

EQUIPE MATHÉMATIQUE, INFORMATIQUE ET D@TA SCIENCE MIDAS

PUBLICATIONS DE L'ÉQUIPE

2023

- **Dramane S.I. Kanté, Aissam Jebrane**, Anass Bouchnita, Abdelilah Hakim. Estimating the Risk of Contracting COVID-19 in Different Settings Using a Multiscale Transmission Dynamics Model. *Mathematics* 2023, 11, 254. <https://doi.org/10.3390/math11010254>
- **Dramane S.I. Kanté, Aissam Jebrane, Adnane Boukamel**, Abdelilah Hakim, A multiscale model to investigate the impact of the ventilation airflow type on the risk of contracting COVID-19 in a closed environment. *Proceeding of The 9th International Conference on Modeling, Simulation and Applied Optimization*, 2023 (accepté).
- **Dramane S.I. Kanté**, Abdelkarim Lamghari, **Aissam Jebrane, Adnane Boukamel**, Abdelilah Hakim, A crowd dynamics-based approach to estimate contact matrices for epidemiological models. *Frontiers in Science and Engineering*, (under review)
- **Yassine Lamghary, Aissam Jebrane, Adnane Boukamel**, 'An Emotional Contagion Model To Assess The Impact Of Factors Governing The Spread Of Panic In A Crowd' for ICMSAO'23 (accepté)
- **Dramane S.I. Kanté, Aissam Jebrane, Adnane Boukamel**, Abdelilah Hakim. Characterisation of superspreaders movement in a bidirectional corridor using a social force model. *Frontiers in Environmental Science*. (under review)

2022

- Ait Bella, F.Z., **El Rhabi, M.**, Hakim, A. et al. An innovative document image binarization approach driven by the non-local p-Laplacian. *EURASIP J. Adv. Signal Process.* 2022, 50 (2022). <https://doi.org/10.1186/s13634-022-00883-2>.
- EL Qate, K., **El Rhabi, M.**, Hakim, A. et al. Hyperspectral Image Completion Via Tensor Factorization with a Bi-regularization Term. *J Sign Process Syst* 94, 1545–1555 (2022). <https://doi.org/10.1007/s11265-022-01817-9>.

2021

- K. EL Qate, **M. El Rhabi**, A. Hakim, E. Moreau et N. Thirion-Moreau. «Primal-Dual algorithm for non-negative N-th order CP tensor decomposition : application to fluorescence spectroscopy data analysis». Accepted in *Multidimensional Systems and Signal Processing Journal* (dec 2021) .
- Thomas Filleron, Marine Bachelier, Julien Mazieres, Maurice Pérol, MD, Nicolas Meyer, Elodie Martin, Fanny Mathevet, **Jean-Yves Dauxois**, Raphael Porcher, Jean-Pierre Delord (2021). Assessment of Treatment Effects and Long-term Benefits in Immune Checkpoint Inhibitor Trials Using the Flexible Parametric Cure Model : A Systematic Review. *JAMA Netw Open* 4 (12) :e2139573. DOI :10.1001/jamanetworkopen.2021.39573.
- A. Bouchnita, A. Chekroun and **A. Jebrane**. « Mathematical Modeling Predicts That Strict Social Distancing Measures Would Be Needed to Shorten the Duration of Waves of COVID-19 Infections in Vietnam », *Frontiers in Public Health*, Vol. 8, 2021, pp 987-998, <https://www.frontiersin.org/article/10.3389/fpubh.2020.559693>, DOI=10.3389/fpubh.2020.559693, ISSN=2296-2565
- A. El Mousaoui, P. Argoul, **M. El Rhabi** et A. Hakim. «Kinetic BGK model for a crowd : Crowd characterized by a state of equilibrium». *Applications of Mathematics* 66, numéro 1 (2021), 145–176.
- I. El Mourabit, **M. El Rhabi** et A. Hakim. «Blind deconvolution using bilateral total variation regularization : a theoretical study and application». *Applicable Analysis* (mars 2021), 1–14.

2020

- Anass Bouchnita, **Aissam Jebrane**. « A multi-scale model quantifies the impact of limited movement of the population and mandatory wearing of face masks in containing the COVID-19 epidemic in Morocco », *Math. Model. Nat. Phenom.* 15 31 (2020). DOI: 10.1051/mmnp/2020016
- A. Bouchnita and **A. Jebrane**. « A hybrid multi-scale model of COVID-19 transmission dynamics to assess the potential of non-pharmaceutical interventions », *Chaos, Solitons & Fractals*, Volume 138, 2020, 109941, ISSN 0960-0779, <https://doi.org/10.1016/j.chaos.2020.109941>.
- A. C. Euloge Mouvoh, A. Bouchnita and **A. Jebrane**. "A contact-structured SEIR model to assess the impact of lockdown measures on the spread of COVID-19 in Morocco's population," 2020 IEEE 2nd International Conference on Electronics, Control, Optimization and Computer Science (ICECOCS), 2020, pp. 1-4, doi: 10.1109/ICECOCS50124.2020.9314462.
- F.-Z. Aït-Bella, **M. El Rhabi**, A. Hakim et A. Laghrib. «Analysis of the nonlocal wave propagation problem with volume constraints ». *Mathematical Modeling and Computing* 7, numéro 2 (2020), 334–344.
- A. Elmoussaoui, P. Argoul, **M. El Rhabi** et A. Hakim. «Kinetic BGK model for a crowd : crowd characterized by a state of equilibrium». *Applications of Mathematics* (05 2020).

2019

- Franck Delavoie, Vanessa Soldan, Dana Rinaldi, Dauxois Jean-Yves & Pierre-Emmanuel Gleizes (2019). The path of pre-ribosomes through the nuclear pore complex revealed by electron tomography. *Nature Communications*, Nature Publishing Group, 2019, 10 (1), DOI:10.1038/s41467-019-08342-7.
- **A. Jebrane**, P. Argoul, **M. El Rhabi** et A. Hakim. «A reformulation of the nonsmooth approaches of M. Frémond and J.J. Moreau for rigid body dynamics». *Math Meth Appl Sci.* 42 (2019), 2147–2168.
- **A. Jebrane**, P. Argoul, A. Hakim et **M. El Rhabi**. «Estimating contact forces and pressure in a dense crowd :Microscopic and macroscopic models». *Journal of Applied Mathematical Modelling* 74 (2019), 409–421.
- **Dauxois Jean-Yves**, Gasmi Sofiane & Gaudoin Olivier (2019). « Semiparametric Inference for an Extended Geometric Failure Rate Reduction Model ». *Journal of Statistical Planning and Inference*, 199, 14-28. DOI: 10.1016/j.jspi.2018.05.002.
- **Dauxois, Jean-Yves** & Maalouf, Eliane (2018). « Statistical inference in a model of imperfect maintenance with arithmetic reduction of intensity ». *IEEE Transactions on Reliability*, 67, 987-997. DOI: 10.1109/TR.2018.2828331.
- **Dauxois, Jean-Yves** & Nucit, A. (2018) « Some estimation problems in epidemic modeling ». *Communications in Statistics – Simulation and Computation*, 47:4, 1066-1087, DOI: 10.1080/03610918.2017.1307392.
- F. Z. Aït Bella, **M. El Rhabi**, A. Hakim et A. Laghrib. «Reduction of the non-uniform illumination using nonlocal variational models for document image analysis». *J. Franklin Institute* 355, numéro 16 (2018), 8225–8244.