7th Course on Statistical Methodology for Agricultural Sciences «Dario Sacco»

Italian Society of Agronomy

LINEAR AND GENERALIZED LINEAR MODELS

1 – 5 February 2027

Università degli Studi di Bari «Aldo Moro»
Dipartimento di Scienze del Suolo, della Pianta e degli Alimenti
Campus Universitario «E. Quagliariello»,
c/o Dipartimento di Informatica
Via Amendola, 165/A, 70126 – BARI

UNIVERSITÀ DEGLI STUDI DI BARI ALDO MORO

ACCADEMIA DEI GEORGOFILI

7th Course on Statistical Methodology for Agricultural Sciences «Dario Sacco» 1 - 5 February 2027

The course is organized by the Italian Society of Agronomy (SIA) and under the patronage of the Accademia dei Georgofili.

Location and Schedule

The course will be held at the Università degli Studi di Bari «Aldo Moro» from 1 to 5 February 2027 (Dipartimento di Scienze del Suolo, della Pianta e degli Alimenti, Campus Universitario «E. Quagliariello», c/o Dipartimento di Informatica, Via E. Orabona, 4, 70125 – Bari). The course will include both practical and theoretical lessons every day from 9:00 AM to 1:00 PM and from 3:00 PM to 6:30 PM.

Program

The course includes both theoretical and practical components, with various applications in the agronomic sector. The software used will be R, available at https://cran.r-project.org/ for all operating systems. Participants are expected to have R installed on their computers, along with the packages that will be specified after registration. As prerequisites, participants should have basic knowledge of R and statistics (fundamental elements of descriptive and inferential statistics).

Credits for Doctoral Schools

Participation in the course may qualify for credits awarded by Doctoral Schools, if foreseen by the participant's institution, subject to learning verification.

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The course will be delivered in English, or in Italian if no international students will participate.
The course will be activated if the minimum number of 15 participants is reached and is open to a **maximum of 25**, with no more than 3 participants per institution. Admission to the course will, in any case, be subject to evaluation by the Board of the Italian Society of Agronomy.
At the end of the course, an official certificate will be issued, conditional on passing a learning assessment.
Those interested in participating are invited to submit their application by filling out the form available at this link by **21/12/2026**:

Selected candidates will be notified of acceptance by 23/12/2026, at which point the payment details for the course fee, which is required for admission, will be sent.

Scientific Committee
Prof Marco Acutis
Dr Emanuele Barca
Prof Andrea Onofri
Prof Alessia Perego
Dr Antonio Pulina
Prof Anna Maria Stellacci

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General Program
Slots
09:00-10:45 / 11:00-13:00
15:00-16:30 / 16:45-18:30

Day 1 – 1 February 2027 - Beyond Averages: Making Sense of Agricultural Experiments. Are differences between treatments real or just random variation? How do we know whether a treatment works, and how can we make our experiments more reliable? On Day 1, we will explore the basics of statistical inference, discover the logic behind linear models and ANOVA, and learn how to investigate treatment effects, including interactions. We will also look at how spatial variability in the field can influence experimental design and how to deal with it.

Day 2 – 2 February 2027 - Beyond Differences: Exploring Relationships and Comparing Treatments. How strong is the relationship between two variables? Which treatments really differ, and how confident can we be in our conclusions? And are we collecting enough data to detect meaningful effects? On Day 2, we will explore linear regression, multiple comparisons and statistical power, learning how to use R to analyse relationships, compare treatments and plan experiments.

Day 3 – 3 February 2027 - Beyond ANOVA: Mixed Models for Agricultural Experiments. What happens when treatments are applied to large plots, but measurements are taken on smaller ones? Or when observations are grouped within blocks, environments or experimental units? On Day 3, we will explore how mixed models can help us tackle these challenges in agricultural research. We will discover fixed and random effects, learn to work with 'lmer()' and 'glmmTMB()', and analyse real-world experimental designs, including split-plot, strip-plot and subsampling experiments.

Day 4 – 4 February 2027 - Beyond Independence: Exploring Patterns in Space and Time. Are observations really independent? What happens when measurements taken close together in time or space tend to be more alike? And how can we make sense of spatial variability in agricultural and environmental data? On this final day, we will explore repeated measures and spatial data analysis, learning how to model temporal and spatial autocorrelation, investigate variance-covariance structures, and uncover spatial patterns using geostatistics. Through hands-on applications in R, we will analyse repeated-measures experiments and learn how to explore, interpolate and map soil properties using variograms and kriging.

Day 5 – 5 February 2027 (the lecture will end at 12:30)
Group work with practical application of R.

FEE - QUOTE E MODALITÀ DI PAGAMENTO

SOCI SIA

Costo 300,00 euro

NON SOCI SIA

Costo: 300,00 euro + IVA (22%) = 366,00 euro

Coordinate bancarie IBAN:

- **IT44Z0200802847000100730293**
- **BIC SWIFT: UNCRITMMXXX**
- **Banca Unicredit, filiale di: Via di Novoli 85/I Firenze**

Intestato a: SOCIETÀ ITALIANA DI AGRONOMIA
Causale: NOME COGNOME, STAT 2027

ATTENZIONE:
Inviare copia del bonifico a: fatturazione@siagr.it ; segreteria@siagr.it
indicando nella mail il proprio CODICE FISCALE e l'indirizzo di residenza

Note:

- SIA non è un ente pubblico e non è ente accreditato;
- La fattura elettronica sarà inviata ai non soci, come previsto dalla normativa, attraverso il sistema di interscambio;
- Ai Soci SIA sarà inviata ricevuta di pagamento tramite e-mail secondo quanto previsto dalla normativa DLGS 186/2025.