Florent P. BAUDIER

Curriculum Vitae

Biographical and Additional Information

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Webpage: www.math.tamu.edu/~florent/

Current Position
09/22– Associate Professor, Texas A&M University, College Station, Texas.

Articles Published in Peer-Reviewed Journals
(lastname\(^{(g)}\): graduate student, lastname\(^{(p)}\): postdoc)

19. F. Baudier, B. de Mendonça Braga\(^{(p)}\), Ilijas Farah, Ana Khukhro, Alessandro Vignati, R. Willett, \textit{Uniform Roe algebras over uniformly locally finite metric spaces are rigid}, to appear in Invent. Math., arXiv:2106.11391, 25 pages.

18. F. Baudier, P. Motakis\(^{(p)}\), and Th. Schlumprecht, and A. Zsák, \textit{Stochastic approximation of lamplighter metrics}, to appear in Bull. Lon. Math. Soc., arXiv:2003.06093, 19 pages.

17. F. Baudier, \textit{Barycentric gluing and geometry of stable metrics}, Rev. R. Acad. Cienc. Exactas Fís. Nat. Ser. A Mat. RACSAM no. 1 (2022), Paper No. 37, 48pp.

16. F. Baudier, G. Lancien, P. Motakis\(^{(p)}\), and Th. Schlumprecht, \textit{The geometry of Hamming-type metrics and their embeddings into Banach spaces}, Israel J. Math. 244 (2021), 681–725.

15. F. Baudier, G. Lancien, P. Motakis\(^{(p)}\), and Th. Schlumprecht, \textit{A new coarsely rigid class of Banach spaces}, J. Inst. Math. Jussieu no. 5 (2021), 1729–1747.

14. F. Baudier, K. Swieçicki\(^{(g)}\), and A. Swift\(^{(p)}\), \textit{No dimension reduction for doubling subsets of \(\ell_q\) when \(q > 2\) revisited}, J. Math. Anal. Appl. no. 2 (2021), Paper No. 125407, 18pp.

13. F. Baudier, P. Motakis\(^{(p)}\), Th. Schlumprecht, and A. Zsák, \textit{On the bi-Lipschitz geometry of lamplighter graphs}, Discrete Comput. Geom. 66 (2021), no.1, 181-214.

12. F. Baudier, G. Lancien, P. Motakis\(^{(p)}\), and Th. Schlumprecht, \textit{Coarse and Lipschitz universality}, Fund. Math. 254 (2021), no. 2, 181-214.

11. F. Baudier, G. Lancien, and Th. Schlumprecht, \textit{The coarse geometry of Tsirelson’s space and applications}, J. Amer. Math. Soc. 31 (2018), no. 3, 699-717.

10. F. Baudier, R. Causey\(^{(p)}\), S. Dilworth, D. Kutzarova, N. L. Randrianarivony, Th. Schlumprecht, and S. Zhang\(^{(g)}\), \textit{On the metric geometry of the countably branching diamond graphs}, J. Funct. Anal. 273 (2017), no. 10, 3150-3199.

9. F. Baudier, D. Freeman, Th. Schlumprecht, and A. Zsák, \textit{The metric geometry of the Hamming cube and applications}, Geom. Topol. 20 (2016), no. 3, 1427-1444.
8. F. Baudier and S. Zhang, $(\beta)$-distortion of some infinite graphs, J. Lond. Math. Soc. (2) 93 (2016), no. 2, 481-502.

7. F. Baudier, Quantitative nonlinear embeddings into Lebesgue sequence spaces, J. Topol. Anal. 8 (2016), no. 1, 117-150.

6. F. Baudier and G. Lancien, Tight embeddability of proper and stable metric spaces, Anal. Geom. Metr. Spaces 3 (2015), 140-156.

5. F. Albiac and F. Baudier, Embeddability of snowflaked metrics with applications to the nonlinear geometry of the spaces $L_p$ and $\ell_p$ for $0 < p < \infty$, J. Geom. Anal. 25 (2015), no. 1, 1-24.

4. F. Baudier, Embeddings of proper metric spaces into Banach spaces, Houston J. Math. 38 (2012), no. 1, 209-223.

3. F. Baudier, N. J. Kalton, and G. Lancien, A new metric invariant for Banach spaces, Studia Math. 199 (2010), no. 1, 73-94.

