

Clément Coine

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Born: April 13th 1990
Citizenship: French

Work experience

- Since Sep. 2020 **Associate Professor ("Maître de conférences")**.
University Caen Normandie.
- 2019-2020 **Temporary assistant of teaching and research (A.T.E.R.)**.
Université Gustave Eiffel, Paris-Est Marne-la-Vallée.
- 2017-2019 **Postdoctoral Researcher**.
Central South University, under the supervision of Jiao Yong

Formation

- 2014-2017 **Ph.D. Student in Functional Analysis**, *University of Bourgogne Franche-Comté*,
under the supervision of Christian Le Merdy.
Subject : Continuous linear and bilinear Schur multipliers and applications to perturbation theory
- 2013 – 2014 **Master Recherche Mathématiques approfondies in Functional Analysis**,
University of Franche-Comté.
Master thesis under the supervision of Christian Le Merdy
Subject : Operator Lipschitz functions on Schatten classes
Grade "Very Good" (TB)
- 2013 **Agrégation de Mathématiques**.
National competitive examination to teach mathematics in secondary and post-secondary education
Rank 22.
- 2012 – 2013 **Master Enseignement des Mathématiques**, *University of Franche-Comté*.
- 2010–2011 **Licence de Mathématiques**, *University of Franche-Comté*, 3-year university degree
in Mathematics, Grade "Very Good" (TB).

Research works

Publications

- 2020 **Hypercyclicity in Lipschitz free spaces**.
With Arafat Abbar and Colin Petitjean, preprint (2020), arXiv :2011.10800.
- 2020 **Perturbation theory and higher order S^p -differentiability of operator functions**.
To appear in Revista Matemática Iberoamericana.
- 2020 **Complete boundedness of multiple operator integrals**.
Canadian Mathematical Bulletin, 1-17 (2020). doi :10.4153/S0008439520000570.

- 2019 **Higher order \mathcal{S}^2 -differentiability and application to Koplienko trace formula.**
With C. Le Merdy, A. Skripka, F. Sukochev, Journal of Functional Analysis, Volume 276, Issue 10 (2019), 3170-3204
- 2018 **Schur multipliers on $\mathcal{B}(L^p, L^q)$.**
J. Operator Theory 79 :2(2018), 301-326
- 2017 **When do triple operator integrals take value in the trace class?.**
With Christian Le Merdy and Fedor Sukochev, To appear in Annales Institut Fourier.
- 2016 **Resolution of Peller's problem concerning Koplienko-Neidhardt trace formulae : The unitary case.**
With C. Le Merdy, D. Potapov, F. Sukochev, A. Tomskova, Journal of Functional Analysis, Volume 271, Issue 7 (2016), 1747-1763
- 2016 **Resolution of Peller's problem concerning Koplienko-Neidhardt trace formulae.**
With C. Le Merdy, D. Potapov, F. Sukochev, A. Tomskova, Proc. London Math. Soc.(3) 113 (2016), 113-139
- [Peer review](#)
- 2017 **Reviewer for the journal "Acta Mathematica Scientia".**

Research visits

- 2017 **Two months at the University of New Mexico, Albuquerque, USA.**
Invited by Anna Skripka.

Presentations

- 2020-2021 **A few talks about (R-)Ritt operators and their H^∞ -functional calculus, Workshop on "Harmonic and Non-commutative Analysis", Université Caen Normandie.**
- November 2020 **Régularité des fonctions d'opérateurs, 12ème journée de la Fédération Normandie-Mathématiques, Université Caen Normandie.**
- September 2020 **Opérateurs hypercycliques sur les espaces Lipschitz-libres, Seminar of Harmonic and Non-commutative Analysis, Université Caen Normandie.**
- March 2020 **Un problème de perturbation pour les fonctions d'opérateurs, Seminar of Functional Analysis, Laboratoire de mathématiques Paul Painlevé, Lille.**
- March 2020 **Perturbation du second ordre pour les fonctions d'opérateurs, Seminar of Analysis and Geometry, Institut de mathématiques de Marseille.**
- February 2020 **Opérateurs intégraux multiples et applications à des problèmes de perturbation, Seminar of Functional Analysis, Institut de mathématiques de Jussieu-Paris Rive Gauche.**
- November 2019 **Differentiability of operator functions in Schatten norms, Autumn school "Multipliers in Noncommutative Analysis and their Applications", Université Bourgogne Franche-Comté, Besançon, France.**
- October 2019 **Differentiability of operator functions and application to trace formula, Seminar of Functional Analysis, Central South University, Changsha, Chine.**
- October 2019 **Différentiabilité des fonctions d'opérateurs, Seminar of Analysis, Université Paris-Est Marne-la-Vallée, Champs-sur-Marne, France.**

