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French driving license

French nationality

# Dr. Etienne Ménard,

*PhD in Mathematics*

## Education

- 2017-2021 **PhD in Mathematics**, *Université de Caen Normandie*, Caen, France, Defended : 10/3/21.  
Cluster algebras associated to open Richardson varieties : an algorithm to compute initial seeds
- 02-06/2017 **Master Degree Internship**, *LMNO*, Caen, Supervised by Bernard Leclerc.  
Preprojective algebras and cluster algebras
- 2016-2017 **Master degree Advanced Mathematics**, *École Normale Supérieure de Lyon - Université Claude Bernard Lyon 1*, Lyon, France, Passed, magna cum laude.  
Topology and algebraic computations
- 2014-2016 **Master degree Fundamental and Applied Mathematics**, *Université de Caen - Normandie*, Caen, France, Passed with rank 1/6 and mean of 15.85/20.  
Preparation to CAPES (passed) and Agrégation Option C (passed) examinations
- 2011-2014 **Bachelor in Mathematics**, *Université de Caen - Basse-Normandie*, Caen, France, Passed, summa cum laude.
- 2010-2011 **Senior Year, Scientific section, major in Mathematics**, *Institution Jeanne d'Arc*, Bayeux, France.

## Publications

- 2022 **Cluster algebras associated with open Richardson varieties : an algorithm to compute initial seeds**, *preprint*, arXiv :2201.10292.
- 2017-2021 **Software Library**, *Sagemath*, [Hosted on Framagit](#), Algorithmical implementation of my thesis results.

## Experience

### Positions

- 2021-2022 **"Colleur" (oral examiner for College Students)**, *MPSI 2*, Lycée Champollion, Grenoble, France.  
2 h/week
- 2021-2022 **ATER (Teaching and research assistant)**, *Université Grenoble Alpes*, Institut Fourier, Grenoble, France.
- 2020-2021 **ATER**, *Université de Caen Normandie*, LMNO, Caen, France.
- 2017-2020 **PhD in mathematics with teaching duties**, *Université de Caen Normandie*, Caen, France.  
Cluster structures on strata of flag varieties

### Talks

- 05/04/2022 **Young researchers' colloquium**, *Comprehensible Seminar*, Institut Fourier, Grenoble.  
Cluster having good character
- 18/03/2022 **Colloquium**, *Colloque Tournant GDR TLAG*, Université de Bourgogne, Dijon.  
Cluster algebras associated to open Richardson Varieties, emphasis on the role played by Lie Algebras
- 11/10/2021 **Seminar**, *Séminaire Géométrie et Groupes de l'Institut Fourier*, Université Grenoble Alpes, Grenoble.  
Algèbres amassées : exemples, théorie et catégorification additive

- 07/06/2021 **Seminar**, *Séminaire de mathématiques de Nancy*, Université de Lorraine, En ligne.  
Algèbres amassées associées aux variétés de Richardson ouvertes : un algorithme de calcul de graines initiales
- 13/04/2021 **Seminar**, *Online Cluster Algebra Seminar*, Universidad Nacional autónoma de México, Online.  
Cluster Algebras associated to open Richardson varieties : an algorithm to compute initial seeds
- 02/03/2021 **Algebra seminar**, *LMNO*, Université de Caen, En ligne.  
Algèbres amassées associées aux variétés de Richardson ouvertes : un algorithme de calcul de graines initiales
- 13/06/2019 **Mini talk**, *Normandy-Mathematics Federation Days*, Université du Havre, Le Havre.  
Une introduction aux algèbres amassées (20 minutes)
- 9/04/2019 **Mini talk**, *Workshop Tropical Geometry meets Representation Theory II*, University of Leicester, Leicester.  
Cluster Structures on Strata of Flag Varieties : Algorithms (20 minutes)
- 11/10/2017, **Young Researchers' seminar**, *LMNO*, Université de Caen-Normandie, Caen.
- 14/11/2018, "Carquois : tirer des flèches pour bâtir des ponts", "Structures amassées sur les strates de variétés de drapeaux : derniers développements" et "Jeux de mots(dules)"
- 23/01/2019
- 19/12/2018 **Young Researchers' seminar**, *LAMFA*, Université de Picardie-Jules Verne, Amiens.  
"Algèbres amassées, carquois et mutations de modules"

### Enseignement

- 2021–2022 **ATER**, *Université Grenoble Alpes*, Grenoble (38), France.  
See below
- 2020–2021 **ATER**, *Université de Caen-Normandie*, Caen (14), France.  
See below
- 2017–2020 **Doctorant Contractuel**, *Université de Caen-Normandie*, Caen (14), France.  
See below
- 2014–2015 **Student tutor**, *Université de Caen Basse-Normandie*, Caen (14), France.  
Supervising first-year students, exercices corrections  
Supervised students :  
— students of L1 MIASHS (Mathematics and economics)  
— students of L1 Mathematics

### Internship

- April–June 2015 **Supervised research work, first year of master degree**, *Laboratoire de Mathématiques Nicolas Oresme (LMNO)*, Caen (14).  
Gabriel Theorem  
— discovery of category theory and quivers  
— study of Bernstein, Gel'Fand and Ponomarev article on the proof of Gabriel theorem with Coxeter functor, writing of a dissertation and oral defense

### Administrative duties

- 2018–2020 **PhD Representative**, *Doctoral School MIIS council*, Normandie Université, Represente and carry the voice of PhD students towards the doctoral school, intervene in the council and in the Doctoral School Collegium.
- 2017–2018 **Optic correspondent**, *Caen Science PhD students*, Caen, Be the link between students of the lab and the association for cultural events, feasts and administratives informations.

