



Pierre-Yves LOUIS

Resume

*Professeur des universités
in Mathematics (Stochastics, Statistics & Data analysis)
Institut Agro | Université Bourgogne Europe*

Personal details

50 years old; male; one child; French citizenship

Positions

- since sept. **University Professor**, *Institut Agro, Université Bourgogne Europe, INRAE, UMR PAM 1517*,
2020 researcher associated to Institut Mathématiques de Bourgogne, UMR 5584 CNRS-UBE,
affiliated to French ministry for Higher Education and Research.
- 2009–20 **Ass. Professor**, *Université de Poitiers (France)*.
Maître de conférences, *hors classe* Sept. 2018–August 2020
- 2012–14 **Visiting research fellow**, *Eurandom–TU Eindhoven, Univ. Utrecht (The Netherlands)*.
- 2003–09 **Assistant Professor**, *Universität Potsdam, Potsdam (Germany)*.
Wissenschaftlicher Mitarbeiter
- 2002–03 **Post-Doctoral Researcher**, *DFG-Graduiertenkolleg, Technische Universität Berlin*.
- 1999–2002 **PhD candidates with teaching duties**, *Politecnico di Milano (Italy) & Univ. Lille I (France)*.

Research interests

- probability theory and applied probability, systems of interacting stochastic processes, stochastic algorithms, stochastic simulations and modelling, probabilistic cellular automata, statistical mechanics, phase transition, reinforcement/learning algorithms, mean field, collective phenomenon
- computational statistics and data analysis, data mining and stat. modelling, Monte Carlo methods, networks, data science, clustering, text mining
- **interactions with** Life sciences, Biology & Medicine, Cognitive sciences, Computer Sciences, Physics, Human Sciences, Food and Wine sciences, Agroecology

Département Sciences de l'Ingénieur et des Procédés
Institut Agro Dijon, 26, bd Dr Petitjean, 21079 Dijon Cedex FRANCE

☎ +33 (0) 674007022

✉ pierre-yves.louis@math.cnrs.fr, pierre-yves.louis@institut-agro.fr, pierre-yves.louis@ube.fr

🌐 <http://pylouis.perso.math.cnrs.fr/>

Education and Qualifications

Université de Poitiers	Habilitation à diriger des recherches	2014
Politecnico di Milano (I)/ Univ. Lille I (F)	PhD Mathematics (Probability)	2002
Université Lille I (F)	Master Pure Mathematics (Dynamical Systems)	1998
	<i>Agrégation</i> Mathematics	1998
Université Lille I (F)	Master Physics	1998
Université Lille I (F)	Bachelor Mathematics	1996
Université Lille I (F)	Bachelor Physics	1996

