PERRILLAT-MERCEROT ANGÉLIQUE

Modeling Research Fellow & Scientific Dissemination Technical Leader

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WORK EXPERIENCE

Modeling Research Fellow
& Scientific Dissemination Technical Leader
Novadiscovery

📅 Nov. 2020 – Ongoing   ⚲ Lyon (France)

- Biomodeler
  - Developement of an ODE model toward neoangiogenesis from literature review to calibration. integration of the model in a lung cancer collaborative approach (12 biomodelers)
  - Project manager of a knowledge-based model credibility evaluation
- Leader in scientific dissemination and management intermediary
  - Definition, implementation and monitoring of actions in accordance with the company roadmap and reported needs. Alignment of the actions for coherency purposes. Set up and update of tracking files and storage
  - Set up and maintain the organization and animation of internal events (up to 90 participants)
  - Facilitator for exposure and knowledge sharing actions
  - Member of the IUB for the knowledge module of Jinko
- Vocational Trainings
  - Scientific publication and copyright, URFIST Paris, remote - June 2023
  - Leadership training week, SIS-UP, Lyon - April 2022

Research engineer, post-doctoral researcher
Laboratory I3M (CNRS-UP-CHU-SIEMENS)

📅 Oct. 2019 – Nov. 2020   ⚲ Poitiers (France)

- Research thematic: Study of the cerebral energy metabolism through mathematical modeling
- Partnering with the STIM laboratory, ERL CNRS 7003
- Teaching contract 64h/year: Teaching assistant, University of Poitiers - Sept. 2019 to Sept. 2020.

EDUCATION

PhD in biomathematics
LMA laboratory, University of Poitiers

📅 Sept. 2016 – Oct. 2019   ⚲ Poitiers (France)

- "Study of models for energetic substrates kinetics".
  - Defended on 10/22/19
  - Supervisors: Miranville Alain and Guillevin Rémy.
  - Rapporteurs: Olivier Saut and Jean Noël-Vallée.
  - Examiners: Frédérique Clément, Jacques Demongeot, Jean-Pierre Françoise and Luc Pellerin.
  - Special guests: Nicolas Bourmeyster and Anne-Karine Bouzier-Sore.
- Representative of PhD students at "Ecole doctorale SISMI" from July 2017 to October 2019.

ABOUT ME

- 🧍 31-years old french & italian researcher
- 🧠 Agile critical-thinking and creative problem-solving
- ❤️ Inclusive leadership and operative organization

SKILLS

Applied Mathematics   Neurosciences
Modeling: ODE, PDE, DDE   Communication
In Silico Clinical Trial   Model credibility

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Linux   LaTeX   Google's suite   Matlab
R   Python   GitLab   Miro   Jinko

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Leadership   Management
Problem anticipation   Organization
Adaptability   Critical-Thinking
Problem-solving   Pro-activity

LANGUAGES

French
Native language.   ● ● ● ● ●

English
Excellent, CEF C1.   ● ● ● ● ◐

Italian
Excellent, CEF C1. CLES B2 Feb. 2019.   ● ● ● ● ◐

MISCELLANEOUS

- 🍕 **Not just half italian**
  Passion for the italian culture: extra classes in italian - 2013 – 2014
- 🐱 **Pet lover**
  Passion for pets: dog, cat and rodent owner (currently 3 cats and 2 fish)
- 🎮 **Online player**
  League of Legends

- Teaching contract 64h/year: Oral examinator and teaching assistant, University of Poitiers - Sept. 2016 to Sept. 2017.
- Vocational trainings
  - Summer School: Mathematical Biology on the Mediterranean Conference University of Aegean, Samos (Greece) - Sept. 2019
  - Summer School CEMRACS: Numerical and mathematical modeling for biological and medical applications: deterministic, probabilistic and statistical descriptions, Centre International de Rencontres Mathématiques (CIRM), Marseille (France) - Juil. 2018
  - Winter School: Méthodes Déterministes et Stochastiques en Neurosciences, Centre International de Mathématiques et d'Informatique (CIMI), Toulouse (France) - Dec. 2017
  - Doctoral trainings: Conduite de thèse, Team management, Teaching, University lecturing and pedagogie, and Spanish, University of Poitiers, Chasseneuil du Poitou (France)

Master in applied mathematics

University Claude Bernard

📅 Sept. 2014 – Sept. 2016   📍 Lyon (France)

- Specialization: mathematical applications in biology and medecine (probabilistic and deterministic models)
- Extra course: Numerical analysis and optimization
- Internship, Inria team Dracula, Lyon.
  - Contribution to the analysis of a mathematical model incorporating the role of prions in Alzheimer's disease.
  - Supervisors: Pujo-Menjouet Laurent, Tine Léon-Matar, Mazzocco Pauline, Rezaei Human.

