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Education

Oct.10 - June 14	**Ph.D. diploma** of **École Polytechnique (Palaiseau, France)**, specialty *Applied Mathematics* graduated with highest honors and defended on 12 June 2014 with a committee composed of Bruno Després (Pres.), Josselin Garnier (ref.), Boris Gralak (exam.), Christophe Hazard (adv.), Patrick Joly (coadv.), Jeffrey Rauch (ref.), Chrysoula Tsogka (exam.) and Ricardo Weder (ref.). **Title** : Analysis of two wave propagation phenomena : 1) Space–time focusing in acoustics ; 2) Transmission between a dielectric and a metamaterial.
2009 - 2010	**M.Sc. in Numerical Analysis and Partial Differential Equations of University Versailles Saint-Quentin-en-Yvelines,** graduated with highest honors.
2007 - 2010	**M.Sc. in Engineering** of **ENSTA ParisTech** (Superior National School of Advanced Techniques), specialty *Applied Mathematics*.
2004 - 2007	Undergraduate intensive studies in a national preparatory program for entrance into French engineering Schools in Lycée du Parc, Lyon, France.
Jun. 2004	Scientific Baccalaureate, specialty *Mathematics* graduated with highest honors in Lycée du Parc, Lyon, France.

Research experience

Jan. 18- Pres.	**CNRS researcher** (permanent position) at the **Fresnel Institute**, Marseille, France in the team Epsilon.
Aug. 17- Dec. 17	**Associate research scientist** and **adjunct assistant professor** in the Department of Applied Physics and Applied Mathematics at **Columbia University**, United States.
Aug.14 - June 17	**Assistant professor (lecturer)** in the Department of Mathematics at the **University of Utah**, United States.
Oct.10 - June 14	**Ph.D. student** in the **POEMS** team, under the supervision of Christophe Hazard and Patrick Joly.
2010 (5 months)	**Research internship** in the **POEMS** team, granted by the **Airbus group**, under the supervision of Christophe Hazard and Patrick Joly : Detection and focusing on unknown obstacles by using the time reversal principle.
2009 (3 months)	**Research internship** at **RWTH University**, Aachen, Germany under the supervision of Lothar Nannen and Joachim Schöberl : Pole condition method for scattering and resonance problems for the Helmholtz equation on unbounded domains.

Current research topics

- Mathematical study of dispersive Maxwell's equations (metamaterials, spectral theory, limiting absorption and limiting amplitude principles, resonance phenomena, cloaking, passive linear systems and theory of Herglotz functions),
- Electromagnetic composite materials,
- Spectral theory in electromagnetic periodic media (honeycomb structures, Dirac points),
- Thermal cloaking and mimicking,
- Inverse and imaging problems in electromagnetism and acoustics,
- Mathematical justification of asymptotic models for point-scatterers.

Other research activities

2021-pres.	Co-organiser of a workshop between the UMI Abraham De Moivre (Imperial College) and the teams Poems and Epsilon which should hold in March or April 2022.
Apr. 2021	Member of the committee of the oral exam of T. Digiovanni at the University of Utah.
Nov. 2020 - pres.	**Coadvisor of Luis Alejandro Rosas Martìnez** on the Ph. D. thesis entitled "Dispersive electromagnetic media : mathematical and numerical analysis" supervised by Patrick Joly (INRIA, POEMS, HDR).
2019-pres.	Co-organiser of the conference **"Herglotz-Nevanlinna functions and their applications to dispersive systems and composite materials"** which should take place at the end of January 2022 in CIRM, Marseille, France.
2019-2021	Organiser of the seminars of Josselin Garnier (CMAP, Ecole Polytechnique) and Patrick Joly (INRIA, POEMS) at the Fresnel Institute.
2020-pres.	Recurrent participation with S. Brasselet and M. Adel at the Institute Archimède administrative council. This institute gathers 4 laboratories (CPT, Fresnel , I2M, LIS) of the Aix-Marseille University. Participation at the Archimède Institute inauguration day to present the Fresnel Institute. Member of the committee of selection of Ph.D. grants at Archimède Institute in 2020.
June 2019	Organizer of a 2 days workshop ("GT1 du GDR Ondes"), Marseille, France
2018	**Member of two working groups** at the Institut Fresnel : one that I organize on the theoretical and numerical analysis of dispersive Maxwell's equations and the other, organised by Anne Santenac, on inverse problems and imaging.
Sep.17 - Dec.	Member of a weekly working group meeting organized by Michael Weinstein on the mathematical analysis of wave propagation phenomena at Columbia University.
Sep. 16- Jun. 17	**Mentor of Caleb Webb** for a REU (Research Experience for Undergraduates) project financed by the **University of Utah** entitled : Spectral analysis of periodic, nonreciprocal systems consisting of high-loss and lossless components.
May 17	Chair at the Waves conference, Minneapolis, United States, May 2017.