Refereed Publications in Scientific Journals

- 2025 • **Erratum to: Statistical test for an urn model with random multidrawing and random addition**, I. Crimaldi, P.-Y. Louis, and I. Minelli, *Stochastic Processes and their Applications*, 179. doi: 10.1016/j.spa.2024.104495
- 2024 • **Exploring the effect of the menstrual cycle or oral contraception on elite athletes? training responses when workload is not objectively quantifiable: the MILS approach and findings from female Olympians**, Q. de Laroche Lambert, I. Hamri, T. Chassard, A. Meignié, Florent Storme, Marine Dupuit, A. Diry, J.-F. Toussaint, P.-Y. Louis, N. Coulmy and J. da Silva Antero, *BMJ Open Sport and Exercise Medicine*, 10 (2) doi: 10.1136/bmjsem-2023-001810
- 2023 • **Interacting non-linear reinforced stochastic processes: Synchronization and no-synchronization**, I. Crimaldi, P.-Y. Louis, and I. Minelli, *Advances in Applied Probability*, 55. doi: 10.1017/apr.2022.18
- **Statistical test for an urn model with random multidrawing and random addition**, I. Crimaldi, P.-Y. Louis, and I. Minelli, *Stochastic Processes and their Applications*, 158:342–360. doi: 10.1016/j.spa.2022.12.012
- **Potential estimation model in French alpine skiing - Individual evolution curve and progression typology**, Q. De laroche Lambert, K. Barlier, I. Hamri, A. Difernand, A. Sedeaud, J.-F. Toussaint, J. Antero, P.-Y. Louis, and N. Coulmy, *Frontiers in Physiology*, 13:1082072. doi: 10.3389/fphys.2022.1082072
- **Mixture of longitudinal factor analyzers and their application to the assessment of chronic pain**, A. Ounajim, Y. Slaoui, P.-Y. Louis, M. Billot, D. Frasca, and P. Rigoard, *Statistics in Medicine*, 42:3259–3282. doi: 10.1002/sim.9804
- **Un indice de réponse clinique multidimensionnel pour améliorer l'évaluation de la douleur chez les patients souffrant d'un syndrome de douleur rachidienne persistante après une chirurgie rachidienne, une étude multicentrique prospective en vie réelle**, P. Rigoard, A. Ounajim, L. Goudman, P.-Y. Louis, Y. Slaoui, M. Roulaud, N. Naiditch, B. Bouche, P. Page, B. Lorgeux, S. Baron, K. Nivole, M. Many, N. Adjali, E. Charrier, L. Poupin, D. Rannou, G. De montgazon, B. Roy-Moreau, N. Grimaud, R. David, C. Wood, R. Rigoard, M. Moens, and M. Billot, *Kinésithérapie, la Revue*, 23:4–5. doi: 10.1016/j.kine.2022.12.007
- 2022 • **An urn model with random multiple drawing and random addition**, I. Crimaldi, P.-Y. Louis, and I. Minelli, *Stochastic Processes and their Applications*, 147:270–299. doi: 10.1016/j.spa.2022.01.014
- **Relative age effect in french alpine skiing: Problem and solution**, Q. De laroche Lambert, A. Difernand, J. Antero, A. Sedeaud, J.-F. Toussaint, P.-Y. Louis, and N. Coulmy, *Journal of Sports Sciences*, 40:1137–1148. doi: 10.1080/02640414.2022.2052428

Département Sciences de l'Ingénieur et des Procédés
Institut Agro Dijon, 26, bd Dr Petitjean, 21079 Dijon Cedex FRANCE

☎ +33 (0) 674007022

✉ pierre-yves.louis@math.cnrs.fr, pierre-yves.louis@institut-agro.fr, pierre-yves.louis@ube.fr

