# Christophe Zhang

*Postdoctoral researcher in applied mathematics*

*christophezhang.netlify.app*
✉ *christophe.zhang@polytechnique.org*

## 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

2020-2021 **Postdoctoral researcher**, *Friedrich-Alexander Universität Erlangen-Nürnberg*, Chair for Applied Analysis, Alexander-von-Humboldt Professorship.

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 engineering 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.aimsciences.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*.

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.