

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 :**

- * *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*.

- * *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. Tarissan.

- 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. Henriët, 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.

To be published in the 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 *ALLENEX 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 :**

- * **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 Uhlich-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), 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
Computer Science and Mathematics for Graduate		
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
Computer Science and Mathematics for Undergraduate		
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
Miscellaneous for Undergraduate		
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