

GDR MASCOT-NUM



- French research network created in 2006
- CNRS funding renewed for the period 2021-2025

Méthodes d'Analyse Stochastique
pour les COdes et Traitements NUMériques
(stochastic methods for the analysis of numerical codes)

Many topics

- design of computer experiments,
- sensitivity analysis,
- calibration, validation, optimization,
- forward and inverse uncertainty quantification,
- metamodels, dimension reduction, model order reduction...
- ...

Strong interplay between **various scientific fields** (statistics, probability, numerical analysis and computer science), and **many application fields** (industry, environment, agronomy, biology...).

Many challenges to address

- High-dimensional problems (approximation, learning, probabilistic modelling...),
- Learning in a small data regime or green learning algorithms,
- UQ and deep learning,
- Heterogenous information (multi-fidelity, multi-precision, multi-models),
- Stochastic Simulators,
- Big data, HPC
- ...

The research network

Official members

- 35 institutes from french universities and engineering schools
- 8 public institutions: CEA, CIRAD, IFPEN, IFREMER, IRSN, IRT, ONERA, LNE
- 9 companies: Airbus Group, CERFACS, EDF R&D, InModelia, Michelin, Phimeca, Renault, SAFRAN, SNCF

And non official members

- More than 600 people registered

Strong link between academia and socio-economic world

- Participation of companies to the network's coordination and conducted research
- Club des partenaires: CEA/DAM, EDF R&D

Committees

- **Executive committee:**

J. Bect, A. Nouy, G. Perrin, C. Prieur

- **Steering committee:**

P. Barbillon, J. Bect, M. Bossy, S. Da Veiga, C. Helbert,
B. Iooss, S. Lefebvre, S. Mahévas, A. Marrel,
M. Munoz-Zuniga, A. Nouy, G. Perrin, V. Picheny, C. Prieur,
L. Pronzato, J. Reygner, O. Roustant.

- **Communication committee:**

J. Bect, B. Iooss, A. Nouy, J. Reygnier

- **Administrators** (wiki, blog, mailing lists):

J. Bect, B. Iooss, A. Janon

- Annual meetings
- Workshops (one or two per year)
- Summer schools (ETICS,...)
- PhD awards
- Call for projects

Past workshop "Stochastic simulators"

- March 11, 2021,
- organized by [Julien Bect](#), [Anthony Nouy](#) and [Clémentine Prieur](#).
- Slides available

Past workshop "Kernel and sampling methods for design and quantization"

- November 15, 2021,
- organized by [Luc Pronzato](#), [Julien Bect](#) and [Anthony Nouy](#).
- Slides available

Past workshop

"Optimal sampling for approximation"

- March 10, 2022,
- organized by Anthony Nouy, Guillaume Perrin and Clementine Prieur.
- Slides available

Announcement for the next workshop

"Statistical methods for safety and decommissioning"

- November 21-22, 2022,
- in Paris,
- organized by Bertrand looss and Julien Bect.

Call for workshops 2023-

You can propose workshops to the steering committee

Announcement for the **2023 annual meeting**
at the closure talk !