Sep. 15 - May 16	**Organizer of two minisymposia in the SIAM conference on the Mathematical Aspects of Materials Science** (Philadelphia, United States, May 8-12 2016) : • **Inverse Problems in Materials Science** co-organized with Fernando Guevara Vasquez and Andrew Thaler • **Complex analysis, optimization, and Herglotz functions in passive electromagnetics and composite media** co-organized with Graeme W. Milton, Mihai Putinar and Aaron Welters.
Sep. 14 - May 15	Member of a weekly working group meeting on the mathematical and numerical analysis of wave propagation phenomena at the University of Utah.
2014 - Pres.	**Referee for the following international scientific review : "Archive for Rational Mechanics and Analysis"**, **"IMA journal of Applied Mathematics"**, **"Comptes Rendus Mathématique"**, **"Multiscale Modeling and Simulation"**, **"Proceedings of the Royal Society A"**, **"SIAM Journal on Imaging Sciences"** and **"SIAM Journal on Mathematical Analysis"**.
Aug. 12 - Dec 15	**Member of the ANR project MetaMath** (mathematical and numerical modeling for waves propagation in the presence of metamaterials).

Teaching

2019 and 2021	**Examinator for the oral exam in mathematics** for the admission to the French business school : ESCP-Europe (64h per year).
Fall 2017	**Instructor for the graduate course Function of a Complex Variable** in the applied physics and applied mathematics department of **Columbia University**, United States. (35h of lessons and 15h of office hours)
Spring 2017	**Instructor for the courses Partial Differential Equations for Engineers** for two classes (35h of lessons and 15h of office hours for each class) and **Introduction to Partial Differential Equations** (advanced course, lessons 35h, office hours 30h) at **University of Utah**.
Spring 2016	**Instructor for the courses Applied Complex Analysis** (lessons 35h, office hours 30h) and **Partial Differential Equations for Engineers** (lessons 35h, office hours 30h) at **University of Utah**.
2015	**Instructor for the courses Partial Differential Equations for Engineers** (lessons 35h, office hours 30h) and **Introduction to Partial Differential Equations** (advanced course, lessons 35h, office hours 30h) at **University of Utah**.
Fall 2014	**Instructor for the courses Applied Complex Analysis** (lessons 30h, office hours 30h) at **University of Utah**.
2010 - 2013	**Teaching assistant at ENSTA ParisTech** (Superior National School of Advanced Techniques), Palaiseau, in the courses : **Dynamical Systems** (15h/year, 4 years), **Functions of a Complex Variable** (15h/year, 3 years), **Introduction to MATLAB** (23h/year, 3 years), **Remedial Classes in Mathematics** (3h/year, 2 years), **Mathematical Tutoring** (10h/year, 3 years).

