



MASTER 2nd year

2021-2022



M2MO Random modeling, Finance & Data science

Course 1: statistics & random modeling in finance

Course 2: Data Science



FUNDAMENTAL COURSES

S. Péché	Stochastic calculus and diffusion models	M. Merle	Markov Chains
S. Delattre	Basics of Data modeling and statistical inference	S. Gaiffas, A. Fisher	Introduction to Machine learning

GROUP QUANTITATIVE FINANCE		GROUP DATA SCIENCE	
S. Crépey	Derivatives modeling	S. Cléménçon, E. Chautru	Statistical learning
B. Bruder	Financial products	G. Garrigos	Optimization for learning
H. Pham, S. Scotti	Stochastic control in finance	K. Tribouley	Data science projects: use cases for CRM
O. Guéant	Algorithmic trading	M. Abdel-Sayed, L. Massoulard	Data science and statistics of industry
B. Bruder	Quantitative assets management	S. Boucheron	Methods for large data sets
S. Crépey	Quant analysis	F. Rossi	Graphical models for machine learning
Z. Grbac	Advanced modeling in interest rate	J. Lussange	Introduction to reinforcement learning
M.C. Quenez	Nonlinear methods in finance	S. Gaiffas	Deep learning
R. Aid, P. Gruet	Energy markets	GROUP STATISTICS AND MACHINE LEARNING IN FINANCE	
GROUP RISKS IN FINANCE		J.M. Bardet	Financial time series
S. Scotti, A. El Alami	Risks: regulation, measure and management	A. Gloter	Statistics of diffusion
J.D. Fermanian	Copulas and financial applications	J.Y. Audibert	Prediction and sequential investments
P. Tankov, O. Zerbib	Green finance	E. Löcherbach	Point processes and applications in finance
GROUP NUMERICAL AND COMPUTATIONAL METHODS		H. Pham, J.D. Fermanian	Machine Learning for finance
N. Frikha	Monte Carlo methods	GROUP COMPUTER SCIENCE	
Y. Achdou, O. Bokanowski	PDE and numerical methods	O. Carton	C++
J.F. Chassagneux	Advanced probabilistic numerical methods in finance	S. Souchet	Software in statistics

REQUIRED LEVEL: Master 1 with strong mathematical background, Engineering school

DIRECTORS: Jean-François CHASSAGNEUX, Huyêñ PHAM (Université de Paris), Eva LOCHERBACH (Paris 1)

WEBSITE: <https://masterfinance.math.univ-paris-diderot.fr>

REGISTRATION: website E-Candidat, <https://ecandidat.app.u-paris.fr/sciences1/>

