



School of **Statistics**

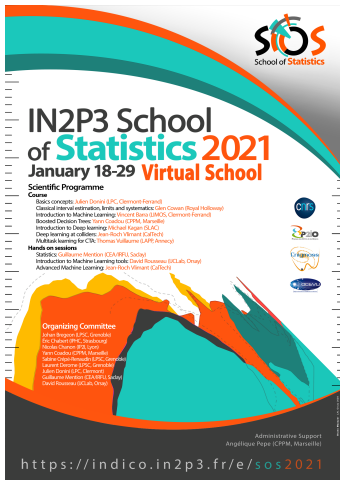
IN2P3 School of Statistics 2021

Yann Coadou
for the SOS organising committee

CPPM Marseille

Online edition
18 January 2021



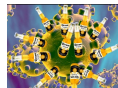


- 7th edition of successful biennial series

► <http://sos.in2p3.fr>

- Should have happened in Carry-le-Rouet (Southern France) in May 2020

⇒ First online COVID-19-free edition



- **Organising committee:** Johan Bregeon (LUPM, Montpellier), Éric Chabert (IPHC, Strasbourg), Nicolas Chanon (IP2I, Lyon), Yann Coadou (CPPM, Marseille) - chair-, Sabine Crépe-Renaudin (LPSC, Grenoble), Laurent Derome (LPSC, Grenoble), Julien Donini (LPC, Clermont-Ferrand), Guillaume Mention (CEA/IRFU, Saclay), David Rousseau (IJClab, Orsay)
- **Lecturers:** Julien Donini (LPC, Clermont), Glen Cowan (Royal Holloway), Guillaume Mention (CEA/IRFU, Saclay), Vincent Barra (LIMOS, Clermont-Ferrand), Yann Coadou (CPPM, Marseille), David Rousseau (IJClab, Orsay), Michael Kagan (SLAC), Jean-Roch Vlimant (CalTech), Thomas Vuillaume (LAPP, Annecy)

- “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:



- Past years: about 60 participants, in person
- 2021 online edition: 445 registered participants!

Implications

- Organisers not used to the scale: learning experience
- Lectures still target physicists
- Do not disturb lectures (audio and video off)
- Use “Raise hand” in Zoom and wait for permission to speak
- Use your full name in Zoom and Discord

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

	Mon 18	Tue 19	Wed 20	Thu 21	Fri 22
9:00-10:30	Basic concepts I	Intervals & limits I	Hands-on: basics (starts at 10:00)	Machine learning	Boosted decision trees
10:30-10:45	Break				
10:45-12:15	Basic concepts II	Intervals & limits II			

	Mon 25	Tue 26	Wed 27	Thu 28	Fri 29
9:00-10:30	Hands-on: basics machine learning	Deep learning I	Deep learning at colliders	Hands-on: advanced machine learning	Multitask learning
10:30-10:45		Break			Farewell
10:45-12:15		Deep learning II			

All times are morning CET

Zoom

- Used to share lecture slides, audio/video from lecturers
- Check that your version is up-to-date prior to the meeting
- Use your full name (used to monitor attendance and deliver certificates)
- Connect on time or early, cannot wait for 450 people to start
- Zoom chat for connection issues only

Discord

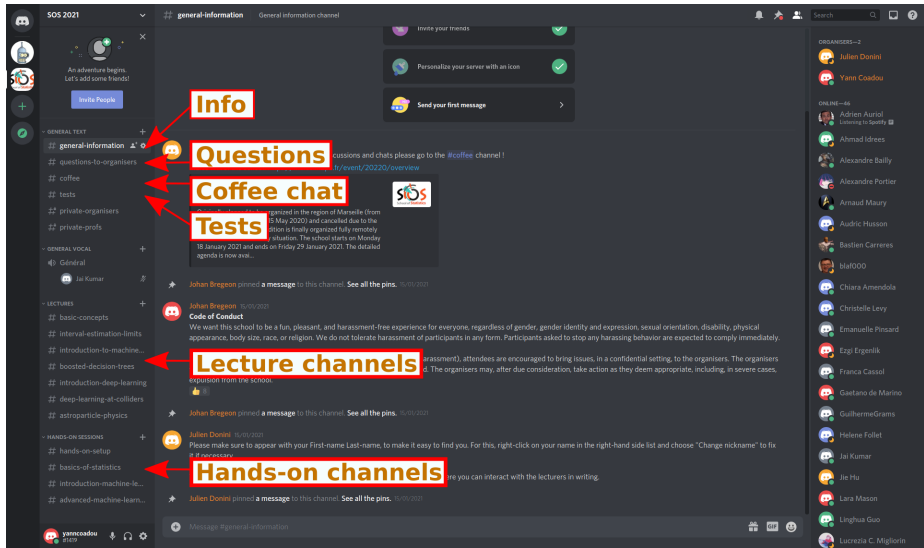
- Used for:
 - text questions about lectures
 - contacting organisers
 - informal exchange
- Check that your version is up-to-date prior to the meeting
- Set nickname to your full name
- Pick appropriate channel

Hands-on sessions

- Organisers cannot help you with your setup during the session
⇒ follow [▶ instructions](#) before Wednesday

Miscellaneous

- [▶ Code of conduct](#) Zero-tolerance for any kind of discrimination or harassment
- Certificate of attendance: will use Zoom statistics



The screenshot shows the SOS2021 Discord server interface. Red arrows point to the following elements:

- Info**: Points to the top of the #general-information channel.
- Questions**: Points to the #questions-to-organisers channel.
- Coffee chat**: Points to the #coffee channel.
- Tests**: Points to the #tests channel.
- Lecture channels**: Points to the #introduction-to-machine-learning channel.
- Hands-on channels**: Points to the #hands-on-setup channel.

Key messages in the #general-information channel include:

- A pinned message from Johan Bregeon about the school's cancellation and rescheduling.
- A pinned message from Johan Bregeon about the Code of Conduct.
- A pinned message from Julien Donini about the importance of using the right name in the right-hand side list.

The right-hand side list shows the following members:

- ORGANISERS—2: Julien Donini, Yann Coadou
- ONLINE—64: Adrien Auriol, Ahmad Idrees, Alexandre Bailly, Alexandre Portier, Arnaud Maury, Audric Hussion, Bastien Carreres, blaFOOD, Chiara Amendola, Christelle Levy, Emanoelle Pinsard, Ezgi Ergenlik, Franca Cassol, Gaetano de Marino, Guilherme Grams, Helene Follet, Jai Kumar, Jie Hu, Lara Mason, Linghua Guo, Lucrezia C. Migliorin



Enjoy the school!

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