André HARNIST

PhD student in Mathematics and modeling

University of Montpellier
IMAG laboratory
ACSIOM team

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Education

since 2018 — PhD in Mathematics and modeling — Montpellier, France
Title: *Hybrid High-Order methods for complex problems in fluid mechanics*
Topics: PDEs analysis, Numerical analysis, Fluid mechanics
Keywords: HHO methods, Navier–Stokes, Non-Newtonian fluids, Leray–Lions
Director: Daniele A. Di Pietro
Courses: Training to teach in higher education (82h)
XXI Louis Antoine Numerical Analysis day at Rennes

2016 – 2018 — Master's degree in Mathematics — Montpellier, France
MANU (Modelization and numerical analysis of PDEs), *with distinction « Très Bien »*

2013 – 2016 — Bachelor's degree in Mathematics — La Rochelle, France
Research option, *with distinction « Bien »*

2013 — Baccalaureate — Niort, France
STL (Laboratory Sciences and Technologies) option, *with distinction « Assez Bien »*

Publications

Dec 2020 — Improved error estimates for Hybrid High-Order discretizations of Leray-Lions problems
D. A. Di Pietro, J. Droniou, and A. Harnist
Calcolo, 2021 – Accepted for publication
HAL preprint hal-03049154
arXiv preprint 2012.05122

Mar 2020 — A Hybrid High-Order method for creeping flows of non-Newtonian fluids
M. Botti, D. Castanon Quiroz, D. A. Di Pietro, and A. Harnist
Submitted
HAL preprint hal-02519233
arXiv preprint 2003.13467

Presentations

Jul 2021	6th ECCOMAS Young Investigators Conference – Online talk *Improved error estimates for Hybrid High-Order discretizations of Leray-Lions problems*	Valencia Spain
Apr 2021	SERENA seminar – Online talk *Improved error estimates for Hybrid High-Order discretizations of Leray-Lions problems*	Paris France
Feb 2021	ANZIAM Annual Conference 2021 – Online talk *Improved error estimates for Hybrid High-Order discretizations of Leray-Lions problems*	Melbourne Australia
Jan 2021	Eccomas Congress 2020 & 14th WCCM – Online talk *A HHO method for creeping flows of non-Newtonian fluids*	Paris France
Sep 2020	Conference on Scientific Computing Algoritmy 2020 – Online talk *A HHO method for creeping flows of non-Newtonian fluids*	Podbanske Slovakia
Mar 2020	PhD students day at IMAG – Talk *A HHO method for creeping flows of non-Newtonian fluids*	Montpellier France
Jul 2019	Doctiss 2019 day at i2S – Poster, *1st price obtained* *A HHO method for creeping flows of non-Newtonian fluids*	Montpellier France
May 2019	POEMS 2019 conference at CIRM – Poster *A HHO method for creeping flows of non-Newtonian fluids*	Marseille France

Teaching

2020 – 2021	Mathematics of decision – 3rd year degree Person in charge (Lecture, Tutorial, Exam), 64h	Montpellier France
2019 – 2020	Analysis and algebra 2 (HLMA206Y) – 1st year degree Tutorial classes, 24h	Montpellier France
	Analysis and algebra 1 (HLMA101) – 1st year degree Tutorial classes, 42h	
2018 – 2019	Analysis and algebra 2 (HLMA206Y) – 1st year degree Tutorial classes, 42h	Montpellier France
	Numerical analysis (HLMA405) – 2nd year degree Tutorial classes, 10h	
	Introduction to scientific software (HLMA310) – 2nd year degree Tutorial classes, 12h	

Responsibilities

2021 – 2022 — Organization of a Mini-Symposium at the event WCCM XV – APCOM VIII — Yokohama, Japan
Missions include overseeing abstracts and papers submissions, partaking in the review process, notifying authors regarding the acceptance of their contributions, and distributing conference news to the authors.

2019 – 2021 — i2S doctoral school representative of PhD students in Mathematics and Biostatistics — Montpellier, France
Meetings at the i2S doctoral school with the aim of improving the quality of life and integration into the professional environment of PhD students, discussing the training offered on the i2S catalog, and other.

Other experiences

Mar 2018 — 6 months Internship in the IMAG laboratory — Montpellier, France
Hybrid-High Order method for creeping flows of power-law fluids
Supervised by Daniele A. Di Pietro

Mar 2016 — 5 weeks Internship in the MIA laboratory — La Rochelle, France
Modelization of the growth of tree leaves by the algorithm of Qinglan Xia
Supervised by Michel Berthier and Catherine Choquet

Programming skills

C++, FreeFem++
Java, Python
Matlab, Scilab
Latex
HTML, CSS, PHP, Javascript

Language skills

French native
English current

Hobbies

Running
Gardening
Chess

References

PhD director: Daniele A. Di Pietro

PhD monitoring committees: Vanessa Lleras (Domain Expert)
Matthieu Hillairet (IMAG representative)
Moulay Benameur (i2S representative)

Updated on May 5, 2021