- June 2019 **Differentiability of operator functions in Schatten norms**, *Conference "Advanced Courses in Operator Theory and Complex Analysis"*, Université Paris-Est Marne-la-Vallée, Champs-sur-Marne, France.
- May 2019 **Mini-course (4 hours) "Norms of Schur Multipliers and applications"**, *Workshop on positivity*, University of New-Mexico, USA.
- June 2017 **Continuous Schur multipliers**, *Seminar "Analyse Harmonique Non Commutative"*, University Caen-Normandie, Caen, France.
- May 2017 **Multiple operator integrals and perturbation theory**, *Seminar "Probabilités, Analyse et Statistique"*, University Clermont Auvergne, Clermont-Ferrand, France.
- March 2017 **Triple operator integrals valued in trace class operators**, *Maths colloquium*, University of New Mexico, USA.
- November 2016 **S^1 -boundedness of triple operators integrals**, *Maths seminar*, Seoul National University, South Korea.
- July 2016 **Application of Schur multipliers to a problem of perturbation**, *20th Conference of the International Linear Algebra Society*, Katholieke Universiteit Leuven, Leuven, Belgium.
- June 2016 **Perturbation of second order for functional calculus**, *26th International Conference in Operator Theory*, West University, Timisoara, Romania.
- December 2015 **Application of Schur multipliers to a problem of perturbation**, *Journées du GdR Analyse Fonctionnelle, Harmonique et Probabilités 2015*, CIRM, Marseille, France.
- November 2015 **Un exemple de non-dérivabilité pour $t \mapsto f(A + tH)$ sur $S^1(H)$** , *Workshop on "Non-Commutative Functional Analysis"*, LMB, Besançon, France.
- June 2015 **Schur multipliers on $\mathcal{B}(L_p)$** , *Rencontres d'Analyse Fonctionnelle Besançon-Neuchâtel*, Institut mathématique de Neuchâtel, Switzerland.
- May 2015 **Operator-Lipschitz functions on Schatten classes**, *16^{èmes} Journées de l'école doctorale Carnot-Pasteur*, Institut de mathématiques de Bourgogne, Dijon, France.
- March 2014 **The Hilbert transform**, *Journée des jeunes chercheurs LMB 2014*, Laboratoire de Mathématiques de Besançon, France.

Participations to other schools, conferences and workshop

- October 2016 **Journées du GdR Analyse Fonctionnelle, Harmonique et Probabilités 2016**, *University Paul Sabatier, Toulouse, France.*
- August 2015 **Young Mathematicians in C^* -Algebras**, *University of Copenhagen, Denmark.*
- December 2014 **Winter school on Operator Spaces, Noncommutative Probability and Quantum Groups**, *Métabief, France.*
- October 2014 **Journées du GdR Analyse Fonctionnelle, Harmonique et Probabilités 2014**, *University Lille 1, Lille, France.*

Teaching

2020-2021

Preparation for the oral exam of the "Agrégation de Mathématiques", *Université Caen Normandie.*

Fifth year science students preparing for a national competitive examination to teach mathematics in secondary and post-secondary education.

Course about complex analysis and operators on a Hilbert space, and exercise sessions, *Université Caen Normandie*.

Fifth year science students.

Differential Calculus, exercise sessions, *Université Caen Normandie*.

Second year science students.

Linear Algebra, course and exercise sessions, *Université Caen Normandie*.

First year science students.

Probability, exercise sessions, *Université Caen Normandie*.

First year science students.

2019-2020

Linear Algebra, exercise sessions, *Université Gustave Eiffel, Marne-la-Vallée*.

Second year economics students.

Probability and Statistics, exercise sessions, *Université Gustave Eiffel, Marne-la-Vallée*.

Second year economics students.

Analysis, exercise sessions, *Université Gustave Eiffel, Marne-la-Vallée*.

First year economics students.

Statistics, exercise sessions, *Université Gustave Eiffel, Marne-la-Vallée*.

First year economics students.

2014-2017

Mock oral exams ("Colles") (2h per week), *Lycée Victor Hugo, Besançon*.

Second year students in advanced preparatory school for the French "Grandes Écoles".

Practice oral examinations of the "Agrégation de Mathématiques" (2015-2017), *Université Bourgogne Franche-Comté, Besançon*.

Fifth year science students.

Probability, exercise sessions (2017), *Université Bourgogne Franche-Comté, Besançon*.

Second year computer science students.

Analysis, course and exercise sessions, *Université Bourgogne Franche-Comté, Besançon*.

First year science students.

Analysis, exercise sessions, *Université Bourgogne Franche-Comté, Besançon*.

First year biology students.

Before 2014

Analysis, course and exercise sessions (51h), *Université Bourgogne Franche-Comté, Besançon*.

First year science students.

Analysis, course and exercise sessions (Differential calculus) (10h), *Université Bourgogne Franche-Comté, Besançon*.

First year biology students.

Analysis, exercise sessions (20h), *Université Bourgogne Franche-Comté, Besançon*.

First year biology students.

Tutoring, 2h per week (2011-2012), *Université Bourgogne Franche-Comté, Besançon.*

First year science students.

Popularization

November 2014 **Animation of a popularization workshop during the "Journée de Découverte de la Recherche Mathématiques, Besançon.**

Responsibilities

2015-2016 **Co-organizer of PhD students seminar**, *University of Franche-Comté, Besançon.*

2016 **Co-organizer of the "Journées de l'école Doctorale Carnot-Pasteur"**, *Besançon.*

2016 **Co-organizer of the "Journée des jeunes chercheurs LMB 2016"**, *University of Franche-Comté, Besançon.*

2015 **Co-organizer of the "Journées de l'école Doctorale Carnot-Pasteur"**, *Dijon.*

Skills

Langues **English**, *Good level.*

(B2 level given by the Centre de Linguistique Appliquée de l'Université de Franche-Comté, an expert center in languages)

Spanish, *Basic knowledge.*

Office softwares **Latex, software for word processing and presentation.**