Main co-workers

- Patrick Bardsley (Cirrus Logic, Salt Lake City, United States)
- Trent DeGiovanni (University of Utah, Salt Lake City, United States),
- Guillaume Demesy (Insitut Fresnel, Marseille, France),
- Boris Gralak (Insitut Fresnel, Marseille, France),
- Sébastien Guenneau (CNRS-Imperial Abraham de Moivre UMI, London, United Kingdom),
- Fernando Guevara Vasquez (University of Utah, Salt Lake City, United States),
- Christophe Hazard (POEMS team, UMR 7231 CNRS-INRIA-ENSTA, Palaiseau, France),
- Maryna Kachanovska (POEMS team, UMR 7231 CNRS-INRIA-ENSTA, Palaiseau, France),
- Patrick Joly (POEMS team, UMR 7231 CNRS-INRIA-ENSTA, Palaiseau, France),
- Graeme Milton (University of Utah, Salt Lake City, United States),
- Michael Weinstein (Columbia University, New-York, United States),
- Aaron Welters (Florida Institute of Technology, Melbourne, United States).

Invitations and rewards

• My article "Active cloaking and mimicking" published in 2021 in collaboration with T. Digiovanni, S. Guenneau and F. Guevara Vasquez **was announced in the research actuality of CNRS (INSIS, France), in the "Research highlights" of the NSF (United States) and by communications of the Fresnel Institute (France), the Imperial College (United Kingdom) and the University of Utah (United States).**

• Invited three days by M. Brown and I. Wood (January 2019) at Cardiff University, United Kingdom.

• **Invited to participate to the Workshop Mathematical and Physical Aspects of Topologically Protect States at Columbia University**, New-York, United States (Mai 2017).

• **Outstanding Postdoc award for research and teaching delivered by the Mathematics department of the University of Utah,** (April 2017).

• **Invited one week (April 2017) by Aaron Welters at the Florida Institute of Technology**, Melbourne, United States.

• **Invited to participate to the workshop Mathematical and Numerical Modeling in Optics at the IMA** (Institute for Mathematics and its Applications) at Minneapolis (December 2016).

• **Invited as a three months long term visitor (September to November 2016) at the IMA** at Minneapolis for the annual thematic Mathematics and Optics.

• **Invited eight days (October 2015) by Aaron Welters at the Florida Institute of Technology**, Melbourne, United States.

• Invited two days by Kirill Cherednichenko at the University of Bath, United Kingdom.

• Invited one day (November 2013) by Josselin Garnier and Georges Papanicolaou at IHES, Bures-sur-Yvette, France.

• Invited one day (March 2012) by Rémi Carminati and Sylvain Gigan, and one day (December 2012) by Claire Prada at the Institute Langevin, ESPCI, Paris, France.

• Invited one day (October 2011) by Josselin Garnier at École Normale Supérieure Paris, Paris, France.

• Invited one day (June 2011) by Karim Ramdani at the Institute Élie Cartan de Lorraine, Nancy, France.

• Invited one day (october 2010) by Stephene Alestra, Eric Duceau, Vassili Srithammavanh and Isabelle Terasse at EADS , Suresnes, France.

Scientific popularization

• My article "Active thermal cloaking and mimicking" is described in the article "L'invisibilité, entre mythe et réalité" of the magazine Sciences et Vie, August 2021.

• My article "Active thermal cloaking and mimicking" is mentioned in 4 pages of the magazine "Invisible" of "pour la science", July 2021.

• Between nov. 2021 and Jan. 2022, I co-advise the three weeks internship of Timothée Vène, third year student at École centrale Marseille. In 2019, I co-advised the one week Internship of a mid-school student at the Fresnel Institute.

Publications

PhD thesis

[1] **Analysis of two wave propagation phenomena : 1) Space–time focusing in acoustics ; 2) Transmission between a dielectric and a metamaterial**, Maxence Cassier, *École Polytechnique, 2014, available online at https://pastel.archives-ouvertes.fr/pastel-01023289.*

Papers published in refereed journals

[1] **High contrast elliptic operators in honeycomb structures**, Maxence Cassier and Michael I. Weinstein, *SIAM journal Multiscale Modeling & Simulation, Vol. 19, No. 4, pp. 1784-1856, 2021.*

[2] **Active thermal cloaking and mimicking**, Maxence Cassier, Trent DeGiovanni, Sébastien Guenneau and Fernando Guevara Vasquez, *Proceedings of the Royal Society A, 477(2249), 20200941 (27 pages), 2021.*

[3] **Imaging small polarizable scatterers with polarization data**, Patrick Bardsley, Maxence Cassier and Fernando Guevara Vasquez, Inverse Problems, vol. 34 No. 10, 40 pages, 2018.

