

# CV - Lionel Tabourier (February 2024)

## Contact Information :

LIP6, Sorbonne Université  
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**Current situation (since 2014) : Associate Professor in Computer Science**  
*Complex Networks* team, LIP6, Sorbonne Université (previously UPMC) / CNRS

## Career :

**2018-2023** *Complex Networks* **team leader** (LIP6).  
**2017-2018** **Visiting researcher** at ISC-PIF (CNRS, Paris).  
**since 2014** **Associate Professor** in Computer Science at Université Pierre et Marie Curie (UPMC).  
**2012-2014** **Post-Doc** in Applied Mathematics at naXys (University of Namur, Belgium).  
**2011-2012** **Post-Doc** in Computer Science at LIP6 (UPMC).  
**2010-2011** **Teaching Assistant** (ATER) in Computer Science at LIP6 (UPMC).  
**2009-2010** **Engineer** at the CRÉA (École Polytechnique) for *Webfluence* research project.  
**2006-2010** **PhD candidate** at SPEC (CEA Saclay) :  
**2006-2009** **Trainee Teaching Assistant** in Physics at UPMC.

**2006** Research internship at LIAFA (CS laboratory, Paris 7 University) :  
(April to July) “Analysis of social networks periphery” (supervisor : Christophe Prieur)  
**2004** Research internship at LPS (Statistical Physics Laboratory, ENS Paris) :  
(May to July) “Road traffic modeling” (supervisor : Cécile Appert-Rolland)  
**2003** Research internship at the Seismology Laboratory of the IPGP :  
(June to July) “Crack speed in earthquakes” (supervisor : Pascal Favreau).

## Education and diplomas :

**2018** **Habilitation à Diriger les Recherches** - qualification to supervise PhD students.  
“From a static to a dynamic analysis of complex networks.”  
reviewers : Marco Fiore, Petter Holme, Christine Largeron  
examiners : Étienne Birmelé, Vittoria Colizza, Clémence Magnien, Céline Robardet

**2010** **PhD Defense**, Université Pierre et Marie Curie (UPMC, now Sorbonne Université).  
“Comparison method of complex graphs topologies applied to social networks analysis”.  
reviewers : Éric Fleury, Pablo Jensen  
examiners : Paul Bourguin, Matthieu Latapy, Camille Roth  
supervisors : Hugues Chaté, Annick Lesne

**2006-2009** Master’s degree in history and philosophy of science at Paris 7 University.  
**2005-2006** Master’s degree in statistical physics at the ENS Lyon.  
**2005** Passed the *Agrégation de physique*.  
**2004-2005** Training for the *Agrégation de physique* - national physics teaching qualification.  
**2002-2004** Bachelor’s Degree in general physics at the ENS Lyon.  
**2002** Admitted to the École Normale Supérieure de Lyon (ENS Lyon).  
**1999-2002** Preparatory school in physics - for the competition for the *Grandes Écoles*.

## Publications :

- **International Journals :**

- \* *Faster maximal clique enumeration in large real-world link streams.*

- A. Baudin, C. Magnien, **L. Tabourier**.

- Journal of Graph Algorithms and Applications*, 2024.

- \* *Probabilistic k-swap method for uniform graph generation beyond the configuration model.*

- L. Tabourier**, J. Karadayi.

- Journal of Complex Networks*, 2024.

- \* *[Re] Speedup Graph Processing by Graph Ordering.*

- F. Lécuyer, M. Danisch, **L. Tabourier**.

- ReScience C*, 2021.

- \* *Measuring Diversity in Heterogeneous Information Networks.*

- P. Ramaciotti Morales , R. Lamarche-Perrin, R. Fournier-S'Niehotta, R. Poulain, **L. Tabourier**, F. Taris-

- san.

- Theoretical Computer Science*, 2021.

- \* *RankMerging : A supervised learning-to-rank framework to predict links in large social networks.*

- L. Tabourier**, D. Bernardes, A.S. Libert, R. Lambiotte.

