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1 Short Biography

I studied Physics in France at the Université du Mans for the bachelor degree and at the Université Pierre et Marie Curie for the master degree. I successfully passed the national teaching exam, 'Agrégation de sciences physiques'. I obtained my PhD at the Université de Fribourg in Switzerland under the supervision of Peter Schurtenberger and Anna Stradner on the interplay between phase separation and the glass transition in globular protein suspensions. After a short postdoc with Sébastien Manneville at the Ens de Lyon (Fr) on the yielding dynamics of colloidal gels, I went to the USA for a second postdoc at Brandeis University with Zvonimir Dogic. There I worked on self-assembly using filamentous phages as colloidal building blocks. In 2013, I was appointed CNRS researcher at the Ens de Lyon in France.

Researchwise, I use, purify or engineer organic and living matter to design smart colloids which serve as building blocks to create soft materials with fine-tuned dynamics and structures. Those materials are not only a venue to study self-assembly, gels and active matter but they also mimics many phenomena observed in biology or hard condensed matter. Materials properties are investigated using techniques as varied as scattering, rheology or microscopy.

2 Scientific production

2.1 Peer reviewed articles

- 23 research articles
 - 8 articles focused on teaching physics (30,25, 21, 17, 4-1).
 - 15 articles as first author (31,30,28, 26, 19, 17, 16, 14-8, 4-1).
 - 12 articles as corresponding author (31,29, 27-25, 23-21, 17, 16, 3-1).
31. Filamentous phages as building blocks for reconfigurable and hierarchical self-assembly. T Gibaud, *J. Phys. Cond. Mat.* **29**, 493003 (2017)
 30. Synthetic Schlieren – application to the visualization and characterization of air convection. N Taberlet, N Plihon, L Auzémery, J Sautel, G Panel, T Gibaud, *xxx xxx*, xxx (2017)
 29. Predicting and assessing rupture in protein gels. B. Saint-Michel, T. Gibaud and S. Manneville, *Soft Matter* **13**, 2643 (2017)
 28. Achiral symmetry breaking and positive Gaussian modulus lead to scalloped colloidal membranes. T. Gibaud, C. N. Kaplan, P. Sharma, A. Ward, M. J. Zakhary, R. Oldenbourg, R. B. Meyer, R. D. Kamien, T. R. Powers and Z. Dogic, *PNAS* **114**, E3376 (2017)
 27. Local Oscillatory Rheology from Echography. B. Saint-Michel, T. Gibaud, M. Leocmach, and S. Manneville, *Phys. Rev. Applied* **5**, 034014 (2016)
 26. Multiple yielding processes in a colloidal gel under large amplitude oscillatory stress. T. Gibaud*, C. Perge*, S. B. Lindstrom, N. Taberlet and S. Manneville, *Soft Matter* **12**, 1701 (2016)
 25. Differential dynamic microscopy to characterize Brownian colloids and motile bacteria. D. Germain, M. Leocmach and T. Gibaud, *Am. J. Phys* **84**, 202 (2016)
 24. Entropic forces stabilize diverse emergent structures in colloidal membranes, L. Kang, T. Gibaud, Z. Dogic and T. C. Lubensky, *Soft Matter* **12**, 386 (2016)
 23. Condensation and dissolution of nematic droplets in colloidal rods dispersions with thermo-sensitive depletants. A. Modlinska, A. M. Alsayed, and T. Gibaud, *Scientific Reports* **5**, 18432 (2015)
 22. Hierarchical wrinkling in a confined permeable biogel. M. Leocmach, M. Nespoulous, S. Manneville and T. Gibaud, *Science Advances* **1**, e1500608 (2015)
 21. Étude expérimentale du mouvement brownien d'une particule colloïdale. P. Maurer, J. Ferrand, M. Leocmach et T. Gibaud, *B.U.P.* **969**, 1567 (2014)
 20. Time dependence in large amplitude oscillatory shear : a rheo-ultrasonic study of fatigue dynamics in a colloidal