[4] **Mathematical models for dispersive electromagnetic waves : an overview**, Maxence Cassier, Patrick Joly and Maryna Kachanovska, *Computers and Mathematics with Applications, vol 74 No 11, Pages 2792-2830, 2017.*

[5] **Spectral theory for Maxwell's equations at the interface of a metamaterial. Part I : Generalized Fourier transform.**, Maxence Cassier, Christophe Hazard and Patrick Joly, *Communications in Partial Differential Equations, vol 42 No 11, pp. 1707-1748, 2017.*

[6] **Imaging polarizable dipoles**, Maxence Cassier and Fernando Guevara Vasquez, *SIAM J. Imaging Sci., vol 10 No. 3, pp. 1381–1415, 2017.*

[7] **Bounds on Herglotz functions and fundamental limits of broadband passive quasi-static cloaking**, Maxence Cassier and Graeme W. Milton, Journal of Mathematical Physics 58 (7), 071504, 2017.

[8] **Space-time focusing on unknown scatterers**, Maxence Cassier and Christophe Hazard, *Wave Motion, vol. 51(8) pp. 1254-1272, 2014.*

[9] **Multiple scattering of acoustic waves by small sound-soft obstacles in two dimensions : mathematical justification of the Foldy–Lax model**, Maxence Cassier and Christophe Hazard, *Wave Motion, vol. 50 (1), pp. 18-28, 2013.*

Paper submitted

[10] **Spectral theory for Maxwell's equations at the interface of a metamaterial. Part II : Limiting absorption, limiting amplitude principles and interface resonance**, Maxence Cassier, Christophe Hazard and Patrick Joly.

Papersin preparation

[11] **Bounds on the DtN map and fundamental limits of broadband passive near-cloaking for the conductivity problem**, Maxence Cassier, Graeme W. Milton and Aaron Welters.

Book chapters

[1] **Electromagnetic waves in photonic crystals : laws of dispersion, causality and analytical properties**, Boris Gralak, Maxence Cassier, Guillaume Demésy and Sébastien Guenneau, *in Compendium of Electromagnetic Analysis - From Electrostatics to Photonics, Volume 4 : Optics and Photonics I, Chapter 4, World Scientific, Hackensack, NJ, USA, 2020, available online on https://arxiv.org/pdf/1807.01658.pdf.*

[2] **Analyticity of the Dirichlet-to-Neumann map for the time-harmonic Maxwell's equations**, Maxence Cassier, Aaron Welters and Graeme W. Milton, *chapter in Extending the theory of composites to other areas of science edited by Graeme W. Milton and reviewed by the Journal of Applied Mechanics and SIAM Review, pp 95-122, 2016, available online at http://arxiv.org/abs/1512.05838.*

[3] **A rigorous approach to the field recursion method for a two-component composites with isotropic phases** Maxence Cassier, Aaron Welters and Graeme W. Milton, *chapter in Extending the theory of composites to other areas of science edited by Graeme W. Milton and reviewed by the Journal of Applied Mechanics and SIAM Review, pp. 287-307, 2016, available online at https://arxiv.org/abs/1601.01378.*

Reports

[1] **Bounds on Herglotz functions and physical limits to broadband passive cloaking in the quasitatic regime**, Maxence Cassier and Graeme W. Milton, ***Oberwolfach report**, No. 39, 2020, pp 1913–1916, available online at https://www.mfo.de/occasion/2050/www_view*

[2] **Imaging small scatterers with electromagnetic waves**, Maxence Cassier and Fernando Guevara Vasquez, *in Oberwolfach reports 2017,* 3 pages, available online at https://www.math.utah.edu/ cassier/papers/oberwolfach2.pdf.