2. F. Baudier and G. Lancien, Embeddings of locally finite metric spaces into Banach spaces, Proc. Amer. Math. Soc. 136 (2008), 1029-1033.

1. F. Baudier, Metrical characterization of super-reflexivity and linear type of Banach spaces, Archiv Math. 89 (2007), 419-429.

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Articles Published in Peer-Reviewed Conference Proceedings

1. F. Baudier and R. Deville, Lipschitz embeddings into $c_0$, Harmonic Analysis, Function Theory, Operator Theory, and Their Applications: Conference Proceedings, Bordeaux, June 1-4, 2015, (2018), 29-42.

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Preprints Submitted for Publication in Peer-Reviewed Journals

2. F. Baudier and C. Gartland, Umbel convexity and the geometry of trees, submitted (2021), arXiv:2103.16011, 46 pages.

1. F. Baudier, C. Gartland, and Th. Schlumprecht, $L_1$-distortion of Wasserstein Metrics: a Tale of Two Dimensions, submitted (2022), arXiv:2208.13879, 35 pages.

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Other Publications

2. F. Baudier, Asymptotic structure and nonlinear geometry of Banach spaces, MFO Report 19/2018, (2018), (contribution to the report for the Oberwolfach Mini-Workshop: Superexpanders and Their Coarse Geometry).

1. F. Baudier and W. B. Johnson, Review of the book Embeddings: bilipschitz and coarse embeddings, by M. I. Ostrovskii, Bull. Amer. Math. Soc. 53 (2016), 495-506.

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Monographs in Preparation

2. F. Baudier and G. Lancien Nonlinear Geometry of Banach Spaces, in preparation, commissioned by the Société Mathématique de France and to appear in the series “Cours Spécialisés”.

1. F. Baudier, Geometric Embeddings and Metric Invariants, in preparation.

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Mentoring

Postdocs, Visiting Assistant Professors
2020-2023  C. Gartland, Texas A&M University.
Ph.D. Students

2022- L. Aceves Gonzalez, Texas A&M University.
co-advisor Prof. W. B. Johnson

2021- R. Malthaner, Texas A&M University.

2020-2021 K. Swieciécki, Texas A&M University, currently Assistant Professor at Wroclaw
University of Science and Technology.
co-advisor Prof. G. Yu

2014-2018 A. Swift, Texas A&M University, currently a Robotic Process Automation Programming
Analyst at American Fidelity after holding a Visiting Assistant Professor position
at the University of Oklahoma (2018-2020).
Co-advisor Prof. Th. Schlumprecht

Graduate Students

Spring 2021 M. Mathey-Prévot, Université de Neuchâtel, Master Thesis on Transportation
Metrics, Master’s Thesis committee member and informal advisor.
Advisor: Prof. A. Valette.

2018 K. Swieciécki, Texas A&M University, Research on equivariant embeddings, MATH
691, Summer semester.

Undergraduate Students

Sum. 2021 D. Finkel, Texas A&M University, Coarse embeddability between Lebesgue spaces,
MATH 485 Directed Studies.

Grants, Fellowships, Scholarships

Federal and State Grants

2021-2024 PI, NSF standard grant, Geometry of Graphs and Banach Spaces, reference number
DMS-2055604, funding period 07/01/2021-06/30/2024, total amount: $249,460.

2020-2022 PI, NSF continuing grant, (co-PIs I. Holmes, W. B. Johnson, E. Procaccia)
Workshop in Analysis and Probability, reference number DMS-1900844, funding period
06/01/2019-05/31/2022, total amount: $174,000.

2020-2023 AIM SQuaRE grant, Expanders, Ghosts, and Roe Algebras, SQuaRE group com-
posed of F. Baudier, B. de Mendonça Braga, I. Farah, A. Khukhro, A. Vignati, R.
Willett.

2018-2022 PI, NSF standard grant, Banach Spaces and Graphs: Geometric Interactions and
Applications, reference number DMS-1800322, funding period 07/01/2018-06/30/2022,
total amount: $112,771.

2014-2016 PI, ANR research grant (Agence Nationale de la Recherche, French national
research agency), NoLiGeA Project, reference number ANR-13-PDOC-0031, funding period January 2014-January 2016, total amount: 150,000€ ($195,000).

