

# Nitro – Ag:

## Towards greater nitrogen use efficiency in agroecosystems

### Nitro – Ag concept

Agriculture uses over 120 M t. of nitrogen (N) fertilizer p.a. globally, but > 50 % of the applied N is lost to the environment. This unsustainable practice is accompanied with low nutrient use efficiencies (NUE) and serious environmental problems i.e. NO<sub>x</sub>- pollution. Soil microbes are key to N cycling; they can influence N – flows and pathways, and dictate the amount of N available to plants or lost.

### Nitro – Ag aims to:

- 1) quantify the relationships among the microbial activity, the environment and the (highly variable) efficiency with which N – fertilizers are used,
- 2) decipher the intrinsic link between microbial N regulation and crop uptake in intensified agroecosystems, and
- 3) quantify the pathways which nitrogen is lost to the environment.

### Nitro – Ag is designed to have a two-fold impact to:

- 1) resolve the temporal dynamics of N cycling in agricultural soils and
- 2) suggest new ways to optimize the use of N fertilizer, to reduce costs, to improve yields and quality, and to enhance the agribusiness sector sustainability.

### Nitro – Ag info:

Duration: 36 months, starting on May 2021

Funding organization: Hellenic Foundation for Research and Innovation

Host organization: School of Agriculture, Aristotle University of Thessaloniki

### Collaborating Partners:

Corteva Agriscience Hellas SA

Aarhus University, DENMARK

Wageningen University, The NETHERLANDS

Virginia Commonwealth University, VA USA

The University of the New Hampshire, NH USA

**Principal Investigator: Dr Georgios Giannopoulos**

**Contact email: [ggiannopoulos@gapps.auth.gr](mailto:ggiannopoulos@gapps.auth.gr)**

This research project is supported by the: Hellenic Foundation for Research and Innovation Research (HFRI) under the “2<sup>nd</sup> Call for HFRI Research Projects to Support Post-Doctoral Researchers” (Project Number: HFRI-01053)



ARISTOTLE  
UNIVERSITY  
OF THESSALONIKI



H.F.R.I.  
Hellenic Foundation for  
Research & Innovation