- Machine Learning Journal*, 2019.

- \* *Spreading dynamics in a cattle trade network : Size, speed, typical profile and consequences on epidemic control strategies.*

- A. Payen, **L. Tabourier**, M. Latapy.

- PLoS ONE*, 2019.

- \* *Predicting interactions between individuals with structural and dynamical information.*

- T. Arnoux, **L. Tabourier**, M. Latapy.

- Journal of Interdisciplinary Methodologies and Issues in Sciences*, 2019.

- \* *Characterizing and predicting mobile application usage.*

- K.W. Lim, S. Secci, **L. Tabourier**, B. Tebbani.

- Computer Communications*, 2016.

- \* *Predicting links in ego-networks using temporal information.*

- L. Tabourier**, A.S. Libert, R. Lambiotte.

- EPJ Data Science*, 2016.

- \* *Burstiness and spreading on temporal networks.*

- R. Lambiotte, **L. Tabourier**, J.C. Delvenne.

- European Physical Journal B*, 2013.

- \* *Internal links and pairs as a new tool for the analysis of bipartite complex networks.*

- O. Allali, **L. Tabourier**, C. Magnien, M. Latapy.

- Social Network Analysis and Mining*, 2013.

- \* *Firm-network characteristics and economic robustness to natural disasters.*

- F. Henriet, S. Hallegatte, **L. Tabourier**.

- Journal of Economic Dynamics and Control*, 2012.

- \* *Intrinsically dynamic communities from evolving, directed network data.*

- B. Mitra, **L. Tabourier**, C. Roth.

- Computer Networks*, 2012.

- \* *Generating constrained random graphs using multiple edge switches.*

- L. Tabourier**, C. Roth, J.P. Cointet.

- Journal of Experimental Algorithmics*, 2011.

- \* *Directedness of information flow in mobile phone communication networks.*

- F. Peruani, **L. Tabourier**.

- PLoS ONE*, 2011.

- \* *Citations among blogs in a hierarchy of communities : method and case study.*

- A. Salah Brahim, B. Le Grand, **L. Tabourier**, M. Latapy.

- Journal of Computational Sciences*, 2011.

- **International Conferences and Workshops :**

- \* *Modeling both pairwise interactions and group effects in polarization on interaction networks.*

D. Cassells, **L. Tabourier**, P. Ramaciotti Morales.

Proceedings of *CompleNet 2024*.

- \* *LSCPM : Communities in Massive Real-World Link Streams by Clique Percolation Method.*

A. Baudin, **L. Tabourier**, C. Magnien.

Proceedings of *TIME 2023*.

- \* *Tailored vertex ordering for faster triangle listing in large graphs.*

F. Lécuyer, L. Jachiet, C. Magnien, **L. Tabourier**.

Proceedings of *ALenEX 2023*.

- \* *Testing the Impact of Semantics and Structure on Recommendation Accuracy and Diversity.*

P. Ramaciotti Morales, **L. Tabourier**, R. Fournier-S'niehotta.

Proceedings of *ASONAM 2020*.

- \* *A random model that relies on maximal bicliques to preserve the overlaps in bipartite networks.*

F. Tarissan, **L. Tabourier**.

Proceedings of *CNA 2019*.

- \* *Role of the website structure in the diversity of browsing behaviors.*

P. Ramaciotti Morales, **L. Tabourier**, S. Ung, C. Prieur.

Proceedings of *Hypertext 2019*.

- \* *Ego-betweenness centrality in link streams.*

M. Ghanem, F. Coriat, **L. Tabourier**.

Proceedings of *SNAa (workshop ASONAM 2017)*.

- \* *Combining structural and dynamic information to predict activity in link streams.*

T. Arnoux, **L. Tabourier**, M. Latapy.

Proceedings of *ASONAM 2017*.