2013-2015 Co-PI, FAPESP research grant (São Paulo Research Foundation, state of
São Paulo (Brazil) research agency), (PI Prof. V. Ferenczi, USP) Somas torcidas,
posicões, e teoria de Ramsey, reference number 2013/11390-4, funding period: October
2013-September 2015, total amount: 76,398 R$ ($34,380).

Fellowships and Scholarships
Fall 2011 **Invited research member**, MSRI, Berkeley, California, partially supported by an NSF grant DMS-0932078 administered by the MSRI.

2010-2012 **Fields Postdoctoral Fellowship**, Thematic Program on Asymptotic Geometric Analysis (6 months) and University of Alberta (18 months), declined.

2005-2008 **Ph.D. scholarship**, Université de Franche-Comté, Besançon, France.

Other external and internal grants

2014 **Internal grant**, from the Équipe d’Analyse Fonctionnelle, Université Pierre et Marie Curie (Paris 6), to support the organization of the Fall School “Metric Embeddings: Obstructions and Constructions”, total amount: 1,000 €.

**External grant**, from the GDR AFHP, to support the organization of the Fall School “Metric Embeddings: Obstructions and Constructions”, total amount: 1,000 €.

**Internal grant**, from the Institut de Mathématiques de Jussieu-Paris Rive Gauche, to support the organization of the Fall School “Metric Embeddings: Obstructions and Constructions”, total amount: 3,000 €.

**External grant**, from the “Function Theory on Infinite Dimensional Spaces XIII” organizing committee, covering the regular registration fee, the local expenses and accommodation expenses, total amount: equivalent of 1,500 €.

2009 **External grant**, from the CCCI (Commission des Colloques et Congrès Internationaux), to attend the Workshop on Quantitative and Computational Aspects of Metric Geometry, IPAM, UCLA, California (January 2009), total amount: 1,000 €.

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**Awards**

2019 **2018-2019 Departmental Outstanding Teaching Award**, Texas A&M University.

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**Conference Talks**

2022 **BWB-2022 Brazilian Workshop in Banach Spaces**, Butantã edition, USP São Paulo, São Paulo state, Brazil, (December 2022).

Functional Analysis in Lille. A conference in honor of Gilles Godefroy, Université de Lille, Lille, France, (June 2022).

(25-minute talk)

2021 **Spring Eastern Sectional Meeting of the AMS**, virtual (formerly at Brown University, Providence, RI), Special Session on Metric Techniques in Analysis, (March 2021).

invited speaker (20-minute talk)

2020 **10ème Rencontres d’Analyse Fonctionnelle Besançon-Neuchâtel**, Université de Neuchâtel, Neuchâtel, Suisse, (originally June 2020, postponed).

main speaker (50-minute talk)

Entangling Noncommutative Functional Analysis and Geometry of Banach Spaces, CIRM (Centre International de Rencontres Mathématiques), Luminy, France, virtual (October 2020).

main speaker (50-minute talk)

2019 **Geometry and Analysis: Celebrating the Mathematics of Pierre Pansu**, Mathematical Institute University of Oxford, Oxford, UK, (September 2019).

main speaker (1-hour talk)
Spring Eastern Sectional Meeting of the AMS. *University of Connecticut, Hartford, CT*, Special Session on Banach Space Theory and Metric Embeddings, (April 2019).
*invited speaker (20-minute talk)*

2018 Recent Advances in Functional Analysis, dedicated to the memory of Joe Diestel and Victor Lomonosov, *Kent State University, Kent, Ohio, USA*, (October 2018).
*invited speaker (20-minute talk)*

SUMIRFAS 2018. *Texas A&M University, College Station, Texas*, (August 2018).
*main speaker (50-minute talk)*

Workshop on Large Scale Geometry and Applications, The Fields Institute for Research in Mathematical Sciences, Toronto, Canada, (May 2018).
*main speaker (45-minute talk)*

Mini-Workshop: Superexpanders and Their Coarse Geometry, *MFO, Oberwolfach Research Institute for Mathematics, Oberwolfach, Germany*, (April 2018).
*main speaker (two 1-hour lectures)*

Non Linear Functional Analysis, *CIRM (Centre International de Rencontres Mathématiques), Luminy, France*, (March 2018).
*main speaker (45-minute talk)*

2017 Virginia Operator Theory and Complex Analysis Meeting (VOTCAM), University of Virginia, Charlottesville, VA, (October 2017).
*main speaker (1-hour talk)*