REFEREES

Vice President of Science Emmanuel Pham
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PU-PH Chef de pôle adjoint Rémy GUILLEVIN
@ LMA laboratory UMR 7348, Hospital of Poitiers
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PU-PH Nicolas BOURMEYSTER
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PUBLICATIONS

April 2022	Perrillat-Mercerot A., Deliot N., Miranville A., Guillevin R., & Constantin B. (2022). *Mathematical Analysis of Membrane Transporters Dynamics: A Calcium Fluxes Case Study.* Acta Biotheoretica, 70(2), 1-32.
Jan. 2022	Palgen J. L., Perrillat-Mercerot A., Ceres N., Peyronnet E., Coudron M., Tixier E., Illigens B., Bosley J., L'Hostis A. & Monteiro C. (2022). *Integration of heterogeneous biological data in multiscale mechanistic model calibration: application to lung adenocarcinoma.* Acta biotheoretica, 70(3), 1-24.
Jan. 2021	Perrillat-Mercerot A., Miranville A., Agosti A., Rocca E., Ciarletta P., & Guillevin R. *Partial differential model of lactate neuro-energetics: analytic results and numerical simulations.* Mathematical Medicine and Biology: A Journal of the IMA.
Dec. 2019	Perrillat-Mercerot A., Guillevin C., Guillevin R. et Miranville A. (2019). *Using mathematics in MRI data management for glioma assesment*, Journal of Neuroradiology.
Nov. 2019	Perrillat-Mercerot A., Guillevin C., Guillevin R. and Miranville A. (2019). *What mathematical models can or cannot do in glioma description and understading*, Discrete & Continuous Dynamical Systems - S.
Aug. 2019	Perrillat-Mercerot A., Bourmeyster N., Guillevin C., Miranville A. and Guillevin R. (2019). *Analysis of a mathematical model for the glutamate/glutamine cycle.* Bulletin of Mathematical Biology, 81(10).
March 2019	Perrillat-Merceot A., Bourmeyster N., Guillevin C., Miranville, A., and Guillevin, R. (2019). *Mathematical Modeling of Substrates Fluxes and Tumor Growth in the Brain. Acta Biotheoretica*, 67(2), 149-175.
Aug. 2018	Helal, M., Igel-Egalon, A., Lakmeche, A., Mazzocco, P., Perrillat-Mercerot, A., Pujo-Menjouet, L., Rezaei H. & Tine, L. M. *Stability analysis of a steady state of a model describing Alzheimer's disease and interactions with prion proteins.* Journal of mathematical biology, 78(1), 57-81.
April 2018	Helal, M., Igel-Egalon, A., Lakmeche, A., Mazzocco, P., Perrillat-Mercerot, A., Pujo-Menjouet, L., Rezaei H. & Tine, L. M. (2018). *Stability analysis of a steady state of a model describing Alzheimer's disease and interactions with prion proteins*. Journal of Mathematical Biology, 78(1-2), 1-25.
Feb. 2018	Guillevin C., Guillevin, R., Miranville, A., and Perrillat-Mercerot, A. (2018). *Analysis of a mathematical model for brain lactate kinetics*. Mathematical Biosciences & Engineering, 15(5), 1225-1242. (alphabetical order)
Jan. 2017	Guillevin R., Miranville A. & Perrillat-Mercerot A. *On a reaction-diffusion system associated with brain lactate kinetics*. Electronic Journal of Differential Equations, 23 (2017), 1-16. (alphabetical order)