- \* *Impact of temporal features of cattle exchanges on the size and speed of epidemic outbreaks.*

A. Payen, **L. Tabourier**, M. Latapy.

Proceedings of *ICCSA 2017*, Agricultural and Environmental Big Data Analytics session.

- \* *RankMerging : Learning to rank in large-scale social networks.*

**L. Tabourier**, A.S. Libert, R. Lambiotte.

Proceedings of *DyNak II (workshop PKDD 2014)*.

- \* *A data-driven analysis to question epidemic models for citation cascades on the blogosphere.*

A. Salah Brahim, **L. Tabourier**, B. Le Grand.

Proceedings of *ICWSM 2013*.

- \* *How to detect causality effects on large dynamical communication networks.*

**L. Tabourier**, A. Stoica, F. Peruani.

Proceedings of *Comsnets 2012*.

- **Books Chapters :**

- \* *Scalable Algorithms to Measure User Influence in Social Networks.*

N. Arhachoui, E. Bautista, M. Danisch, A. Giovanidis, **L. Tabourier**.

To be published in *Lecture Notes in Social Networks*.

- \* *Interaction Prediction Problems in Link Streams.*

T. Arnoux, **L. Tabourier**, M. Latapy.

in *Dynamics on and of complex networks III*, 2019.

- **French speaking Journals :**

- \* *Génération de graphes aléatoires par échanges multiples d'arêtes.*

**L. Tabourier**, J.P. Cointet, C. Roth.

*Journal de la Société Française de Statistique*, 2017.

- **French speaking Conferences and Workshops :**
  - \* **Énumération efficace des cliques maximales dans les flots de liens réels massifs**  
A. Baudin, C. Magnien, **L. Tabourier**.  
Proceedings of *EGC 2023*.
  - \* **RankMerging : Apprentissage supervisé de classements pour la prédiction de liens dans les grands réseaux sociaux.**  
**L. Tabourier**, A.S. Libert, R. Lambiotte.  
Proceedings of *EGC 2015*.
  - \* **Cycles in hypergraph-based networks : signal or noise, artefacts or processes ?**  
**L. Tabourier**, J.P. Cointet, C. Roth.  
Proceedings of *Algotel 2008*.

## Projects and fundings

- **Limass** (2019-2021) National Research Agency project : member then coordinator  
*Linear Algorithms for Massive Real-World Graphs* (initial coordinator : M. Danisch)
- **Algodiv** (2016-2019) National Research Agency project : LIP6 principal investigator  
*Information Diversity and Algorithmic Recommendation*

## Research supervision

- **Phd students :**
  - \* Nouamane Arhachoui (since 2023), co-supervision : Vincent Gauthier (Télécom Sud Paris).  
*Mitigation strategies against fake news diffusion in online social platforms*
  - \* Duncan Cassells (since 2022), co-supervision : Pedro Ramaciotti Morales (ISC-PIF, CNRS).  
*Polarization in large socio-informational networks : models and measures*
  - \* Alexis Baudin (2021-2023), co-supervision : Clémence Magnien (LIP6).  
*Enumeration problems in massive graphs and applications*
  - \* Fabrice Lécuyer (2020-2023), co-supervision : Maximilien Danisch then Clémence Magnien (LIP6).  
*Sorting nodes to scale to massive real-world networks*
  - \* Aurore Payen (2015-2018), co-supervision : Matthieu Latapy (LIP6).  
*Importance of temporality in propagation phenomena, illustration on cattle trade networks*
  - \* Thibaud Arnoux (2015-2018), co-supervision : Matthieu Latapy (LIP6).  
*Predicting interactions in link streams*
- **Graduate students :**
  - \* Altynay Shubekova (April-September 2023) with Élodie Laine (LCQB, SU/CNRS).
  - \* Ruben Patriarca (May-August 2022) with Mehdi Naima (LIP6).
  - \* Nouamane Arhachoui (February-August 2022) with Anastasios Giovanidis (LIP6).
  - \* Cécile Pov (April-October 2020) with Fabien Tarissan (ENS Paris-Saclay).
  - \* Alexandre Wilmet (April-August 2019) with Pedro Ramaciotti Morales (LIP6).
  - \* Cyril Malbranke (April-August 2018) with Jean Creusefond (Delight).
  - \* Sylvain Ung (February-August 2018) with Pedro Ramaciotti Morales (LIP6).
  - \* Yekta Kesenci (May-August 2017) with Christophe Prieur (Télécom Paris-Tech).
  - \* Berrenur Saylam (February-June 2016) with Raphaël Fournier-S'niehotta (CNAM).
  - \* Illya Gorodenskyy (March-August 2015) with Anne Fladenmuller (LIP6).
  - \* Clément Gastaud (May-July 2015).
- **Undergraduate students :**
  - \* Grégoire Uhlrich-Meunier (June-July 2016).
  - \* Maxime Savaro (June-July 2012).