Fall Central Sectional Meeting of the AMS, *University of North Texas, Denton, TX*, Special Session on Banach Spaces and Applications, (September 2017).
*invited speaker (40-minute talk)*

Spring Eastern Sectional Meeting of the AMS, *Hunter College, City University of New York, New York, NY*, Special Session on Banach Space Theory and Metric Embeddings, (May 2017).
*invited speaker (20-minute talk)*

2016 Annual Meeting of the French Functional Analysis Research Network (GDR AFHP), *Institut de Mathématiques de Toulouse, Toulouse, France*, (October 2016).
*plenary speaker (50-minute talk)*

6ème Rencontres d’Analyse Fonctionnelle Besançon-Neuchâtel, *LMB, Université de Franche-Comté, Besançon, France*, (June 2016).
*main speaker (50-minute talk)*

Workshop in Functional Analysis, *Universidad Politécnica de Cartagena, Cartagena, Spain*, (June 2016).
*plenary speaker (declined)*

2015 Relations Between Banach Space Theory and Geometric Measure Theory, Mathematics Institute, *University of Warwick, Coventry, England*, (June 2015).
*invited speaker (30-minute talk)*

Banach spaces and their applications in analysis, *CIRM (Centre International de Rencontres Mathématiques), Luminy, France*, (January 2015).
*main speaker (50-minute talk)*
2014  Conference on Geometric Functional Analysis and its Applications, LMB, Université de Franche-Comté, Besançon, France, (October 2014).

main speaker (50-minute talk)

Banach Methods in Non Commutative Geometry, Fundan University, Shangai, China, (June 2014).

plenary speaker (50-minute talk)

4ème Rencontres d’Analyse Fonctionnelle Besançon-Neuchâtel, LMB, Université de Franche-Comté, Besançon, France, (May 2014).

main speaker (45-minute talk)

Function Theory on Infinite Dimensional Spaces XIII, Instituto de Ciencias Matemáticas, Madrid, Spain, (February 2014).

invited speaker (30-minute talk)

Joint Mathematics Meeting, Baltimore, Maryland, Special Session on Banach Spaces, Metric Embeddings and Applications, (January 2014).

invited speaker (20-minute talk)

2013 Fall Central Sectional Meeting of the AMS, Washington University, St. Louis, Missouri, Special Session on Linear and Non-linear Geometry of Banach Spaces, (October 2013).

invited speaker (20-minute talk)

Banach Spaces: Geometry and Analysis, Institute of Advanced Studies (IAS) at the Hebrew University of Jerusalem, Jerusalem, Israel, (May 2013).

contributed talk (30-minute talk)

2012 Annual Meeting of the French Functional Analysis Research Network (GDR AFHA), Université de Marne La Vallée, Paris, France, (October 2012).

contributed talk (30-minute talk)

Banach Space Theory, Banff International Research Station (BIRS), Banff, Alberta, Canada, (March 2012).

main speaker (50-minute talk)

2011 Embedding Problems in Banach Spaces and Group Theory, Mathematical Science Research Institute (MSRI), Berkeley, California, (October 2011).

main speaker (50-minute talk)

Discrete Analysis Embeddings Workshop, Isaac Newton Institute for Mathematical Sciences (INIMS), Cambridge, England, (January 2011).

main speaker (50-minute talk)

2010 SUMIRFAS 2010, Texas A&M University, College Station, Texas, (August 2010).

invited speaker (30-minute talk)

2009 Function Theory on Infinite Dimensional Spaces XI, Universidad Complutense de Madrid, Madrid, Spain, (December 2009).

contributed talk (30-minute talk)

Annual Meeting of the French Functional Analysis Research Network (GDR AFHA), Université de Franche-Comté, Besançon, France, (November 2009).

contributed talk (30-minute talk)

2009 Affine Isometric Actions of Discrete Groups, Centro Stefano Franscini, Ascona, Switzerland, (July 2009).

contributed talk (30-minute talk)
2008 **Annual Meeting of the French Functional Analysis Research Network (GDR AFHA)**, Université d’Orléans, Orléans, France, (October 2008).
- contributed talk (30-minute talk)

**Spring Conference on Banach spaces**, (Organized by the Mathematical Institute of Czech Academy of Sciences, Prague), Pazeky, Czech Republic, (April 2008).
- contributed talk (30-minute talk)

