



Call for Papers: ASABE Journals Special Collection

**Cyberbiosecurity:
Securing Water and Agricultural Systems**



Introduction and scope:

As it is becoming increasingly evident, more data are being collected via digital and sensor technologies at water and agricultural systems. Such data are used for intelligent decision making, precision farming, smart irrigation, agricultural production, physical systems control, water quality measurement, and agricultural sustainability.

Consequently, the security and safety of agricultural and water resources are now, more than any other time, connected to digital tools (such as drones), artificial intelligence (AI), and data engineering exercises; and hence, directly affected by Cybersecurity. **Cyber** attacks are on the rise in all domains; affecting the **security** of systems, algorithms, and data; **bio**logical systems are not an exception (hence the term: Cyberbiosecurity).

This Special Collection of peer-reviewed papers presents works that survey, envision, redesign and/or develop methods for (including but not limited to): (a) safeguarding data and algorithms in all forms of biological systems, (b) protecting and mitigating against cyber-attacks, (c) data governance, (d) AI-driven methods for bio-security and data management, (e) data/AI engineering best practices related to water and agricultural systems, (f) the application of data/AI methods by farmers and operators, (g) optimizing data science aspects such as data wrangling and preprocessing, (h) AI/data-driven outlier detection and mitigation, (i) data assurance and quality challenges, (j) AI algorithms' deployment and management, (k) the assurance and validation of AI algorithms, (l) data/AI-driven environmental laws and policies' analysis, (m) securing sensors and other forms of digital technology in biological systems contexts, (n) detecting cyber breaches, ransomware, data poisoning attack and all forms of adversarial breaches, as well as (o) other tangential and related research areas.

Instructions for interested authors:

- (1) Manuscripts may be submitted to either *Journal of the ASABE* or *Applied Engineering in Agriculture*.
- (2) **Submit your manuscript any time before 31 March 2024.**
- (3) Submissions will follow ASABE procedures (<https://www.asabe.org/JournalAuthors>) and should use the latest template (<https://www.asabe.org/ManuscriptTemplates>).
- (4) **Indicate in the submission letter that the manuscript should be considered for the “Cyberbiosecurity: Securing Water and Agricultural Systems”.** Please send a confirmation e-mail to the Collection Editor (batarseh@vt.edu) indicating that you have submitted a manuscript for the Special Collection.
- (5) Manuscripts included in the special collection will receive several additional benefits:
 - Papers will be highlighted in an introductory article and will include an identifying logo.
 - Public access to the collection will be free for the remainder of the calendar year of publication and two more calendar years. Open access may be purchased by authors at a discounted rate.
 - Authors and co-authors of all collection papers will be invited to an invitation-only Cyberbiosecurity workshop in Blacksburg, VA in fall 2024.
 - Each paper will go through a full peer-review process following ASABE procedures. Papers will be reviewed and published on a rolling basis (published as soon as they are ready). All accepted papers will be published by September 2024.

If you have any questions, please contact Feras A. Batarseh at batarseh@vt.edu or Seung-Chul Yoon at seungchul.yoon@usda.gov.

Feras A. Batarseh, Guest Editor/Special Collection Coordinator/Guest Associate Editor
Seung-Chul Yoon, Editor, Information Technology, Sensors, & Control Systems (ITSC),
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