🌐 <http://pylouis.perso.math.cnrs.fr/>

- 2021 • **Machine learning algorithms provide greater prediction of response to scs than lead screening trial: A predictive ai-based multicenter study,**
A. Ounajim, M. Billot, L. Goudman, P.-Y. Louis, Y. Slaoui, M. Roulaud, B. Bouche, P. Page, B. Lorgeoux, S. Baron, N. Adjali, K. Nivole, N. Naiditch, C. Wood, R. Rigoard, R. David, M. Moens, and P. Rigoard, *Journal of Clinical Medicine*, 10:4764. doi: 10.3390/jcm10204764
- **Finite mixture models based on pain intensity, functional disability and psychological distress composite assessment allow identification of two distinct classes of persistent spinal pain syndrome after surgery patients related to their quality of life,**
A. Ounajim, M. Billot, P.-Y. Louis, Y. Slaoui, D. Frasca, L. Goudman, M. Roulaud, N. Naiditch, B. Lorgeoux, S. Baron, K. Nivole, M. Many, N. Adjali, P. Page, B. Bouche, E. Charrier, L. Poupin, D. Rannou, G. B. De montgazon, B. Roy-Moreau, C. Wood, R. Rigoard, R. David, M. Moens, and P. Rigoard, *Journal of Clinical Medicine*, 10:4676. doi: 10.3390/jcm10204676
- **A novel multi-dimensional clinical response index dedicated to improving global assessment of pain in patients with persistent spinal pain syndrome after spinal surgery, based on a real-life prospective multicentric study (prediback) and machine learning,**
P. Rigoard, A. Ounajim, L. Goudman, P.-Y. Louis, Y. Slaoui, M. Roulaud, N. Naiditch, B. Bouche, P. Page, B. Lorgeoux, S. Baron, E. Charrier, L. Poupin, D. Rannou, G. B. De montgazon, B. Roy-Moreau, N. Grimaud, N. Adjali, K. Nivole, M. Many, R. David, C. Wood, R. Rigoard, M. Moens, and M. Billot, *Journal of Clinical Medicine*, 10:4910. doi: 10.3390/jcm10214910
- 2020 • **Estimation in a binomial stochastic blockmodel for a Weighted Graph by a Variational Expectation Maximization Algorithm,**
A. El haj, Y. Slaoui, P.-Y. Louis, and Z. Khraibani, *Communications in Statistics - Simulation and Computation*. doi: 10.1080/03610918.2020.1743858
- 2019 • **Synchronization and functional central limit theorems for interacting reinforced random walks,**
I. Crimaldi, P. Dai Pra, P.-Y. Louis, and I. Minelli, *Stochastic Processes and their Applications*, 129:70–101. doi: 10.1016/j.spa.2018.02.012
- **Is-ClusterMPP: clustering algorithm through point processes and influence space towards high-dimensional data,**
K. Henni, P.-Y. Louis, B. Vannier, and A. Moussa, *Advances in Data Analysis and Classification*. doi: 10.1007/s11634-019-00379-2
- 2018 • **On the morphometric identity of populations of *Helicotylenchus pseudorobustus* (Steiner, 1914) Golden, 1956 (Tylenchida: Hoplolaimidae),**
R. Fortuner, P.-Y. Louis, and D. Geniet, *Nematology*, 20. doi: 10.1163/15685411-00003148
- 2015 • **Probabilistic Cellular Automata. At a Crossroads between stochastic processes and statistical physics,**
P.-Y. Louis, *Revue des Sciences et Technologies de l'Information - Série TSI : Technique et Science Informatiques*. doi: 10.3166/TSI.34.431-461
- **Supercritical probabilistic cellular automata: how effective is the synchronous updating?,**
P.-Y. Louis, *Natural Computing*. doi: 10.1007/s11047-015-9522-5
- 2014 • **Effect of self-interaction on the phase diagram of a Gibbs-like measure derived by a reversible Probabilistic Cellular Automata,**
E. N. M. Cirillo, P.-Y. Louis, W. M. Ruszel, and C. Spitoni, *Chaos, Solitons & Fractals*. doi: 10.1016/j.chaos.2013.12.001
- **Synchronization via interacting reinforcement,**
P. Dai Pra, P.-Y. Louis, and I. Minelli, *Journal of Applied Probability*. doi: 10.1239/jap/1402578643

- 2010 • **Realizable monotonicity for continuous-time Markov processes**,
P. Dai Pra, P.-Y. Louis, and I. Minelli, *Stochastic Processes and their Applications*, 120:959–982. doi: 10.1016/j.spa.2010.03.002
- 2006 • **Monotonicity and complete monotonicity for continuous-time Markov chains**,
P. Dai Pra, P.-Y. Louis, and I. Minelli, *Comptes Rendus Mathématique*. doi: 10.1016/j.crma.2006.04.007
- 2005 • **Increasing coupling of probabilistic cellular automata**,
P.-Y. Louis, *Statistics and Probability Letters*. doi: 10.1016/j.spl.2005.04.021
- 2004 • **Ergodicity of pca: Equivalence between spatial and temporal mixing conditions**,
P.-Y. Louis, *Electronic Communications in Probability*. doi: 10.1214/ECP.v9-1116
- 2002 • **Stationary measures and phase transition for a class of probabilistic cellular automata**,
P. Dai Pra, P.-Y. Louis, and S. Roelly, *ESAIM: Probability and Statistics*, 6:89–104. doi: 10.1051/ps:2002004