2007 **Geometric Linearization of Graphs and Groups**, Centre Interfacultaire Bernoulli, EPFL Lausanne, Switzerland, (January 2007).
- invited contributed talk (20-minute talk)

2006 **Annual Meeting of the French Functional Analysis Research Network (GDR AFHA)**, Université des Sciences et Technologies de Lille, Lille, France, (September 2006).
- contributed talk (30-minute talk)

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**Lecture Series, Mini-courses, Schools**

2015 **Group Actions and Metric Embeddings**, Kyobu University, Kyoto, Japan, (September 2015).
- mini-course speaker (three 1-hour talks)

2010 **Lectures of the 3rd Roman Cycle**, Institut de Mathématiques de Neuchâtel, Embeddings of Metric Spaces and Applications, (Spring 2010).
- semester-long course

2009 **Summer School, Geometry and Analysis in the Theory of Computation**, Indiana University, Bloomington, Indiana, (August 2009).
- 2-hour lecture

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**Colloquium and Seminar Talks**

2021 **Banach Spaces Webinar**, University of North Texas, Denton, virtual, moderated by Buyamin Sari, (December 2021).

**Functional Analysis and Descriptive Set Theory Seminar**, University of São Paulo, virtual, São Paulo, Brazil (June 2021).

**Operator Theory Seminar at UVA**, University of Virginia, Richmond, virtual (February 2021).

2020 **Banach Spaces Webinar**, University of North Texas, Denton, virtual, moderated by Buyamin Sari, (July 2020).

**Analysis Seminar**, University of Connecticut, Hartford, Connecticut, (originally April 2020-postponed).

2019 **Colloquium**, University of Mississippi, Oxford, Mississippi, (March 2019).

**Groups and Dynamics Seminar**, Texas A&M University, College Station, Texas, (February 2019).

**Colloquium**, Iowa State University, Ames, Iowa, (February 2019).

**Colloquium**, Texas A&M University, College Station, Texas, (January 2019).

2018 **Analysis Seminar**, University of Houston, Houston, Texas, (October 2018).

**Colloquium**, Saint Louis University, Saint Louis, Missouri, (April 2018).

2017 **Séminaire d’Analyse Fonctionnelle**, IMJ-PRG, Université Paris VI-Pierre et Marie Curie, Paris, France, (June 2017).
Functional Analysis Seminar, Université de Franche-Comté, Besançon, France, (June 2017).

2016 Functional Analysis Seminar, Université de Franche-Comté, Besançon, France, (May 2016).

Calderón-Zygmund Analysis Seminar, University of Chicago, Chicago, Illinois, (March 2016).

2015 Analysis Seminar, Miami University, Oxford, Ohio, (November 2015).

Colloquium, Miami University, Oxford, Ohio, (November 2015).

Analysis Seminar, University of Illinois at Urbana-Champaign, Urbana-Champaign, Illinois, (October 2015).

Colloquium, Florida Atlantic University, Boca Raton, Florida, (September 2015).

Groups and Analysis Seminar, Université de Neuchâtel, Switzerland, (June 2015).

Séminaire d’Initiation à l’Analyse, IMJ-PRG, Université Paris VI-Pierre et Marie Curie, Paris, France, (June 2015).

Logic Seminar, University of Illinois at Chicago, Chicago, Illinois, (March 2015).

Analysis Seminar, Universidad Complutense de Madrid, Madrid, Spain, (January 2015).

2014 Functional Analysis Seminar, Universidade de São Paulo, São Paulo, Brazil, (August 2014).

two talks

Séminaire d’Initiation à l’Analyse, Université Paris VI-Pierre et Marie Curie, Paris, France, (January 2014).

Colloquium, Kansas State University, Manhattan, Kansas, (January 2014).

2013 Interview Maître de Conférence (ranked 6th), Université Paris VII-Denis Diderot, Paris, France, (May 2013).

Functional Analysis Seminar, Université de Franche-Comté, Besançon, France, (May 2013).

Millican Colloquium, University of North Texas, Denton, Texas, (April 2013).

2012 Groups and Dynamics Seminar, Texas A&M University, College Station, Texas, (October 2012).

Analysis Seminar, Universidad Complutense de Madrid, Madrid, Spain, (June 2012).

Analysis Seminar, Universidad Pública de Navarra, Pamplona, Spain, (June 2012).