[3] **Selective focusing for time-dependent waves**, Maxence Cassier, Christophe Hazard and Patrick Joly, *Oberwolfach report No. 03, 2013, pp. 150-153, available online at http://www.mfo.de/occasion/1304/www_view.*

Conference proceedings

[1] **TE Band Structure for High Contrast Honeycomb Media**, Maxence Cassier and Michael I. Weinstein, *in 2020 Fourteenth International Congress on Artificial Materials for Novel Wave Phenomena (Metamaterials)*, IEEE, pp. 479-481.

[2] **Imaging small dielectric inclusions with polarization data**, Patrick Bardsley, Maxence Cassier and Fernando Guevara Vasquez, *Waves 2019 conference proceedings*, 2 pages, disponible en ligne sur https://hal.archives-ouvertes.fr/hal-02400344/document.

[3] **Imaging polarizable dipoles**, Maxence Cassier and Fernando Guevara Vasquez, *Waves 2017 conference proceedings, 2 pages, available online at https://www.math.utah.edu/ cassier/papers/waves2017.pdf.*

[4] **Limiting amplitude principle for a two-layered medium composed of a dielectric material and a metamaterial**, Maxence Cassier, Christophe Hazard and Patrick Joly, *Waves 2015 conference proceedings, 2 pages, available online at https://www.math.utah.edu/ cassier/papers/waves2015.pdf..*

[5] **Selective focusing on unknown scatterers**, Maxence Cassier, Christophe Hazard and Patrick Joly, *Waves 2013 conference proceedings, pp. 129-130, available online at https://www.math.utah.edu/ cassier/papers/waves2013.pdf.*

[6] **Multiple acoustic scattering by small obstacles in two dimensions**, Maxence Cassier and Christophe Hazard, *Waves 2011 conference proceedings, pp. 631-634, available online at https://www.math.utah.edu/ cassier/papers/waves2011.pdf.*

[7] **Using time reversal for space-time focusing of acoustic waves**, Maxence Cassier, Christophe Hazard and Patrick Joly, *5ème Colloque sur les Tendances des Applications Mathématiques en Tunisie, Algérie, Maroc (TAMTAM), Sousse, Tunisia, Avril 2011, 6 pages, available online at https://www.math.utah.edu/ cassier/papers/tamtam.pdf*

Talks, seminars and poster sessions

International conferences as invited speaker

[1] **Analysis of TE band structure in high contrast honeycomb media**, *Maxence Cassier and Michael I. Weinstein, First Fresnel-Imperial College Metamaterials and Plasmonics Workshop, online, Marseille, France, September 2021.*

[2] **Imaging small polarizable scatterers with polarization data**, *Patrick Bardsley, Maxence Cassier and Fernando Guevara Vasquez, Online workshop : Tomographic Reconstructions and their Startling Applications, Erwin Schrödinger International Institute for Mathematical Physics, Vienne, Austria, March 2021.*

[3] **Bounds on Herglotz functions and physical limits to broadband passive cloaking in the quasitatic regime**, *Maxence Cassier and Graeme W. Milton, online talk in the Workshop on Computational Inverse Problems for PDE, Germany,* **Oberwolfach**, *December 2020.*

[4] **Mathematical models for dispersive electromagentic waves**, *Maxence Cassier, Patrick Joly and Maryna Kachanovska, worskhop on Herglotz-Nevanlinna Theory Applied to Passive, Causal and Active Systems at the BIRS, Banff, Canada, October 2019.*

[5] **Spectral thoery and limiting amplitude principle for Maxwells equations at the interface of a metamaterial**, *Maxence Cassier, Christophe Hazard and Patrick Joly, Workshop : from optics to Geophysics, Marseille, France, April 2019.*