Other Refereed Scientific Publications

- *HOX, Mathematics for smart meals*, success story AMIES, sept.2020, entreprise WUJI and co/My Chef is Smart https://www.agence-maths-entreprises.fr/public/docs/success-stories/wuji_successstory.pdf
- *Contributions à l'étude de modèles stochastiques pour des grands systèmes en interaction : synchronisme, synchronisation et autres phénomènes collectifs*, Habilitation Thesis, University of Poitiers, Nov. 2014
- *Automates Cellulaires Probabilistes : mesures stationnaires, mesures de Gibbs associées et ergodicité*, PhD Thesis, 2002, cotutelle Université Lille I (F) & Politecnico di Milano (I)

Book Editor

- *Probabilistic Cellular Automata, Theory, Applications and Future Perspectives*
contributed volume, **main editor**, edition with F. Nardi, R. Fernandez, E. Cirillo, R. Merks, N. Fatès, C. Spitoni, W. Ruzsel, publisher : Springer, 20 chapters, 32 authors, 304 pp. 2018. isbn 978-3-319-65556-7

Books' Chapters

- *Efficient Simulation of Fluids* (with P. Thuillier Le Gac, E. Darles and Lilian Aveneau) in *Seismic Waves - Probing Earth System*, ISBN 978-1-78985-328-5
- *Une mobilité d'une extraordinaire singularité : les mineur(e)s de l'Afrique subsaharienne aux rives sud de la Méditerranée*, (with N. Robin, Univ. Poitiers, Migrinter UMR 7301 & IRD & INED), in M. Hily, E. Ma Mung et Y. Scioldo-Zürcher dir., *Essai d'épistémologie collective, Étudier les migrations internationales*, Presses universitaires François Rabelais, pp.87–115, 2019, 978-2-86906-695-3.
- *Overview: PCA models and issues*
with R. Fernández and F. Nardi, Introductory chapter of the book *Probabilistic Cellular Automata, Theory, Applications and Future perspectives*, isbn 978-3-319-65556-7, 2018
- *Synchronization in Interacting Reinforced Stochastic Processes*
with I. Minelli, Chapter of the book *Probabilistic Cellular Automata, Theory, Applications and Future perspectives*, isbn 978-3-319-65556-7, 2018

Conference Posters

- *Systems of interacting stoch. processes : local versus global reinforcement schemes*, with M. Mirebrahimi (U. Poitiers, PhD) for the meeting *Stochastic Dynamics out of Equilibrium*, March 2017, CIRM, Marseille, France and Sept. 2017 Pisa, Italy

Département Sciences de l'Ingénieur et des Procédés
Institut Agro Dijon, 26, bd Dr Petitjean, 21079 Dijon Cedex FRANCE

☎ +33 (0) 674007022

✉ pierre-yves.louis@math.cnrs.fr, pierre-yves.louis@institut-agro.fr, pierre-yves.louis@ube.fr

🌐 <http://pylouis.perso.math.cnrs.fr/>

- *Cluster Variation Method for a PCA related many-body potential*, with E. Cirillo (U. Roma: La Sapienza), C. Spitoni (U. Utrecht), W. Ruszel (TU Delft), for the meeting *Interacting Particle Systems and Related Topics*, August 27th – 31th, 2012, Villa Finaly, Florence, Italy

Communications

- 24 communications at international conferences (France, Armenia, Italy, Germany, Argentina, Austria, Belgium, The Netherlands), as for instance:
 - *Is-ClusterMPP: clustering algorithm through point processes and influence space towards high-dimensional data*, European Meeting of Statisticians (EMS), Palermo, Italy, 2019
 - *Synchronization in interacting stochastic systems with individual and collective reinforcement*, session Stochastic models for opinion dynamics, Second Italian Meeting on Probability and Mathematical Statistics, Italy, 2019
 - *Interacting non-linear reinforced stochastic processes: synchronization or no-synchronization*, AMASES, session **Agent-based models and social interactions**, September 13-18, 2021 ? ?Distributed? Remote Mode
- 84 talks in regular seminars in France, Italy, Germany, Belgium, The Netherlands.