- gel. C. Perge, N. Taberlet, T. Gibaud and S. Manneville, *Journal of Rheology* **58**, 1331 (2014)
19. Imprintable membranes from incomplete chiral coalescence. M. J. Zakhary*, T. Gibaud*, C. N. Kaplan, E. Barry, R. Oldenbourg, R. B. Meyer, and Z. Dogic, *Nature communications* **5**, 3063 (2014)
 18. Hierarchical organization of chiral rafts in colloidal membranes. P. Sharma*, A. Ward*, T. Gibaud, M. Hagan and Z. Dogic, *Nature* **513**, 77 (2014)
 17. Etude de la période d'un pendule pesant : de la mécanique du point à la mécanique du solide. A. Gibaud, G. Ripault, T. Gibaud, étudiants ISTD, *B.U.P.* **952**, 319 (2013)
 16. Unexpected decoupling of stretching and bending modes in protein gels. T. Gibaud, A. Zacccone, E. del Gado, V. Trappe, and P. Schurtenberger, *Phys. Rev. Lett.* **110**, 058303 (2013)
 15. Intrinsic curvature determines the crinkled edges of "crenelated disks". C.N. Kaplan, T. Gibaud, R.B. Meyer, *Soft Matter* **9**, 8210 (2013)
 14. New routes to food gels and glasses. T. Gibaud, N. Mahmoudi, J. Oberdisse, P. Lindner, J. S. Pedersen, C. L. P. Oliveira, A. Stradner, and P. Schurtenberger, *Faraday Discuss.* **158**, 267 (2012)
 13. Self-assembly through chiral control of interfacial tension. T. Gibaud, E. Barry, M. Zakhary, M. Henglin, A. Ward, Y. Yang, C. Berciu, R. Oldenbourg, M. Hagan, D. Nicastro, R. Meyer, Z. Dogic, *Nature* **158**, 267 (2012)
 12. Phase separation and dynamical arrest for particles interacting with mixed potentials. T. Gibaud, F. Cardinaux, J. Bergenholtz, A. Stradner, and P. Schurtenberger, *Soft Matter* **7**, 857 (2011)
 11. Yielding dynamics of a colloidal gel. T. Gibaud, D. Frelat and S. Manneville, *Soft Matter* **6**, 3482 (2010)
 10. Shear-induced fragmentation of Laponite suspensions. T. Gibaud, C. Barentin, N. Taberlet and S. Manneville, *Soft Matter* **5**, 3026 (2009)
 9. A closer look at arrested spinodal decomposition in protein systems. T. Gibaud and P. Schurtenberger, *J. Phys. Cond. Mat.* **21**, 32220 (2009)
 8. Influence of boundary conditions on the yielding flow of soft glassy material. T. Gibaud C. Barentin, and S. Manneville, *Phys. Rev. Lett.* **101**, 258302 (2008)
 7. A simple patchy model for the phase behaviour of lysozyme dispersions. C. Gogelein, G. Nagele, R. Tuinier, T. Gibaud, A. Stradner, and P. Schurtenberger, *J. Chem. Phys.* **129**, 085102 (2008)
 6. Soft Nanotechnology - from Colloid Physics to Nanostructured Functional Materials. H. Dietsch, V. Malik, M. Reufer, A. Shalkevich, M. Saric, T. Gibaud, F. Cardinaux, A. Stradner, P. Schurtenberger, *Chimia* **62**, 805 (2008)
 5. The interplay between spinodal decomposition and glass formation in proteins exhibiting short range attraction. F. Cardinaux, T. Gibaud, A. Stradner, P. Schurtenberger, *Phys. Rev. Lett.* **99**, 118301 (2007)
 4. Etude des effets non lineaires observes sur les oscillations d'un pendule simple. T. Gibaud, A. Gibaud, *B.U.P.* **891**, 167 (2007)
 3. Etude théorique et expérimentale de pendules pesants couplés : modes normaux de vibration. A. Gibaud, T. Gibaud, *B.U.P.* **894**, 577 (2007)
 2. Caractérisation expérimentale d'un système linéaire invariant par translation dans le temps en électronique. T. Gibaud, A. Gibaud, *B.U.P.* **894**, 577 (2007)
 1. Vidange d'un réservoir. T. Gibaud, A. Gibaud, *B.U.P.* **899**, 1195 (2007)
- ## 2.2 Invited Conferences
5. Journées des CRI de l'Institut de chimie du CNRS, CNRS Paris, Fr (2017)
 4. Journée émergence, CNRS Paris, Fr (2017)
 3. 4th Playing Colloidal Mikado Workshop, Bordeaux, Fr (2016)
 2. 9ème JFFoS, Kyoto, Japon (2015)
 1. European Conference on Liquid Crystals, Rhodos, Greece (2013)
- ## 2.3 Talk in Conferences
13. Cecam Workshop, Rheology of gel networks : combining experimental, computational and theoretical insights, Lyon, Fr (2017)
 12. International Soft Matter Conference, Grenoble, Fr (2016)
 11. Stat. Phys., Lyon, Fr (2016)
 10. Journées Matière Molle et Sciences des Aliments, Montpellier, Fr (2015)
 9. Systèmes anisotropes auto-organisés, Conférence Française des Cristaux Liquides, Autran, Fr (2015)
 8. 10th Annual European Rheology Conference (2 talks), Nantes, Fr (2015)
 7. NanoNano-2015, Workshop Lyonnais sur les Nanosciences et les Nanotechnologies, Lyon, Fr (2015)
 6. Les Houches Winter School, Macromolecules in Constrained Environments, Fr (2013)
 5. New England Complex Fluids, Brandeis University, USA (2011)
 4. MRS fall meeting, Boston, USA, (2010)
 3. GDR Mephy, Workshop on localization, shear banding and rupture, ESPCI, Paris, Fr (2008)
 2. Workshop on micro and nanoscales flows, Université Claude Bernard, Lyon, Fr (2008)
 1. International Congress of Rheology, Monterey, USA (2008)