## Program production

- See <https://lioneltabourier.github.io>
  - \* Source codes and user guide for *K-edge switching*, random graph generator.
  - \* Source codes and user guide for *RankMerging*, supervised learning method for link prediction.

## Other scientific production

- **Philosophy of science :**  
Article in French about the analogy between deterministic cellular automata and physical systems published in *Lato Sensu, revue de la Société de philosophie des sciences*, 2018.
- **Popular science :**  
Article in French about the modelling the epidemic risk using network science published in *Le Prisme à Idées*, 2012.

## Visits and presentations

- **Scientific Visits :**
  - \* *Institut des Systèmes Complexes*, CNRS, France, from September 2017 to August 2018.
  - \* *Takemura-Masuda Laboratory*, University of Tokyo, Japan, June 2013.
  - \* *Max Planck Institute for the Physics of Complex Systems*, Germany, July 2011.
- **Conference presentations :**
  - \* *NetSci, Workshop on Livestock Movement Networks & Infectious Disease*, Paris, June 2018.
  - \* *11th Workshop on Complex Evolving System Approach in Economics*, Nice, October 2017.
  - \* *EGC 2015*, Luxemburg, January 2015.
  - \* *DyNakII (ECML-PKDD 2014 satellite)*, Nancy (France), September 2014.
  - \* *TNETS'13 (ECCS 2013 satellite)*, Barcelona (Spain), October 2013.
  - \* *AAAI ICWSM 2013*, Cambridge (United States), July 2013.
  - \* *Journées Automnales ResCom*, Paris (France), November 2012.
  - \* *IEEE COMSNETS 2012*, Bangaluru (India), January 2012.
  - \* *NetMob 2011*, Cambridge (United States), October 2011.
  - \* *DOOCN V (ECCS 2011 satellite)*, Vienna (Austria), September 2011.
  - \* *DOOCN III (ECCS 2009 satellite)*, Warwick (England), September 2009.
  - \* *Algotel'08*, Saint-Malo (France), May 2008.
- **Invited talks and seminars :**
  - \* *French Regional Conference in Complex Systems*, ISC-PIF (Paris), June 2022.
  - \* *Takemura-Masuda Laboratory*, University of Tokyo (Japan), June 2013.
  - \* *naXys*, University of Namur (Belgium), October 2012.
  - \* *SAMM*, University Paris 1 Panthéon-Sorbonne (France), April 2012.
  - \* *ICTEAM*, Catholic University of Louvain (Belgium), March 2012.
  - \* *Centre de Physique Théorique*, University of Aix-Marseille (France), November 2011.
  - \* *Max Planck Institute for the Physics of Complex Systems*, Dresden (Germany), July 2011.
  - \* *LIP6*, University Pierre and Marie Curie, June 2010.