### Popularization

- October 11th, 2019 **Science Feast**, *Animation of LMNO stand*, Campus 2 Caen.
- 2017–2019 **Salon de l'étudiant**, *Animation of Science Faculty stand*, Caen.
- 2017–2019 **MATH.en.JEANS**, *Initiation to research*, Lycée Jeanne d'Arc Bayeux, Mainly exchange via emails, some trips, participation to 2019 colloquium in Rennes.

Position	Year	Establishment	Promotion	Subject	Number of hour	Number of students	Responsability
Colleur		Lycée Champollion	MPSI2	Mathematics	around 60h colles	3	Colles
ATER	2021 - 2022	UGA	L2 CS-Maths	Project of scientific knowledge	18h Project management	15	UE
			L1 CS-Maths	Linear Algebra	15h TD	30	TD
			L1 Physics	Real Analysis	2×31.5h TD	2×25	TD
	2020-2021	UCN	DUT 1st Year CS	Real analysis	3×22h TD 12 h CM	3×30	CM & TD
			L3 Maths.	Formal computation	3×8h TP	3×15	TP
			L2 Maths. & MIASHS	Algorithmics	2×25h TD	2×35	TD & TP
					4×10h TP	4×15	
PhD. student	2019-2020	UCN	L2 Maths.	Algorithmics	2×25h TD	2×30	TD
			L1 Biology	Mathematical tools	10+4 h TD	2×25	Class-TD
	2018-2019		L2 Maths.	Algorithmics	2×25h TD	2×25	TD & TP
					10+4 h TP		
	2017-2018		L1 CS	Mathematical tools retake	4h TD	10	TD
				Logic	25h TD	40	TD
Mathematical tools		35 h TD		40	TD		
Total : 480h			372h TD	12h CM	78h TP	18 h P. Management	

Legend : CS : Computer Science, TD : tutorial classes, TP : practical classes, CM : lectures, DUT : University Diploma in technology.

## Conferences, schools, colloquiums

- 13-17/06/22 **Summer school : Representation theory, flag or quiver varieties**, *Université Paris Diderot*, Organisers : Nicolas Perrin, Olivier Schiffmann, Eric Vasserot, Michela Varagnolo .
- 29/3-1/4/22 **IM Research group days**, *Université de Lille*, Organisers : TBA.
- 16-18/03/22 **TLAG Research group colloquium**, *Dijon*, Organisers : Ronan Terpereau et Adrien Dubouloz.
- 9-11/03/20 **Algebra days (Bernard Leclerc's 60th Birthday)**, *LMNO*, Organisers : Paolo Bellingeri, Cedric Lecouvey.
- 6-10/01/20 **Winter school IHP : Categorifications, moduli space and representation theory**, *CIRM (Marseille)*, Organisers : Tamas Hausel, David Hernandez, Nicolas Jacon, Emmanuel Letellier, Simon Riche, Michela Varagnolo, Eric Vasserot.
- 21-23/10/19 **Normand days in topology**, *Caen*, Organisers : Paolo Bellingeri & Victoria Lebed.
- 4-6/09/19 **Final meeting  $SC^3A$  : Cluster algebras, representation theory and combinatorics**, *Amiens*, Organiser : Yann Palu.
- 8-12/04/19 **Spring school : Tropical Geometry meets Representation Theory II**, *Leicester*, Organisers : Fatemeh Mohammadi & Hipolito Treffinger.
- 6-8/02/19 **Workshop : CAtegorification in TOpology and REpresentation theory**, *Caen*, Organisers : François Costantino, Bernard Leclerc et Hoel Queffelec.
- 22-23/11/18 **XIX<sup>th</sup> Louis Antoine days : Proof and computations**, *Université Rennes 1*, Speakers : Assia Mahboubi, Bruno Salvy.
- 12-16/03/18 **Spring school : Tropical Geometry meets Representation Theory**, *Cologne*, Organisers : Sara Lamboglia, Lara Bossinger.
- 5-6/03/18 **Algebra days : Tensor categories and analysis**, *Caen*, Organisers : Roland Vergnioux et Bernard Leclerc.
- 7-8/11/17 **Mini-colloquium : Cluster algebras and representation theory**, *Caen*, Organiser : Bernard Leclerc.

## Languages

French Mother tongue

English Studied, read, spoken

*CECRL Level B2 First Certificate in English de Cambridge*

Spanish Studied, read, spoken

## Digital skills

Office work Microsoft Office, LibreOffice,  $\LaTeX$

Formal computation Sage

Programmation C, Python (used and taught)

## Diplomas and certificates

2016 Agrégation Externe de Mathématiques

*Option C : Calcul Formel, Rank 184/304*

2015 CAPES externe de Mathématiques

*Rank 103/1098*