon.

9

Phytobiomes Alliance Vision

The diagram features a blue funnel labeled "Phytobiomes" at its base. Inside the funnel are seven colored circles representing different components: a green circle for "Macroorganisms", a yellow circle for "Management Practices", a red circle for "Microbiomes", a brown circle for "Physical Environment", and three circles for "Plants", "Animals", and "Insects". Below the funnel is a globe icon and a smartphone icon. The text "UNITED STATES CULTURE COLLECTION NETWORK" is at the bottom left. On the bottom right is the "PHYTOBIOMES ALLIANCE" logo with a leaf and soil icon.

By 2050, all farmers have the ability to use predictive and prescriptive analytics based on geophysical and biological conditions for determining the best combination of crops, management practices, and inputs for a specific field in a given year.

10



Thank you

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11

Alliance Partners



BAYER Eversole Associates *Enabling Science & Technology* INRAE novozymes VALENT BioSciences

biovante Colorado State University eurofins BioDiagnostics indigo

IRD Institut de Recherche pour le Développement FRANCE JOYN BIO N NewLeaf symbiotics NOBLE RESEARCH INSTITUTE Science Serving Agriculture

PennState College of Agricultural Sciences PIVOT BIO THE FERTILIZER INSTITUTE WCMR WATERLOO CENTRE FOR MICROBIAL RESEARCH Aphea.Bio Applied Nature for Better Agriculture

APS *Healthy Planet • Healthy World* BioConsortia AIT AUSTRIAN INSTITUTE OF TECHNOLOGY Karyosoft Augmented Innovations

12