

# Curriculum Vitæ

Nom : Bilal AL TAKI

Born : on 22 March 1991

Nationality : French and Lebanese

Qualification : Section 25 and 26 of CNU



## CURRENT SITUATION :

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Since September 2021, I have been recruited as a Temporary Lecturer and Research Assistant (ATER) at Sorbonne University. This contract is valid for one year.

Laboratoire Jacques-Louis Lions

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Google scholar link : [click here](#)

ORCID link : [click here](#)

## CAREER

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- 2019-2021 : Post-doc at BICMR, Peking University under supervision of Pingwen Zhang.  
Beijing, China.
- 2018-2019 : Researcher & Teacher (ATER position) at Sorbonne University  
Paris, France.
- 2017-2018 : Post-doc within ANGE Team managed by Jacques Sainte-Marie.  
INRIA Paris.
- 2016 -2017 : Lecturer at the University of Savoie Mont Blanc  
Chambéry, France.
- 2013-2016 : PhD thesis defended on 19/12/2016  
Assignment institution : Grenoble Alpes University and Lebanese University.  
Supervisor : Didier Bresch et Raafat Talhouk.  
Title : On some heterogeneous model in fluids dynamics .  
Reviewers : Alain Miranville (Poitiers) and Francisco Guillen-Gonzalez (Sevilla).

Committee : Mazen Saad (Centrale Nantes), Mathieu Colin (Bordeaux)  
Emmanuel Maitre (Grenoble), Christophe Lacave (Grenoble)  
Keywords : Partial differential equations, Geophysics fluids  
Degenerate equations, Logarithmic Sobolev inequalities.

- 2012-2013 : M2R in applied mathematics

Assignment institution : University of Nantes and Lebanese University.  
Supervisor : Jean-Francois Coulombel.  
Titre : Hyperbolic problem : theory and numerical scheme.  
Keywords : Hyperbolic problem, Kreiss-Lopatinskii  
Finite volume, stability.

- 2011-2012 : Master M1 in applied mathematics.

Assignment institution : Lebanese University 1-Beirut.

- 2009-2011 : License in applied mathematics.

Assignment institution : Lebanese University 4-Zahlé.

## TEACHING ACTIVITIES

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- 2021-2022 : Teaching at Sorbonne University (192h)

Level L1 : 1MA001 Analysis (Calculus I).

Level L1 : 1MA003 Analysis (Calculus II).

- 2018-2019 : Teaching at Lebanese University (Cursus doctoral 36h with J. Sainte-Marie)

Level M2 : Models and numerical methods in geosciences

For more details about the course (<http://edst.ul.edu.lb/cursus152018.html>).

- 2017-2019 : Teaching at Sorbonne University (110h)

Level L1 : 1M001 Analysis and Algebra for the science.

Level L2 : 2M256 Vectorial analysis and multiple integral

2M110 Introduction to differential equations.

- 2016-2017 : Teaching at University of Savoie Mont Blanc (134h)

Level L3 : M501 Probability and M401 Statistic (TD)

Level L1 : M101 Real Analysis, M201 Functional Analysis et M202 Linear Algebra

## RESEARCH PUBLICATIONS

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- Published papers :

- [1]. B. Al Taki, Viscosity effect on the degenerate lake equation, *Nonlinear Anal.* 2017.
- [2]. B. Al Taki, Global well-posedness of the ghost effect system, *Commun. Pure Appl. Anal.* 2018.
- [3]. B. Al Taki, K. Msheik, J. Sainte-Marie, On the rigid-lid approximation of the Shallow Water Bingham, *DCDS-B*, 2020.
- [4]. B. Al Taki, A note on functional inequalities and entropy estimates for some higher-order nonlinear PDEs, *To appear in Methods and Applications of Analysis*.
- [5] B. Al Taki, K. Atsou, J.-J. Casanova, T. Goudon, F. Lagoutière, P. Lafitte, S. Minjeaud, Numerical investigation of compressible Navier-Stokes equations, *ESAIM, Proceeding and Surveys*, 2021

• Submitted papers :

- [6]. B. Al Taki, C. Lacave, Vanishing viscosity limit for the solution of the degenerate lake equations.
- [7]. B. Al Taki, Well-posedness results for a class of Non-Newtonian fluids equations.

## CONFERENCES

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- Mar. 2019 : Conference on the honor of Jean-Yves Chemin  
Institut Poincaré, Paris.
- Nov 2017 : Workshop, an overview on free surface flows  
INRIA Paris.
- May 2017 : Conference on Complex Geometry and PDEs  
American University of Beirut
- July. 2015 : CEMRACS, Coupling Multi-Physics Models Involving Fluids  
CIRM, Marseille.
- June 2015 : Summer school MIS Evolution Equations : Long time behavior and control.  
University of Savoie Mont Blanc, Le Bourget du lac.
- Nov 2014 : Conference on PDEs in Complex Geometry and Singular Spaces  
American University of Beirut.
- Mars 2014 : Excellence seminar in mathematics  
L'académie francophone de Savoirs Gennevilliers, Paris, France.

## SEMINARS

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- Nov. 2019 : Seminar  
Peking University, China.
- Jan. 2019 : Seminar  
Darmstadt University, Allemagne.
- Nov. 2018 : Seminar.  
Aix-Marseille University, France.

- Mai 2018 : Seminar.  
University of Paris Diderot, France.
- Oct. 2017 : Seminar  
ANGE Team, INRIA Paris.
- Nov. 2016 : Journées EDP Rhône Alpes Auvergne  
Grenoble, France.
- Aug. 2016 : Prague Summer school  
Prague, Czech.
- July 2016 : Seminar at LAMA Laboratory  
Chambéry, France.
- May 2015 : Interactions Colloque in mathematics  
Grenoble, France.
- June 2015 : Congress SMAI  
Karelis, France.
- Nov. 2014 : Forum doctoral at Lebanese University.  
Beyrouth, Liban.

## STAY ABROAD

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- January 2020 : Stay at the Lebanese University ; invitation from Prof. R. Talhouk
- October-December 2019 : Stay at BICMR ; invitation from Prof P. Zhang.
- January 2019 : Stay at Darmstadt University : invitation from Prof. Matthias Hieber.

## Responsibilities

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- Co-supervisor : M2 Internship of Mme. C. El Hassanieh (Sorbonne University & Inria Paris and Lebanese University).

Title : Multi-layer Shallow Water model.

## Skills

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- Languages : French, English, Arabic.
- Programming : Python (Intermediate level).
- Software : Maple.

## Certifications

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Here is a list of courses that I have accomplished on Coursera.

- What is Data Science ([Syllabus](#), [Certificate](#)).
- Python for Data Science, AI & Development ([Syllabus](#), [Certificate](#)).
- Data Science with Python ([Syllabus](#), [Certificate](#)).
- Machine Learning with Python ([Syllabus](#), [Certificate](#)).

## References list

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- Prof. Alain Miranville, Univ. of Poitiers (for research activities).
- Prof. Francisco Guillen-Gonzalez, Univ of Sevilla (for research activities).
- Prof. Jacques Sainte-Marie, Sorbonne University (for research activities).
- Prof. Pingwen Zhang, Peking University (for research activities).
- Prof. Marie Postel, Sorbonne University (for teaching activities).
- Prof. Christophe Lacave, Univ. of Grenoble-Alpes (for research activities).
- Prof. Cédric Boutillier, Sorbonne University (for teaching activities).
- Prof. Frédéric Paugam, Sorbonne University (for teaching activities).

The recommendation letters are in my possession. It could be send to you upon request.