2011 Functional Analysis Seminar, Université de Franche-Comté, Besançon, France, (January 2011).

2010 Groups and Analysis Seminar, Université de Neuchâtel, Switzerland, (December 2010).

2009 Colloquium of the Mathematical Analysis Department, Universidad Complutense de Madrid, Madrid, Spain, (October 2009).

Functional Analysis Seminar, Université des Sciences et Technologies de Lille, Lille, France, (May 2009).

2008 Workshop on Operator Algebras, Université d’Orléans, Orléans, Orléans, France. (February 2008)

Analysis Seminar, IMB, Université de Bordeaux 1, Bordeaux, France, (March 2008).
Synergistic Activities
Conference Organization

2022 **SUMIRFAS 2022**, Texas A&M University, College Station, Texas, July 29-31. 
*chair* (co-organizers Profs. W. B. Johnson, I. Holmes)

**Geometry and Analysis on Nonsmooth Spaces**, Texas A&M University, College Station, Texas, August 8-12.
(co-organizers G. C. David, C. Gartland (*chair*), J. Wang)

**Joint AMS-SMF-EMS Meeting**, Special Session on “Quantitative Geometry of Transportations Metrics”, Grenoble, France, July 18-22. 
*chair* (co-organizers Profs. D. Cordero-Erausquin, A. Eskenazis, and E. Pernecká)

**STEaLTH Workshop on the Coarse Geometry of Uniform Roe Algebra**, Texas A&M University, College Station, Texas, May 23. 
(sole organizer)

2021 **SUMIRFAS 2021**, Texas A&M University, College Station, Texas, July 30-August 1 2021, hybrid. 
*chair* (co-organizers Profs. W. B. Johnson, I. Holmes, E. Procaccia)

2016 **Workshop in Analysis and Probability**, Concentration Week on “Metric Spaces: Analysis, Embeddings into Banach Spaces, and Applications”, Texas A&M University, College Station, Texas, 5-9 July 2016. 
*chair* (co-organizers Profs. M. Ostrovskii, Th. Schlumprecht, and N. Randrianarivony)

2014 **Fall School**, Metric Embeddings: Constructions and Obstructions, Institut Henri Poincaré, Paris, France, 3-7 November 2014. 
*chair* (co-organizers Profs. G. Godefroy, P. Pansu, and R. Tessera)

**First Brazilian Workshop in Geometry of Banach Spaces**, Maresias, São Paulo state, Brazil, 25-29 August 2014. 
*organizer* (co-organizers Profs. J. L. Abad, C. Brech, V. Ferenczi (*chair*), and E. Galego)

2011 **Workshop in Analysis and Probability**, Concentration Week on “Non-Linear Geometry of Banach Spaces, Differentiability and Geometric Group Theory”, Texas A&M University, College Station, Texas, 1-5 August 2011. 
*chair* (co-organizers Profs. W. B. Johnson, P. Nowak, and B. Sari)

2010 **Rencontres d’Analyse Fonctionnelle Neuchâtel-Besançon**, Université de Neuchâtel, Neuchâtel, Switzerland, 3-4 June 2010. 
*founder and organizer* (co-founder and co-organizer Prof. A. Valette)

Seminar Organization

2021– **Banach and Metric Space Geometry Working Seminar**, Texas A&M University. 
*main organizer*

2020– **Banach and Metric Space Geometry Research Seminar**, Texas A&M University. 
*main organizer*

2012-2019 **Working Seminar on Nonlinear Geometries**, Texas A&M University. 
*organizer* (co-organizer Prof. G. Paouris)

2010-2016 **Banach Spaces Seminar**, Texas A&M University. 
*main organizer*
Service Activities

2022– Teaching Committee, Texas A&M University-Department of Mathematics.
appointed member

2018–2020 Academic Professional Track Committee, Texas A&M University-Department of Mathematics.
elected member

Fall 2018 Academic Professional Track Teaching Committee, Texas A&M University-
Department of Mathematics.
appointed member

2018-2019 Graders and Undergraduate Teaching Assistants Operations, Fall 2018-Fall 2019.
appointed supervisor

Outreach Activities

2017 Outreach talk at the Texas A&M Math Club (April).
Title: When the spaces of Stefan Banach and Maurice Fréchet meet the approximation
algorithms of theoretical computer scientists.

