

Joyn Bio Joins the International Phytobiomes Alliance

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The [International Alliance for Phytobiomes Research](#) is pleased to announce that [Joyn Bio](#) has joined the organization as a sponsoring partner. The Phytobiomes Alliance is an international, nonprofit consortium of academic institutions, private companies, and government agencies. The Alliance facilitates and coordinates international efforts toward expanding phytobiomes research to accelerate the sustainable production of food, feed, and fiber for food security.

Phytobiomes research is a holistic system-level approach focused on the complex interactions between plants, microorganisms, soils, climate, environment, and management practices. The term “Phytobiome” refers to a plant growing within a specific environment, or biome; it includes the plant itself, and all micro- and macro-organisms living in, on, or around the plant—such as microbes, animals, insects, and other plants—as well as the environment, which includes soil, air, water, weather, and climate.

Joyn Bio, a joint venture between Ginkgo Bioworks and Leaps by Bayer, uses synthetic biology techniques to address sustainability challenges in agriculture. Joyn Bio’s main area of focus is to reduce the amount of traditional chemical nitrogen fertilizers – which are known to have harmful environmental impacts – needed to grow cereal crops like corn, wheat, or rice. To do so, Joyn engineers and optimizes nitrogen-fixing microbes to provide plants the nitrogen they need, minimizing agriculture’s carbon footprint and simultaneously offering growers a reliable, effective and economical solution.

“Joyn Bio was founded to bring about the next wave of innovation in sustainable agriculture through the intersection of plant sciences and synthetic biology. The Phytobiomes Alliance values align perfectly with our vision to find new, sustainable ways to feed a growing global population – we look forward to partnering with this community,” said Joyn Bio CEO Mike Miille.

Nathan Pumplin will represent Joyn Bio in the Alliance Coordinating Committee. This Committee identifies research, resource and technology gaps, establishes priorities, and develops strategic plans to achieve Alliance goals.

“Joyn Bio’s approach of combining different expertise to provide innovative approaches for growers resonates with the Alliance mission,” says Kellye Eversole, the Alliance Executive Director. “They will be an invaluable addition to our work of building a foundation to address tomorrow’s agricultural challenges.”

Over the next decades, the United Nations predicts that the world population will reach 9.8 billion by 2050 – 31 growing seasons away. To produce enough food for this growing population in such a short time requires a major paradigm shift in agricultural production. The Phytobiomes Alliance aims at addressing this challenge by establishing a foundation of knowledge on how phytobiome components interact and affect each other. Understanding entire systems of phytobiomes will be critical to ensuring sustainable global food security in the next decades in the context of population growth, climate change, and the necessity to preserve biodiversity and natural resources.

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About the Phytobiomes Alliance

The Phytobiomes Alliance is an international, nonprofit alliance of industry, academic, and governmental partners created in 2016. The goal of the Alliance is to understand, predict and control emergent phenotypes for sustainable production of food, feed and fiber on any given farm. The Phytobiomes Alliance is sponsored by Bayer CropScience, Eversole Associates, INRA, Novozymes, Valent BioSciences, Colorado State University, Indigo, IRD, Joyn Bio, the University of Maryland, the University of Nebraska-Lincoln, NewLeaf Symbiotics, the Noble Research Institute, Penn State College of Agricultural Sciences, The Fertilizer Institute, the Waterloo Centre for Microbial Research, the American Phytopathological Society, BioConsortia, Prime Discoveries, the Austrian Institute of Technology, and Karyosoft. www.phytobiomesalliance.org

About Joyn Bio

Joyn Bio is bringing synthetic biology to agriculture for better ways to feed the world. An independent company backed by agriculture and synthetic biology leaders Bayer and Ginkgo Bioworks, Joyn engineers microbes to improve naturally occurring processes like nitrogen fixation, bringing growers more reliable solutions for crop protection and nutrition without the environmental tax. Joyn Bio brings together leading scientists with diverse backgrounds at its two sites in Boston, Massachusetts and Woodland, California. For more information, visit www.joynbio.com.

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