## Reviewing activities

- **PhD jurys :**
  - \* Justin Loye (Université Toulouse 3, sup. K. Jaffrès-Runser and S. Mouysset, 2022), reviewer.
  - \* Louis Duvivier (INSA Lyon, sup. C. Robardet and R. Cazabet, 2021), reviewer.
  - \* Alexandre Darbon (Sorbonne Université, sup. V. Colizza, 2019), examiner.
  - \* Mouna Rifi (Université Paris 13, sup. Y. Bennani and R. Kanawati, 2019), reviewer.
  - \* Jérémy Guillon (Sorbonne Université, sup. F. de Vico Fallani, 2018), examiner.
- **Reviews and expertise :**
  - \* **International Journals :**  
ANS, Computer Communications, Computer Networks, CSON, J. Complex Networks, J.R.Soc.Interface, JSAC, KAIS, Physica A, PLoS ONE, TCS, TKDD, TPDS.
  - \* **International Conferences :**  
ICWSM (2021, 2020, 2019), WWW (2015, 2014, 2012) , NetSciCom (2011).
  - \* **Expert** for the National Research Agency (ANR) founding program (2013).
- **PC member :**
  - \* ICWSM (2022, 2024), TheWebConf (2022), WebSci (2021, 2020), WWW satellites (2018), SNAA (2018), COMSNETS (2017, 2016).

## Events Organization

- **Conference Organization :**
  - \* EUSN 2016 : co-organizer of the workshop on Large Networks.
  - \* publication chair of TMA 2019, publicity Chair of MobiArch 2015.
- **Seminar Organization :**
  - \* Codes Sources (Philosophy of science, 2015-2022) : <http://codesource.hypotheses.org/>
  - \* Complex Networks team (2011-2012) : <http://www.complexnetworks.fr/events/>

## Teaching activities

- **Teaching responsibilities**

- \* Network Analysis and Mining :  
since 2019, Master 2 Computer Science, Computer Networks specialty.
- \* Network Structure and Dynamics :  
2015-2019, Master 2 Computer Science, Computer Networks specialty.

- **Administrative responsibilities**

- \* 2023 : Undergraduate students joint curriculum Computer Science and Physics at SU.

- **Summary table of teaching activities**

Subject	Where	When
<b>Computer Science and Mathematics for Graduate</b>		
Network Analysis and Mining	Sorbonne University	2019-2024
Advanced Development Projects Tutoring	Sorbonne Université	2019-2024
Network Data Analysis	Sorbonne Université	2020-2022
Advanced Algorithmics	Sorbonne Université	2019-2020
Network Structure and Dynamics	Sorbonne Université	2014-2019
Synchronization in Complex Networks	University of Namur	2012
Large Interaction Networks	Université Paris 7	2012
Complex Networks	Ho-Chi-Minh City University	2011
Complex Networks	Sorbonne Université	2010
<b>Computer Science and Mathematics for Undergraduate</b>		
Development Projects Tutoring	Sorbonne Université	2019-2024
Introduction to Data Science	Sorbonne Université	2021-2024
Basic Programming in Python	Sorbonne Université	2014-2024
Algorithmics	Sorbonne Université	2018-2020
Programming Environment	Sorbonne Université	2016-2019
Introduction to Complex Networks	Babes-Bolyai University	2017
Basic Programming in C	Sorbonne Université	2017
Basic Algorithmics	Sorbonne Université	2015-2018
Introduction to Databases	Sorbonne Université	2015
Academic Internship Tutoring	Sorbonne Université	2011,2014
Graph Theory	University of Namur	2012-2013
Programming in C	Sorbonne Université	2011
Basic Programming in Scheme	Sorbonne Université	2010
<b>Miscellaneous for Undergraduate</b>		
Fluid Mechanics	Sorbonne Université	2019-2020
Career Guidance	Sorbonne Université	2014-2016
Thermodynamics	Sorbonne Université	2008
Optics	Sorbonne Université	2008
Physics for Medical Students	Sorbonne Université	2007
Mechanics	Sorbonne Université	2006