

Christophe Zhang

*Postdoctoral researcher in applied
mathematics*

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Education

- 2016–2019 **PhD in applied mathematics.**
Laboratoire Jacques-Louis Lions, Sorbonne Université.
Internal control and stabilization of some 1D hyperbolic systems.
supervised by Jean-Michel Coron, thesis defended on October 25 2019.
- 2017–2018 **Master of public administration.**
Curriculum of the Corps des mines, École Nationale Supérieure des Mines de Paris.
- 2015–2016 **Master of Science - Mathematical modelling.**
Laboratoire Jacques-Louis Lions, Sorbonne Université
- 2015 **Accepted into the French Corps des mines.**
Special section of French public service.
- 2012–2015 **Engineering degree, pure and applied mathematics, theoretical physics.**
École polytechnique.

Research

- Since September 2021 **Guest researcher**, *INRIA Nancy Grand Est*, SPHINX team, Institut Élie Cartan de Lorraine.
Université de Lorraine
- 2020-2021 **Postdoctoral researcher**, *Friedrich-Alexander Universität Erlangen-Nürnberg*,
Chair for Applied Analysis, Alexander-von-Humboldt Professorship.
- 2016–2019 **PhD candidate**, *Laboratoire Jacques-Louis Lions*, Sorbonne Université.
- 2017 **Academic guest**, *Forschungsinstitut für Mathematik*, ETH Zürich.

Teaching

- 2020-2021 **Teaching assistant**, *FAU Erlangen Nürnberg*.
Mathematics for engineers (first year course).
Tutor and online support, *FAU Erlangen*, Transition Studies for Chemistry.
Basic statistics and calculus for future master students in chemistry.
- 2017 **Teaching assistant**, *ETH Zürich*.
Measure and integration (second year course).
- 2013-2015 **Oral examiner**, *Lycée Sainte-Geneviève, Versailles*, weekly oral examinations in
mathematics..
Intensive two-year program to prepare for competitive entrance exams to French engi-
neering schools.

Professional experience

Corporate

Nov - Sept 2015 - 2016 **Intern at la Grande Épicerie de Paris**, *Logistics*.
Designed the new logistical organization to prepare for the opening of a second outlet.

Volunteering

Spring 2020 **Shelter for unaccompanied minors**, *Chios, Greece*, volunteer for the NGO METAdrasi.
Caretaking, language and math lessons, daily activities with children.

August 2015 **Volunteer coordinator**, *Festival Musique et Patrimoine en Pays du Mont-Blanc*.
Artistic liaison, logistics.

Publications

Published in peer-reviewed journals

- [1] **Christophe Zhang**, *Internal controllability of systems of semilinear coupled one-dimensional wave equations with one control*, SIAM J. Control Optim. 56 no. 4 (2018) , 3092–3127.
<https://epubs.siam.org/doi/10.1137/17M1128885>
- [2] **Christophe Zhang**, *Finite-time internal stabilization of a linear 1-D transport equation*, Systems Control Lett. 133 (2019), 104529.
<https://www.sciencedirect.com/science/article/abs/pii/S0167691119301392?via%3Dihub>
- [3] **Christophe Zhang**, *Internal rapid stabilization of a 1-D linear transport equation with a scalar feedback*, Mathematical Control & Related Fields, 2156-8472_2021006 (2021)..
<https://www.aims sciences.org/article/doi/10.3934/mcrf.2021006>

Submitted in peer-reviewed journals

- [4] **Jean-Michel Coron, Amaury Hayat, Shengquan Xiang, Christophe Zhang**, *Stabilization of the linearized water tank system*, <https://hal.archives-ouvertes.fr/hal-03161523>.

Talks

National and international congresses

International Congress for Industrial and Applied Mathematics, July 19 2019, Valencia, Spain.

Rapid and finite-time stabilization of hyperbolic systems with a distributed scalar input.

Workshop LIA COPDESC : “Analysis, control and inverse problems for PDEs”, November 26 2018, Naples, Italy.

Internal stabilization of transport systems.

National SMAI Congress, June 5 2017, Ronce-lès-Bains, France.

Indirect control of coupled semilinear wave equations.

Seminars

ANR TreCos workshop, *April 29 2021*.

Séminaire Analyse, Phénomènes Stochastiques et Applications, *April 13 2021*, Laboratoire de Mathématiques de Bretagne Atlantique.

Control in Times of Crisis Webinar, *February 18 2021*.

Stabilization of controllable systems: application to the water tank

CAA mini-workshop on hyperbolic problems, *October 12 2020*, FAU Erlangen-Nürnberg.

System identification using the Koopman operator: some quantitative considerations

Young controller's day, *June 21 2019*, Laboratoire Jacques-Louis-Lions.

Internal stabilization of linear 1D hyperbolic systems with a scalar control.

Seminar for PhD students, *January 31 2019*, CEREMADE.

Internal stabilization of a transport equation.

Computer and language skills

Programming Python, Matlab.

Languages French/English (bilingual), German (C1 - Goethe Institut), Mandarin (spoken).

Hobbies

Sports **Swimming, Yoga**.

Music **Piano**, *frequent concerts*.

Conducting, Assistant conductor of the Orchestre du Plateau de Saclay from 2016 to 2019, Co-founder and conductor of the Orchestre l'Échappée belle.

Debating **In English**, *Secretary General of the la French Debating Association from 2018 to 2019*.

In French, *Former member of the Fédération Francophone de Débat*.

Founder of the French debating club of the École polytechnique.