Supervision in progress

- **Supervision of the post-doc** of R. Demelle, 2024-25, in collaboration with S. Boissière (LMA Poitiers) (research project MOD-STO4FOOD, ANER, BFC)

Supervision

- **Supervision of the PhD Thesis** of F. Hyvrier, starts 1.12.2021, ended 30.11.2024 without defence due to medical reasons, in collaboration with L. Dujourdy (Institut Agro Dijon) and L. Journaux (Institut Agro Dijon) (research project *IA4stresslife*, Institut Agro Dijon & MAA, collab with J.-M. Perrier-Cornet)
 - **Supervision of the PhD Thesis** of T. Carrel, in collaboration with S. Boissière (LMA UMR 7348) and C. Richard (abc company), starts sept. 2021, CIFRE, defended July 2024
 - **Supervision of the PhD Thesis** of Q. Delarochelambert, in collaboration with N. Coulmy (Fédération Française de Ski) and J. Antero-Jacquemin (IRMES), starts 1.1.2021, CIFRE, defended Decembre 2023
 - **Supervision of the PhD Thesis** of A. Ounajim, 1.1.2017–24.6.2022, in collaboration with Y. Slaoui (math) and Ph. Rigoard, D. Frasca (Poitiers University Medical Center)
 - **Supervision of the post-doc** of A. El Haj, 2020-21, in collaboration with Y. Slaoui (LMA Poitiers) (research project eData, CPER Numeric, collab with C. Perret and N. Robin)
 - **Supervision of the post-doc**, B. Coupier, in collaboration with AMIES, Wuji & co company (2019)
 - **Supervision of the PhD Thesis** of A. El Haj, 1.12.2016–29.11.2019, in collaboration with Y. Slaoui and Z. Khraibani, Lebanese University
 - **Supervision of the PhD Thesis** of M. Mirebrahimi, 1.10.2015–5.9.2019, French State's research funding for PhD
 - supervision (100%) **master thesis** (*Diplomarbeit*) of P. Keller, Potsdam, Oct. 2008-March 2009 *Erzeugung gleichverteilter Stichproben von Lozenge-Teilungen mittels Kopplung von Markovketten* available in German at (link)
- and supervision of Master (42) and Bachelor (18) students, on theoretical as well as applied topics

Mathematics with Industry

- Collaboration with Wuji & Co, PEPS2, AMIES, 2018-19 (foodtech)
- Collaboration with Wuji & Co, Semaine Math-Entreprise, AMIES, 2018
- Prim'Innov collaboration with Sedna company (Chambre de commerce et d'industrie Poitou-Charentes)
- *Consulting report on multivariate statistical analysis and classification*, Sedna company (fishery, La Rochelle & Marseille), 8 pages, Confidential, 2013, agreement n° 783254
- Collaboration with Supersonic Imagine (2012, medical imaging)

Département Sciences de l'Ingénieur et des Procédés
Institut Agro Dijon, 26, bd Dr Petitjean, 21079 Dijon Cedex FRANCE

☎ +33 (0) 674007022

✉ pierre-yves.louis@math.cnrs.fr, pierre-yves.louis@institut-agro.fr, pierre-yves.louis@ube.fr

🌐 <http://pylouis.perso.math.cnrs.fr/>

Recent funded research projects, as PI

- ANER **DATA-MOD-STO4FOOD**, 2022, Région Bourgogne Franche-Comté
- **IA4stresslife**, Institut Agro Dijon, starts Dec. 2021
- **eData**, CPER Numeric, Région Nouvelle Aquitaine, starts 2020
- Fédération de recherche MIREs (2015–2020)