[6] **Imaging small polarizable scatterers with polarization data**, *Patrick Bardsley, Maxence Cassier and Fernando Guevara Vasquez , Applied Inverse Problems Conference, Grenoble, France, July 2019.*

[7] **Limiting amplitude principle for Maxwells equations at the interface of a metamaterial**, *Maxence Cassier, Christophe Hazard and Patrick Joly, Applied Inverse Problems Conference, Grenoble, France, July 2019.*

[8] **Imaging small polarizable scatterers with polarization data**, *Patrick Bardsley, Maxence Cassier and Fernando Guevara Vasquez, Inverse Problems Network Meeting 4, Leeds, United-Kingdom, Jnauary 2019.*

[9] **Bounds on Herglotz functions and fundamental limits to broadband passive quasistatic cloaking**, *Maxence Cassier and G. W. Milton, à venir, 11th International Conference ETOPIM, Krakow, Poland, July 2018.*

[10] **On the spectral theory and limiting amplitude principle for Maxwells equations at the interface of a metamaterial**, *Maxence Cassier, Christophe Hazard, Patrick Joly, 11th International Conference ETOPIM, Krakow, Poland, July 2018.*

[11] **Imaging small dielectric scatterers from polarization data**, Patrick Bardsley, Maxence Cassier and Fernando Guevara Vasquez, *9th international conference inverse problems : Modeling and simulations, Malta, May 2018.*

[12] **Limiting Amplitude Principle for Maxwell's Equations at the Interface of a Metamaterial.**, Maxence Cassier, Christophe Hazard and Patrick Joly, *Waves diffracted by Patrick Joly, conference in honor of the* 60*th birthday of Patrick Joly, France, August 2017.*

[13] **Bounds on Herglotz functions and physical limits to broad-band passive cloaking in quasi-statics**, Maxence Cassier and Graeme W. Milton, *Workshop on Herglotz-Nevanlinna functions and their applications, Institut Mittag-Leffler, Sweden, May 2017.*

[14] **On the limiting amplitude principle for Maxwell's equations at the interface of a metamaterial**, Maxence Cassier, Christophe Hazard and Patrick Joly, *Workshop, Waves in periodic media and metamaterials, Cargese, France, November 2016.*

[15] **Limitations to broadband cloaking in quasistatics**, Maxence Cassier and Graeme W. Milton, *The mathematics of metamaterials and materials, Snowbird Workshop, United States, August 2016.*

[16] **Bounds on Stieltjes functions and their applications to fundamental limits of broadband passive cloaking in quasitatics**, Maxence Cassier and Graeme W. Milton, *Mathematical and computational aspects of Maxwell's equations, EPSRC Durham Symposium, United Kingdom, July 2016.*

[17] **On the spectral theory and limiting amplitude principle for a transmission problem between a dielectric and a metamaterial**, Maxence Cassier, Christophe Hazard and Patrick Joly, *Conference on operators, operators families and asymptotic, University of Bath, United Kingdom, May 2016.*

[18] **Spectral theory and limiting amplitude principle for a two-layered medium composed of a dielectic and a metamaterial**, Maxence Cassier, Christophe Hazard and Patrick Joly, *Workshop on Interdisciplinary Mathematics, Penn State University, Pennsylvania, United States, May 2015.*

[19] **On the limiting amplitude principle for a transmission problem between a dielectric and a metamaterial**, Maxence Cassier, Christophe Hazard and Patrick Joly, *AMS spring western sectional meeting, University of Nevada, Las Vegas, United States, April 2015.*

[20] **Space-time focusing on unknown obstacles**, Maxence Cassier, Christophe Hazard and Patrick Joly, *International conference in applied mathematics, Heraklion, Greece, September 2013.*

[21] **Selective focusing for time-dependent waves**, Maxence Cassier, Christophe Hazard and Patrick Joly, *Workshop : Inverse problems and imaging, Institut Henri Poincaré, Paris, France, February 2013.*