Editorial Activities

Referee Ann. Funct. Anal.
Bull. Belg. Math. Soc. Simon Stevin – Bul. Lond. Math. Soc.
Discrete Math.
Colloquium Mathematicum
Forum Math. Pi
Houston J. Math.
Int. Math. Res. Not. IMRN – Israel J. Math. – Invent. Math.
J. Approx. Theory – J. Funct. Anal. – J. Math. Anal. Appl. – J. Topol. Anal.
Math. Ann. – Mathematical Inequalities & Applications – Mediterra. J. Math.
Nat. Acad. Sci. Lett.
Positivity – Proc. Amer. Math. Soc.
Proceedings volume for the conference on Operator Theory and its Applications
Studia Math.
Trans. Amer. Math. Soc.

Reviewer Zentralblatt MATH (since 2013).
MathSciNet (since 2010).
Scientific Organization Memberships
American Mathematical Society (since 2012)
Société Mathématique Européenne (since 2012)
Société Mathématique de France (since 2012)

Teaching Experience

Graduate level

2022 Real Analysis I, MATH 607, TAMU, Fall.
instructor
Mathematical Algorithms and their Implementations, MATH 689, TAMU, Spring.
instructor

2020 Topics Course in “Metric Invariants: Algorithmic and Geometric Applications”, MATH 689, TAMU, Fall.
instructor

2019 Introduction to classical analysis, MATH 615, TAMU, Fall (from mid-semester).
instructor

2016 Topics Course in “Geometry of Metric Spaces”, MATH 663, TAMU, Spring.
instructor

Undergraduate level

2022 Foundations of Mathematics, MATH 300, TAMU, 1 section, Fall.
instructor

2019 Foundations of Mathematics, MATH 300, TAMU, 2 sections, Fall.
instructor

2018 Foundations of Mathematics, MATH 220, TAMU, 3 sections, Fall.
instructor

2017 Foundations of Mathematics, MATH 220, TAMU, 1 section, Fall.
instructor

Calculus, MATH 172, TAMU, 2 sections, Fall.
instructor

2016 Foundation of Mathematics, MATH 220, TAMU, 2 sections, Fall.
instructor

Engineering Mathematics I, MATH 151, TAMU, 3 sections, Fall.
instructor

2015 Differential Equations, MATH 308, TAMU, (2 sections), Fall.
instructor

Differential Equations, MATH 308, TAMU, (2 sections), Summer.
instructor

Differential Equations, MATH 308, TAMU, (2 sections), Spring.
instructor

2013 Engineering Mathematics III, MATH 251, TAMU, 2 sections, Fall.
instructor

Linear Algebra, MATH 304, TAMU, 1 section, Summer.
instructor

Differential Equations, MATH 308, TAMU, 1 section, Spring.
instructor

2012 Engineering Mathematics I, MATH 151, TAMU, 6 sections, Fall.
instructor

Linear Algebra, MATH 304, TAMU, 1 section, Summer.
instructor

Engineering Mathematics II, MATH 152, TAMU, 6 sections, Spring.
instructor
Differential Equations, MATH 308, TAMU, 1 section, Spring.  
instructor

2011 Engineering Mathematics II, MATH 152, TAMU, 4 sections, Summer.  
instructor

Engineering Mathematics I, MATH 151, TAMU, 6 sections, Spring.  
instructor

2009 Analysis for 1st year undergraduate biology students, Université de Franche-Comté, Spring.  
teaching assistant in charge of recitations (60 students)

2008 Analysis for 1st year undergraduate biology students, Université de Franche-Comté, Fall.  
teaching assistant in charge of recitations (60 students)

Teaching at École Nationale Supérieure de Micro-Méchanique (ENSMM)

2005–2008 Additional Analysis and Modeling 2, (distribution theory in one dimension, convolution of distributions, Fourier and Laplace transforms of distributions), ENSMM (Engineering School), Spring and Fall.  
instructor and course coordinator (100 students per semester)

Examinator in “Classes préparatoires aux Grandes Écoles” (CPGE)

2008–2009 MP section (math-physics second year students), Lycée Victor Hugo, Besançon, France, weekly, Spring and Fall.  
oral examinator

2007–2008 MPSI section (math-physics first year students), Lycée Victor Hugo, Besançon, France, weekly, Spring and Fall.  
oral examinator

Study Abroad Programs (Summer semester in Besançon, France)

