

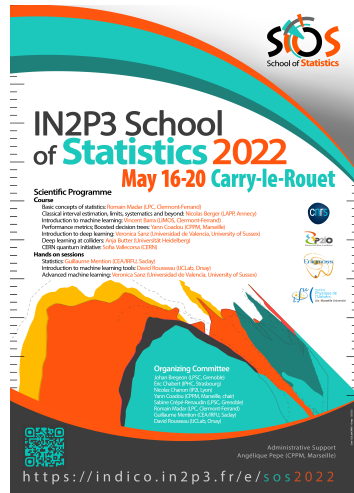
IN2P3 School of Statistics 2022

Yann Coadou

CPPM Marseille

Carry-le-Rouet, 16 May 2022





SOS
School of Statistics

IN2P3 School of Statistics 2022

May 16-20 Carry-le-Rouet

Scientific Programme

Course
 Basic concepts of statistics: Herman Madar (LPC, Clermont-Ferrand)
 Classical inferential statistics, limits, asymptotics and beyond: Nicolas Berger (LAPP, Annecy)
 Introduction to machine learning: Vincent Biais (UMCS, Clermont-Ferrand)
 Performance metrics, Bayesian decision theory: Yann Guéhenno (CPHM, Marseille)
 Introduction to deep learning: Veronica Sanz (Universidad de Valencia, University of Sussex)
 Deep learning at colliders: Arjo Butter (University of Heidelberg)
 QED: quantum relativistic Scattering (QED)

Hands on sessions
 Statistical Culture: Mention (CEA/IRFU Saclay)
 Introduction to machine learning tools: David Rousseau (JCLab, Orsay)
 Advanced machine learning: Veronica Sanz (Universidad de Valencia, University of Sussex)

Organizing Committee
 Arjo Butter (LPC, Clermont-Ferrand)
 Eric David (IJCLab, Orsay)
 Nicolas Chanon (IP2I Lyon)
 Yvan Coadou (CPHM, Marseille)
 Sébastien Crippel (IRFU Saclay)
 Benjamin Hable (LPC, Clermont-Ferrand)
 Guillaume Mention (CEA/IRFU Saclay)
 David Rousseau (JCLab, Orsay)

Administrative Support
 Angélique Pèpe (CPPM, Marseille)

<https://indico.in2p3.fr/e/sos2022>

- 8th edition of successful biennial series

▶ <https://sos.in2p3.fr>

- Strasbourg (2008), Autrans (2010–2016), La Londe-les-Maures (2018), Zoom (2021)

- Organising committee:

- Johan Bregeon (LPSC Grenoble)
- Éric Chabert (IPHC Strasbourg)
- Nicolas Chanon (IP2I Lyon)
- Yann Coadou (CPPM Marseille) [chair]
- Sabine Crépe-Renaudin (LPSC Grenoble)
- Romain Madar (LPC Clermont-Ferrand)
- Guillaume Mention (CEA/IRFU Saclay)
- David Rousseau (IJCLab Orsay)

- Administrative support: Angélique Pèpe (CPPM, Marseille)

▶ <https://indico.in2p3.fr/e/SOS2022>

- *“Give an overview of the concepts and tools used in particle physics, astro-particle physics and cosmology when probabilities and statistics come to play”*
- Machine learning part increasing with years
- Financial support:



Institut
Physique de
l'Univers
Aix-Marseille Université



- Technical and administrative support from CPPM

Allows to welcome 46 participants and 9 lecturers

This school is for you!

- Do not hesitate to ask questions, during and in-between lectures
- Nice and relaxing place
⇒ encourage interactions



- Three main components
 - Fundamental concepts
 - Multivariate analysis (machine learning)
 - Hands-on sessions

	Mon 16	Tue 17	Wed 18	Thu 19	Fri 20
8:30-9:00					Hands-on: advanced machine learning
9:00-10:30	Arrival	Machine learning	Intervals & limits I	Intervals & limits II	
10:30-11:00		Break			
11:00-12:30		Boosted decision trees; Metrics	Hands-on: basics machine learning	Deep learning I	CERN quantum technology initiative
12:30-14:00	Lunch				
14:00-15:30	Basic concepts I	Hands-on: basic statistics	Free	Deep learning II	Departure
15:30-16:00	Break			Break	
16:00-17:30	Basic concepts II			Deep learning at colliders	

■ Food (Miléade times)

- breakfast: 7:30–9:00
- lunch: 12:30–13h30
- dinner: 20h00
- bar: 18:00–23:00

■ Wifi

- use the resort network
- apparently not working well in rooms. . .
- . . . so spend more time talking to each other at the bar!

■ Hands-on sessions

- You have of course already followed [instructions](#) before coming
- If not, do it today! Ask for help if necessary

■ Wednesday afternoon (free time)

- Enjoy the resort's facilities: outdoor swimming pool (got your swimsuit, right?), sauna/hammam (I think), etc.
- Go for a hike/run along the coast or up the hills
- Go to the beach(es), explore underwater marine life (in particular in Cap Rousset marine reserve)

■ Social dinner

- Thursday evening “cocktail dinatoire”

■ Miscellaneous

- Certificate of attendance \Rightarrow have you asked for it during registration?
- Evaluation form for feedback