[22] **Selective focusing for time-dependent waves**, Maxence Cassier, Christophe Hazard and Patrick Joly, *Workshop : Computational electromagnetism and acoustics,* **Oberwolfach**, *Germany, January 2013.*

[23] **Using time reversal for space-time focusing of acoustic waves**, Maxence Cassier, Christophe Hazard and Patrick Joly, *Workshop : Journées de Metz 2012 : recent advances in modeling, analysis and simulation of wave propagation, Metz, France, March 2012.*

International conferences with review committee

[1] **TE Band Structure for High Contrast Honeycomb Media**, Maxence Cassier and Michael I. Weinstein, online talk in *Fourteenth International Congress on Artificial Materials for Novel Wave Phenomena (Metamaterials), September 2020.*

[2] **Imaging small dilectric inclusions with polarization data**, Patrick Bardsley, Maxence Cassier and Fernando Guevara Vasquez, *Waves confrerence, Vienna, Austria, August 2019*

[3] **Imaging polarizable dipoles**, Maxence Cassier and Fernando Guevara Vasquez, *Waves conference, Minneapolis, United States, May 2017.*

[4] **Bounds on Stieltjes functions and their applications to passive cloaking**, Maxence Cassier and Graeme W. Milton, *SIAM Conference on mathematical aspects of materials Science, Philadelphia, United States, May 2016.*

[5] **Imaging polarizable dipoles**, Maxence Cassier and Fernando Guevara Vasquez, *SIAM Conference on mathematical aspects of materials Science, Philadelphia, United States, May 2016.*

[6] **Limiting amplitude principle for a two-layered medium composed of a dielectric material and a metamaterial**, Maxence Cassier, Christophe Hazard and Patrick Joly *Waves conference, Karlsruhe institut of technology, Germany, July 2015.*

[7] **Selective focusing on unknown scatterers**, Maxence Cassier, Christophe Hazard and Patrick Joly, *Waves conference, Tunis, Tunisia, June 2013.*

[8] **Multiple acoustic scattering by small obstacles in two dimensions**, Maxence Cassier, Christophe Hazard, *Waves conference, Vancouver, Canada, July 2011.*

Colloquiums, Seminars and GDR

[1] **Active thermal cloaking and mimicking**, Maxence Cassier, Trent DiGiovanni, Sébastien Guenneau, Fernando Guevara Vasquez, Webinaire du GT1 du GDR Ondes, online, France, June 2021.

[2] **Mathematical models for dispersive electromagentic waves**, *Maxence Cassier, Patrick Joly and Maryna Kachanovska, Seminar of the INRIA team : Atlantis , online, Sophia Antipolis, France, April 2021.*

[3] **On the spectral theory and the limiting amplitude principle for a transmission problem between a dielectric and a metamaterial**, *Maxence Cassier, Christophe Hazard and Patrick Joly*, séminaire Analyse Numérique et Equations aux Dérivées Partielles, Laboratoire Paul Painlevé, Lille, France, February 2019.

[4] **Spectral theory and limiting amplitude principle for Maxwell's equations at the interface of a metamaterial**, *Maxence Cassier, Christophe Hazard and Patrick Joly*, séminaire de dynamique quantique et classique, CPT, Marseille, France, January 2019.

[5] **Imaging small polarizable scatterers with polarization data**, *Patrick Bardsley, Maxence Cassier and Fernando Guevara Vasquez*, colloquium of applied mathematics, University of Göttingen, Germany, December 2018.

[6] **Limiting amplitude principle for Maxwell's equations at the interface of a metamaterial.**, *Maxence Cassier, Christophe Hazard and Patrick Joly*, seminar of the Department of Mathematics and Statisitcs of the University of Limerick, Ireland, November 2018.

[7] **Limiting amplitude principle for Maxwell's equations at the interface of a metamaterial**, *Maxence Cassier, Christophe Hazard and Patrick Joly*, séminaire de l'Institut Langevin, Paris, France, November 2018.