Interdisciplinary research collaborations

- Food and wine sciences, microbiology, Agroecology (Institut Agro Dijon)
- Computer sciences: LIAS, Xlim CNRS 7252 (Univ. Poitiers); LIB (Dijon)
- Medicine: Prismatics (CHU Poitiers), IRTOMIT INSERM 1082 CHU Poitiers; LabCom I3M
- Ecology: EBI, CNRS UMR 7267 (Univ. Poitiers)
- Cognitive sciences: CERCA, UMR 7295, Univ. Poitiers
- Human sciences: Migrinter (UMR 7301 CNRS, Univ. Poitiers)

Research and Higher Education Expertise at inter/national level

- associate editor of the scientific journal *Applied Mathematics in Science and Engineering* (Taylor Francis), since 2025
- Nominated Société française de Statistique (SFdS) board representative on the board of Société Mathématiques de France (SMF), since 2025
- Elected member universities' scientific national committee (**CNU**) (2023-2027, Prof. level)
- Elected member universities' scientific national committee (**CNU**) (2019-2023) (withdrawn since promoted professor in 2020)
- Elected member of the board of the applied mathematics scientific section (CNU 26), ex-officio member of the CP-CNU (2019-20)
- Elected member of the executive board of applied math French society (**SMAI**, 2018-2020 and 2020-23)
- Elected member universities' scientific national committee (**CNU**) (2015-19)

Refereeing activities

- Member of the Habilitation committee of L. Dujourdy, Institut Agro Dijon, Dec. 2022
- Member of the PhD committee of J. Begeot (Dir. P. Moyal and I. Marcovici), Univ. Lorraine, Dec. 2022
- Member of evaluation committee CNRS INSMI, RIPEC C3, Oct. 2022
- Member of the PhD committee of B. Kimura (Dir. W. Ruzel and F. Redig), TU Delft, Sept. 2019
- Member of the PhD committee of R. Mariani (Dir. B. Scoppola, P. Picco), Roma Tor Vergata, Dec. 2018
- Referee for the city of Paris, one expertise 2020
- Member of ESF College of External Reviewers, since 2018
- Referee for the MIUR (italian Ministry of Education, Universities and Research), since 2018
- Referee and Member of the PhD committee of J. Casse (Dir. J.-F. Mackert), Bordeaux, Nov. 2015
- Referee for the French national Research Agency ANR, 2013
- Member of the PhD Committee of P. Keller, Potsdam, Oct. 2012, *Mathematical Modelling of Molecular Motors* now post-doc in U. Edinburgh
- Referee for 3 *Diplomarbeit* (Master Thesis, Germany):
 - R. Murr, *Duality formula between brownian motion and random walk. Application to Donsker's principle*, 2008;
 - M. Anders, *Martingale, Amarts and the strong law of large numbers*, 2009;
 - S. Siegert, *The Saint-Petersburg paradox*, 2010.
- Referee for scientific journals *Annals of Applied Probability*, *Bernoulli*, *Electronic Journal of Probability*, *ALEA*, *Journal of Statistical Physics*, *Markov Processes and Related Fields*, *Theoretical Computer Science*, *Lecture Notes in Computer Science*, *Natural Computing*, *Journal of Computational Science*

Département Sciences de l'Ingénieur et des Procédés
Institut Agro Dijon, 26, bd Dr Petitjean, 21079 Dijon Cedex FRANCE

☎ +33 (0) 674007022

✉ pierre-yves.louis@math.cnrs.fr, pierre-yves.louis@institut-agro.fr, pierre-yves.louis@ube.fr

🌐 <http://pylouis.perso.math.cnrs.fr/>

Hiring committee

- member of the appointment committee for a tenure-track assistant professor (MCF) of Math/Statistics at Institut Agro Dijon, 2024
- member of the appointment committee for a tenure-track assistant professor (MCF) of Probability at the Univ. Poitiers, 2019
- member of the appointment committee for a tenure-track assistant professor of Statistics & probability (MCF) at the Univ. Poitiers, 2014
- member of the appointment committee for a tenure-track assistant professor of Statistics (MCF) at the Univ. Poitiers, 2011
- member of the appointment committee for a tenure-track full professor (W3, PR) of Statistics at the Univ. Potsdam, 2009