INTERNATIONAL TALKS

Sep. 2019	Perrillat-Mercerot A., Miranville A., Guillevin R. *Investigation on complex nutrient fluxes*, International Workshop Mathematical Biology on the Mediterranean Conference (MBMC), Samos (Greece)
May. 2019	Perrillat-Mercerot A, Miranville A, Guillevin R. *Substrate fluxes between cells and capillaries*, Workshop Recent advances in Phase-Field modeling: from Engineering to Biology, Pavia (Italy).
Jul. 2018	Guillevin C., Guillevin R., Miranville A. and Perrillat-Mercerot A. *What about lactate kinetic in a (gliomatous) brain ?*, Invited speaker for a special session at The 12th AIMS Conference on Dynamical Systems, Differential Equations and Applications, Taipei (Taiwan).

NATIONAL TALKS

Sept. 2020	Perrillat-Mercerot A., Miranville A., Guillevin R. *From MRS data to mathematical equations and back*, Internal presentation, Grenoble.
Mars 2020	Perrillat-Mercerot A., Miranville A., Guillevin R. *Modélisation et étude du métabolisme énergétique cérébral*, Internal presentation, Strasbourg.
June 2019	Perrillat-Mercerot A, Miranville A., Guillevin R. *Approche des flux de lactate cérébral, du 1D au 3D*, 39ème Colloque de la Société Francophone de Biologie Théorique, Poitiers (France).
June 2019	Perrillat-Mercerot A, Miranville A., Guillevin R. *Mathématiques et gliome, une histoire d'opération*, 39ème Colloque de la Société Francophone de Biologie Théorique, Poitiers (France).
June 2019	Perrillat-Mercerot A, Miranville A., Guillevin R. *Modèles mathématiques en neuro-onco imagerie*, Congrès annuel de l'Association de Neuro-OnCologues d'Expression Française, Poitiers (France).
May 2019	Perrillat-Mercerot A, Miranville A, Guillevin R. *How MRI and mathematics can get together*, Invited talker by the university of Pavia, Pavia (Italy).
Nov. 2018	Perrillat-Mercerot A, Miranville A, Guillevin R. *Quand les mathématiques usent d'opérations contre les gliomes*, Talk during the Forum Jeunes Mathématiciennes et Mathématiciens, Mathématiques et Sciences du Vivant, Orléans (France).
Nov. 2018	Perrillat-Mercerot A, Bourmeyster N., Guillevin C., Guillevin R. and Miranville A., *What about nutrient kinetic in a (gliomatous) brain ?*, Invited by the University of Pavia and Polytechnique of Milan for a laboratory collaboration, Pavia/Milan (Italy).
Sep. 2017	Guillevin C., Guillevin R., Miranville A., and Perrillat-Mercerot A. *Un modèle pour l'étude de la croissance tumorale*. Talk during the journée maths et cancer, Poitiers (France).
June 2017	Guillevin C., Guillevin R., Miranville A., and Perrillat-Mercerot A. *Modèle réduit pour la cinétique des lactates*. 37ème Colloque de la Société Francophone de Biologie Théorique, Poitiers (France). Rewarded by the Prix Delattre.

…and 5 posters and e-posters (detailed on my website)

MAKE MATHEMATICS ACCESSIBLE

2023	Mentoring for a M1 student in bio-informatics
2018 - 2019	Two publications of popularisation:
	▷ (cowritten with Paul Dequidt) *Des données biologiques aux modèles et inversement*, Website Image Des Mathématiques, session échos de la Recherche.
	▷ *En tête à tête*, Microscoop: magazine of the CNRS Centre Limousin Poitou-Charentes delegation, 78(2018), 14-15.
2017 - 2019	Organizing stand during annual national event of mathematical popularisation: Fêtes de la science and Nuit des chercheurs at Poitiers, Sept. Oct. 2017 - 2019
2018 - 2019	56h of volunteering, helping young students to prepare the bachelor's degree in mathematics
2017 - 2018	Interventions in schools and associations for young students: Femmes & Sciences (Montmorillon - March, April 2017), Nombredor (Chasseneuil du Poitou, April 2018), exchanges with 9 years old pupils (Saint-Agnès, June 2018)
March 2018	Coorganisation of the Maths-En-Jeans 2018 congress at Poitiers (700 participants).