2020 Advanced Calculus I, MATH 409, TAMU.  
Directed Studies, MATH 485, TAMU.  
instructor and faculty leader (12 students, program canceled after the recruiting and pre-departure preparation phases)

2019 Advanced Calculus I, MATH 409, TAMU.  
Directed Studies, MATH 485, TAMU.  
instructor and faculty leader (17 students)

2018 Advanced Calculus I, MATH 409, TAMU.  
Directed Studies, MATH 485, TAMU.  
instructor and faculty leader (18 students)

2017 Advanced Calculus I, MATH 409, TAMU.  
Directed Studies, MATH 485, TAMU.  
instructor and faculty leader (students)

2016 Advanced Calculus I, MATH 409, TAMU.  
Directed Studies, MATH 485, TAMU.  
instructor and faculty leader (students)

Former Positions
09/19–08/22 Assistant Professor, Texas A&M University, College Station, Texas.

09/17–08/19 Instructional Assistant Professor, with a special appointment to the Graduate Faculty, Texas A&M University, College Station, Texas.

10/10–08/17 Visiting Assistant Professor, with a special appointment to the Graduate Faculty, Texas A&M University, College Station, Texas.

01/14–01/15 ANR Fellow, NoLiGeA Project, Institut de Mathématiques de Jussieu-Paris Rive Gauche, Université Pierre et Marie Curie (Paris 6), Paris, France.

Fall 2011 Research Member, Mathematical Science Research Institute, Berkeley, California.

01/10–09/10 Postdoc FNS, Université de Neuchâtel, Neuchâtel, Switzerland.

09/09–12/09 Postdoc IMI, Universidad Complutense de Madrid, Madrid, Spain.

09/08–08/09 Teaching and Research Assistant, Université de Franche-Comté, Besançon, France.

09/05–08/08 Ph.D. student with scholarship, Université de Franche-Comté with a teaching appointment at ENSMM (Engineering School), Besançon, France.

Education

2005–2008 Ph.D. degree in Mathematics, Université de Franche-Comté, Besançon, France. Studies for a Ph.D. degree (with scholarship) under the supervision of Prof. Gilles Lancien.

2002–2005 M.Sc. degree in Mathematics, Université de Franche-Comté, Besançon, France. M.Sc. thesis: Extension of bi-Lipschitz mappings between $L_p$ spaces, prepared under the supervision of Prof. Gilles Lancien.

2003–2004 Agrégation de Mathématiques preparation, Université de Franche-Comté, Besançon, France. Intensive preparatory year to the nation-wide educational contest called Agrégation de Mathématiques; selected 99th out of 2560 candidates in 2005.

2001–2002 B.Sc. degree in Mathematics, Université de Franche-Comté, Besançon, France. Studies for a “Licence de Mathématiques Pures” (equivalent to a B.Sc. degree in Mathematics)

1998–2001 Classes préparatoires aux Grandes Écoles, Lycée Victor Hugo, Besançon, France.

Research Interests

- Qualitative and quantitative aspect of metric geometry (coarse, uniform, strong, and Lipschitz geometries of metric spaces; metric geometry of graphs and groups)
- Low-distortion embeddability of finite and infinite metric spaces (probabilistic methods, Ramsey theoretic methods).
- Banach space geometry (nonlinear theory of Banach spaces, Lipschitz/uniform/coarse classification of Banach spaces, Ribe Program, Kalton Program).
- Functional Analysis (classical linear theory of Banach spaces).
- Applications of the above to geometric group theory, noncommutative geometry, topology, and theoretical computer science.

Computer Skills

Tools WebAssign, SMART Notebook, i>clicker.
Platforms Mac OS X, Linux, Windows.
Languages \LaTeX, HTML, Python.
Softwares MATLAB, Maple, Scilab.
## Languages

Self-assessment European level CEFR (C2 maximum evaluation)

| Language          | Mother Tongue | Fluent       | Spouse Language | Intermediate |  |
|-------------------|---------------|--------------|-----------------|--------------|---|
| French            | C2            | C2           | C2              | C2           | C2 |
| English           | C2            | C2           | C2              | C2           | C2 |
| Portuguese        | C2            | C1           | C1              | C1           | B2 |
| Spanish           | C1            | C1           | B2              | B2           | B1 |
| German            | B2            | B2           | B1              | B1           | B1 |