Local responsibilities

- Elected member of the **MENSR committee**, Institut Agro Dijon, since 2024
- Elected member of the **teaching committee**, Institut Agro Dijon, since 2024
- Member of the board of the Numeric part of the scientific strategic plan of *Institut Agro*, 2021
- Member of the **research committee** of the academic senate and,
- Member of the **studies commission** of the academic senate, Université Bourgogne Franche Comté, 2020–24
- Elected member of the **academic senate**, Université Bourgogne Franche Comté, 2020–24
- Member of the scientific board of the CPER *Numeric* (state/region scientific dvpt programm), since 2019
- Appointed as representative of the University of Poitiers in the WG STEM, Coïmbra Group, 2018, delegate at the general assembly of CG
- Member of the International Affairs committee of the Academic Senate of Poitiers University, since 2018
- Elected member LMA math research lab's (UMR 7348 CNRS) advisory board since 2016
- since Sept. 2016, jointly with Y. Slaoui, in charge of the seminar of the *probability, statistics and applications* research team (LMA)
ical : http://rech-math.sp2mi.univ-poitiers.fr/seminaires/sem_prs.ics
- since Sept. 2016, international relations coordinator and representative of the LMA math research dpt.
- Member of the board for appointing PhD candidates with national funding, doctoral school Poitiers, 2015 and 2016
- Elected member LMA research lab's expert scientific board, 2014–17 (in charge of PhD, Habilitations, invitations, promotions)
- 2010–20, in charge of the scientific communication and dissemination of the math research institute UMR 7348 Univ. Poitiers–CNRS
- jointly organising the probability seminars at the Univ. of Potsdam, 2007–09
- appointed member of the Advisory Board of Lille's University Institute for Lecturers Training (CIES Nord/Pas-de-Calais) 2000–01

Teaching main responsibilities

- **in charge of creating a new major data & numerics** for last year of engineer training (~ 2nd year of master, end of higher studies), start Sept. 2022, Institut Agro Dijon <https://institut-agro-dijon.fr/formations/data-et-numerique-pour-lagriculture-et-lalimentation>
- in relationship, creating a network of academic and non-academic partners
- member of the teaching staff math/statistics/computer science, Engineering and food process dpt, Institut Agro Dijon
- member of the teaching staff of the *Master Mathématiques fondamentales et applications*, Poitiers, 2018–20 and of the *Master Statistique et Données du Vivant*, Poitiers, 2014–20 (master math program co-created in 2014)
- member of the teaching staff of the *Licence de Mathématiques*, Poitiers, since 2014
- member of the teaching staff of the *Master Modélisation Mathématique et Analyse Statistique*, Poitiers, 2009–2014 (program created in 2008)

Département Sciences de l'Ingénieur et des Procédés
Institut Agro Dijon, 26, bd Dr Petitjean, 21079 Dijon Cedex FRANCE

☎ +33 (0) 674007022

✉ pierre-yves.louis@math.cnrs.fr, pierre-yves.louis@institut-agro.fr, pierre-yves.louis@ube.fr

🌐 <http://pylouis.perso.math.cnrs.fr/>

- associate member of the biology/health and bio-engineering sciences dpt. (Univ. Poitiers) since 2010 in charge of the statistics lecture shared by 8 master program tracks

Invited Lectures

- *Cellular automata, random structures and art*, in ARC (Ateliers de Recherche et de Création) *Modus operandi – Sérendipité & protocoles*, ENSA Dijon, Jan. 2021
- *Graphical Models and Dynamic Networks*, Master Smart Data, ENSAI, data science engineer school, France, Fall 2019 (in English)
- École doctorale SISMI, Poitiers, *Algorithmes stochastiques* (in French), June 2018
- Nijmegen (The Netherlands), Lecture on *Theory and applications of branching processes*, November 2011, funded by Erasmus European Program (in English)
- École Doctorale Biosanté, Limoges/Poitiers/La Rochelle, Lecture on *Statistical analysis for microarray datasets* (in French), Mai 2010
- *El Instituto de Cibernética, Matemática y Física*, la Havana (Cuba), 24th March-9th April 2009, lecture on *Markov chains, stochastic algorithms and optimisation* (in English), funding by german DAAD