[8] **On the limiting amplitude principle for a transmission problem between a dielectric and a metamaterial**, *Maxence Cassier, Christophe Hazard and Patrick Joly*, séminaire Analyse Numérique de l'IRMAR, Rennes, France, November 2018.

[9] **On the limiting amplitude principle for Maxwell's equations at the interface of a metamaterial**, Maxence Cassier, Christophe Hazard and Patrick Joly, *seminar of the LMA Laboratory, France, September 2018.*

[10] **Imaging small dielectric scatterers from polarization data**, *Patrick Bardsley, Maxence Cassier and Fernando Guevara Vasquez, seminar on imaging of the Institut Fresnel, France, July 2018.*

[11] **Bounds on Herglotz functions and fundamental limits to broadband passive cloaking in the quasi-static regime**, *Maxence Cassier and Graeme Milton, Advanced theoretical and numerical methods for waves in structured media, GDR Ondes, France, March 2018.*

[12] **Limiting amplitude principle for Maxwell's equations at the interface of a metamaterial**, Maxence Cassier, Christophe Hazard and Patrick Joly, *Seminar on electromagnetism and metamaterial, Institut Fresnel, France, January 2018.*

[13] **On the limiting amplitude principle for Maxwell's equations at the interface of a metamaterial**, Maxence Cassier, Christophe Hazard and Patrick Joly, *Applied Mathematics Colloquium, New Jersey Institute of Technology, United States, September 2016.*

[14] **Spectral theory and limiting amplitude principle for Maxwell's equations at the interface of a metamaterial.**, Maxence Cassier, Christophe Hazard and Patrick Joly, *IMA seminar, University of Minnesota, United States, October 2016.*

[15] **Bounds on Herglotz functions and fundamental limits on broadband passive quasi-static cloaking**, Maxence Cassier and Graeme W. Milton, *IMA Postdoc seminar, University of Minnesota, United States, October 2016.*

[16] **Space-time focusing on acoustic scatterers**, Maxence Cassier, Christophe Hazard and Patrick Joly, *Geomechanics Seminar, Civil Engineering Department, University of Minnesota, United States, October 2016.* **Invited by the Civil Engineering Department**

[17] **Spectral theory and limiting amplitude principle for a transmission problem between a dielectric and a metamaterial**, Maxence Cassier, Christophe Hazard and Patrick Joly, *Mathematical Physics Seminar, Florida Insitute of Technology, United States, October 2015 (invited talk).*

[18] **Space–time focusing for time-dependent acoustic waves**, Maxence Cassier, Christophe Hazard, *Inverse problems seminar of University College of London, United Kingdom, June 2015 (invited talk).*

[19] **Analysis of two time-dependent wave propagation phenomena : 1) Space-time focusing on unknown scatterers ; 2) Limiting amplitude principle in a medium composed of a dielectric and a metamaterial**, Maxence Cassier, Christophe Hazard and Patrick Joly, *University of Utah applied math seminar, Salt Lake City, United States, October 2014.*

[20] **Selective focusing for time-dependent waves**, Maxence Cassier, Christophe Hazard and Patrick Joly, *Poems seminar, Palaiseau, France, January 2013.*

Posters

[1] **Space-time focusing for acoustic waves**, Maxence Cassier, Christophe Hazard and Patrick Joly, *International conference on novel directions in inverse scattering, honoring David Colton, Newark, United states, July 2013 (invited).*

[2] **Space-time focusing on unknown scatterers** (poster session), Maxence Cassier, Christophe Hazard and Patrick Joly, *Workshop : Wave propagation in complex media and applications, Heraklion, Greece, May 2012.*

Other information

Languages

French	**Native speaker**
English	**Fluent**
German	**Fluent**

Computer skills

Programming	C, CSS, XHTML
Scientific	C++, Julia, Matlab, Maple, Prolog
Office	LaTeX, Microsoft Office

Extracurricular activities

- Sports : Scuba diving, hiking, running, skiing.
- Culture : cinema, music, antique history : ancient Greek (4 years of study), Latin (3 years of study).