CV - Lionel Tabourier (September 2025)

Contact Information:

LIP6, Sorbonne Université
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Current situation (since 2025): Professor in Computer Science
Complex Networks team, LIP6, Sorbonne Université (previously UPMC) / CNRS

Career:

fev.-aug. 2025	**Visiting researcher** at HNHP (MNHN/UPVD/CNRS, Paris).
2014-2025	**Associate Professor in Computer Science** at Sorbonne Université.
2018-2024	*Complex Networks* **team leader** (LIP6).
2017-2018	**Visiting researcher** at ISC-PIF (CNRS, Paris).
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**, 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 Bourgine, 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:**

  ∗ ***Co-evolution of groups and opinions in an agent-based model.***
  D. Cassells, A. Vendeville, **L. Tabourier**, P. Ramaciotti.
  PLoS One 20 (12), e0338486, 2025.

  ∗ ***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. 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. 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**.
  in *Lecture Notes in Social Networks*, 2024.

∗ ***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:**

  ∗ **Multi-Relational Community Detection in Social Platforms using Graph Neural Networks**
  N. Arhachoui, V. Gauthier, A. Giovanidis, **L. Tabourier**.
  Proceedings of *FrCCS 2025*.

  ∗ **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*.

- **Unpublished works:**
  ∗ **BBK: a simpler, faster algorithm for enumerating maximal bicliques in large sparse bipartite graphs.**
  A. Baudin, C. Magnien, **L. Tabourier**.
  arXiv preprint arXiv:2405.04428, 2024.

  ∗ **Compressing bipartite graphs with a dual reordering scheme.**
  M. Danisch, I. Panagiotas, L. Tabourier.
  arXiv preprint arXiv:2209.12062, 2022.

Projects and fundings

- **MoNReSo** (2025-2026) CNRS MITI project: coordinator
  Null Models for the Analysis of Personal Social Networks

- **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

- **TRES** (2017) Regional project: coordinator
  Time in Live Entertainment 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 (2022-2025), 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:**

  * Léonard Kobilinsky (April-October 2025) with Fabien Tarissan (ENS Paris-Saclay).
  * Cyril Conchon-Kerjan (March-August 2025) with Mehdi Naima (LIP6).
  * Karaneh Zolfaghari Moghaddam (March-August 2025).
  * William Gravil (May-September 2024) with Kévin Vermeulen (LAAS, CNRS).
  * 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:**

  * Bryan Anthony Queen (June-August 2024) with Yannick Miras (HNHP, MNHN/UPVD/CNRS).
  * Grégoire Uhlrich-Meunier (June-July 2016).
  * Maxime Savaro (June-July 2012) with Matthieu Latapy (LIP6).

Program production

- Codes available on `https://www.complexnetworks.fr/programs/`

- *Probabilistic k-swap*, random graph generator. Main Programmer: J. Karadayi.

- *ArchéoClass*, classification for archeological data. MPs: C. Oucible, S. Kaci Chaouche.

- *BBK*, maximal biclique enumeration in large bipartite graphs. MP: A. Baudin.

∗ Maximal cliques enumeration in link streams. MP: A. Baudin.

∗ *LSCPM*, Temporal communities using link stream clique percolation method. MP: A. Baudin.

∗ Ψ-score computation. MP: N. Arhachoui.

∗ Computing diversity in Heterogeneous Information Networks. MP: P. Ramaciotti Morales.

∗ *Gorder*, node vertices reordering method for efficient cache management. MP: F. Lécuyer.

∗ *K-edge switching*, random graph generator.

∗ *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:**

  * *HNHP Scientific Seminars*, HNHP (Paris), November 2024.
  * *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:**

  * Alexis Bénichou (Institut Pasteur, sup. J.B. Masson and C. Vestergaard, 2024), examiner.
  * 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 (2024, 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, 2015-2024): `http://codesource.hypotheses.org/`
  * Complex Networks team (2011-2012): `http://www.complexnetworks.fr/events/`

Teaching activities

- **Teaching responsibilities**

  * *Graph Algorithm Applications* (joint with Mehdi Naima)
    since 2025, Master 2 Computer Science, Software Engineering specialty.
  * *Graphs and Networks* (joint with Timur Friedman)
    since 2024, Master 2 Computer Science, Computer Networks specialty.
  * *Network Structure and Dynamics* then *Network Analysis and Mining*
    2015-2024, Master 2 Computer Science, Computer Networks specialty.

- **Administrative responsibilities**

  * since 2023: Undergraduate joint curriculum Computer Science and Physics at SU.

- **Summary table of teaching activities**

Subject	Where	When
Computer Science and Mathematics for Graduate		
Graph Algorithm Applications	Sorbonne University	2025
Graphs and Networks	Sorbonne University	2024-2025
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	2019-2025
Introduction to Data Science	Sorbonne Université	2021-2025
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