Teaching Topics

- Dijon, France Lectures and practicals in math and stat/data science, *statistical modelling, geostatistics, temporal series, sensory analysis, multivariate data analysis, basic stat, fundamental maths*, Institut Agro Dijon : Engineer school in agronomy and food & wine sciences, Masters and Undergraduates levels
- Poitiers, France Lectures, exercises and practicals (Scilab/R/SAS) of Probability, Stochastic modelling, Stochastic algorithms, (Multivariate) Statistics, Data analysis, linear model, R Programming; Audience: master math students as well as biological engineering, bioinformatics, clinical trials and medicine students (Bachelor, Master level); English for math; Tutor for 1st and 2nd year students, matrix calculus
- Potsdam, Germany Lectures, exercises and seminars on several topics of the probability theory (Bachelor, Master and PhD level) for math/physics/computer science students and future teachers (use of Moodle for E-Learning, conception and realisation of notes, correction of weekly students' homework)
Keywords: probability, statistics, stochastic analysis, stoch. models, stoch. processes, stoch. simulation
- Lille, France Lectures and exercises on general mathematics (Bachelor level) for biology, engineer, physics students

Languages

- French native language
- English fluent, working knowledge
- German fluent, working knowledge
- Italian fluent, working knowledge
- Dutch good basics
- Russian basics

certificate Goethe-Institut ZOP,
Ludwig-Maximilian-Universität zu München, KDS, 2006

certificate Goethe-Institut Amsterdam 2013

Computer Skills

- Programming: Mathematica, Matlab, Python, Scilab, cddplus, GAP
- Computational statistics: statistical programming languages R and SAS, Markdown
- Cytoscape, gephi, natural language processing/text mining
- OS: Expert user on Windows and Linux

Département Sciences de l'Ingénieur et des Procédés
Institut Agro Dijon, 26, bd Dr Petitjean, 21079 Dijon Cedex FRANCE

+33 (0) 674007022

✉ pierre-yves.louis@math.cnrs.fr, pierre-yves.louis@institut-agro.fr, pierre-yves.louis@ube.fr

🌐 <http://pylouis.perso.math.cnrs.fr/>

- Moodle advanced user

Raising Public Awareness in Mathematics/STEM

- *Journées des mathématiques pures et appliquées Sofia Kovalevskaja*, exposé et jury, Feb. 2025, lycée L. Blum, le Creusot
- *80 ans CNRS à Poitiers*, conferences series, participation to org. 2019
- *Promoting STEM towards pupils, students and society*, workshop organized, Espace Mendès France, Poitiers, December, 13th, 2018
- *La statistique à l'ère des big data*, Article for the CNRS magazine *Microscop*, 2015, (link)
- *Dans le secret des urnes*, Article for the CNRS magazine *Microscop*, 2014, (link)
- Fête de la Science, Poitiers (2009, 2011, 2012, 2013, 2015, 2018)
- Contribution to the German year of Mathematics in Potsdam, Potsdam 2008
- UNESCO International year of Mathematics in Lille, Lille 2000

Professional Memberships

Société mathématique de France, Bernoulli Society, Société de Mathématiques Appliquées et Industrielles, Société française de Statistique, European Society for Mathematical and Theoretical Biology, DMV-Fachgruppe Stochastik, Deutscher Hochschulverband, Unione Mathematica Italiana

Département Sciences de l'Ingénieur et des Procédés
 Institut Agro Dijon, 26, bd Dr Petitjean, 21079 Dijon Cedex FRANCE

☎ +33 (0) 674007022

✉ pierre-yves.louis@math.cnrs.fr, pierre-yves.louis@institut-agro.fr, pierre-yves.louis@ube.fr

🌐 <http://pylouis.perso.math.cnrs.fr/>