



**SPS Call for Abstracts**  
**November 3-4, 2022**  
**Raleigh, North Carolina, USA**

Please complete the information below and send it to the email address [steps-contact@ncsu.edu](mailto:steps-contact@ncsu.edu) with the subject line "SPS Abstract Submission".

The Science and Technologies for Phosphorus Sustainability (STEPS) Center and the Sustainable Phosphorus Alliance would like to invite you to submit your presentation abstracts for the 7th Sustainable Phosphorus Summit (SPS), which will take place as part of a larger Phosphorus Week event, November 1-4 in Raleigh, North Carolina, USA. The SPS portion of the event will occur November 3-4, immediately after the annual Phosphorus Forum on November 1-2. MacArthur Fellow, Dr. Nancy Rabalais, will provide a keynote. We invite you to attend both events. An event registration site will be available in coming weeks.

We are soliciting presentation abstracts for the SPS portion of the event, which can be submitted using the form below. Please submit your abstracts before July 15th for the sessions described below. Speakers will be notified the week of August 1. We expect all presentations to be delivered in person.

Note: We actively encourage abstracts submitted by individuals from diverse backgrounds, perspectives, interests, as well as nationalities.

**Session 1. Feast or Famine: Phosphorus Sustainability in Agriculture**

Phosphorus (P) is a key agricultural nutrient with finite supplies. The global P need for the next century has become a major concern, especially in terms of future food security in certain regions of the world. Meanwhile, in other regions, an overabundance of phosphorus on farmed lands is driving nutrient pollution of waterways. Much of the P fertilizer supplied to crops binds to soils and accumulates over time, forming a legacy source of phosphorus, and runoff and erosion continue to deliver phosphorus from farmlands to nearby waterways. Improved management approaches are required to ensure adequacy of phosphorus fertilization while guarding against overuse. Appropriate topics for discussion during this session include but are not limited to: nutrient management planning, crop improvement, precision agriculture, manure and soil management best practices, and equitable distribution of phosphorus resources.

**Session 2. AnthroPocene: Urban Phosphorus and Human Impacts**

Phosphorus present in urban settings can be mobilized by storm water runoff and discharged from wastewater treatment, including septic systems. There are many opportunities to remove and recover phosphorus from storm water, wastewater, and other urban sources, such as food waste, but it can be economically and technologically challenging to do so, especially in countries with acutely limited infrastructure budgets. This session's goal is to gain better understanding the movement of phosphorus through urban settings and how to manage it more sustainably. Appropriate topics for this session include but are not limited to: storm water management and urban runoff, wastewater treatment for phosphorus removal/recovery, waste-to-benefit recovery from food and water and other materials, and the role of phosphate in water treatment versus wastewater treatment.



### **Session 3. Quantifying Phosphorus Flows for Sustainable Nutrient Management**

Phosphorus is a vital element for human life and essential for food production. However, unsustainable nutrient management practices have led to water quality degradation on local, regional, national, and global scales. It is said that we can't manage what we can't measure. Part of the challenge of making nutrient management more sustainable is simply taking measure of phosphorus flows at various spatial and temporal scales and both scaling local data up to greater geographical scales and vice versa. Appropriate topics for discussion during this session include but are not limited to: modeling phosphorus transport at various spatial and temporal scales, developing phosphorus budgets, and modeling how conservation measures and policy changes might impact phosphorus flows at various scales.

### **Session 4. Emerging Technologies for the Analysis, Capture, and Transformation of Phosphorus**

Phosphorus assumes a plethora of organic and inorganic forms, both natural and human-designed, that are subject to physical, chemical, and biological transformations. This diversity of forms poses great challenges to its measurement and capture and challenges our efforts to develop more sustainable products, such as next-generation fertilizers. This session will discuss emerging technologies that address these challenges. Appropriate topics for discussion during this session include but are not limited to: analytical phosphorus measurement techniques, phosphorus sensing technology, speciation and transformation of phosphorus compounds, design of phosphorus capture materials, and formulation of novel fertilizers and amendments to improve phosphorus bioavailability and reduce phosphorus losses.

- **Please mention your corresponding Email address. (Required)**

- **Please enter presenter name. (Required)**

- **Please enter co-author names. (if any)**

- **Please enter the country in which you currently live.**

- **Please enter your organizational affiliation (for example, your university name).**



- **Please provide a proposed title for your presentation.**

- **Please pick the appropriate session for your abstract. (Select no more than 2 sessions).**

- Session 1. Feast or Famine: P Sustainability in Agriculture
- Session 2. AnthroPocene: Urban P and Human Impacts
- Session 3. Quantifying P Budgets for Sustainable Nutrient Management
- Session 4. Emerging Technologies for the Analysis and Transformation of Phosphorus

- **Please provide an abstract here (250 word limit).**

- **If your abstract is not chosen for this session, would you be interested in developing a poster on your topic for our poster session?**

Yes

No