2.4 Poster in Conferences

10. [Cecam Workshop](#), Rheology of gel networks : combining experimental, computational and theoretical insights, Lyon, Fr (2017)
9. [International Soft Matter Conference](#) (2 posters), Grenoble, Fr (2016)
8. [Journées entrants INP](#), Saint-Pierre-d'Oléron, Fr (2013)
7. [Workshop New Mech](#), MIT, USA (2011)
6. [Summer School Dynasoft](#), Cargèse, Fr (2010)
5. [Soft Matter Conference](#), Aarhen, D (2007)
4. [Conference of the European Colloid and Interface Society](#), Geneva, CH (2007)
3. [Workshop, Dynamical arrest of soft matter and colloids](#), Lugano, CH (2006)
2. [Summer School, Scattering methods applied to Soft Matter](#), Bonbannes, Fr (2006)
1. [Summer School, Polyelectrolyte and Colloids](#), Villars sur Ollon, CH (2004)

2.5 Invited Seminars

40. [UJF](#), Laboratoire Rhéologie et Procédés (2016)
39. [UPMC](#), Laboratoire Jean Perrin (2015)
38. [Université Diderot](#), Laboratoire Matière et Systèmes Complexes (2015)
37. [University of Geneva](#), Biochemistry Dpt (2015)
36. [Université Paris Sud](#), Laboratory of Theoretical Physics and Statistical Models (2014)
35. [ESPCI](#), Gulliver (2014)
34. [Università degli Studi di Milano](#), Dep. of Medical Biotechnology and Translational Medicine (2013)
33. [Université de Fribourg](#), Dpt of Physics (2013)
32. [UJF](#), Laboratoire Interdisciplinaire de Physique (2013)
31. [Mahidol University](#), Biophysics (2013)
30. [East China Normal University](#), physics Dpt(2013)
29. [ENS de Lyon](#), Laboratoire de physique (2012)
28. [ENS de Lyon](#), Laboratoire Joliot Curie (2012)
27. [CEA Saclay](#), LIONS (2012)
26. [ESRF](#) (2011)
25. [NYU](#), Center for Soft Matter (2011)
24. [Université Paris Sud](#), Laboratoire de Physique des Solides (2011)
23. [Institut Curie](#) (2011)
22. [ESPCI](#), Séminaire café (2011)
21. [ENS de Lyon](#), Laboratoire de physique (2011)
20. [Brandeis University](#), MRSEC seminar (2010)
19. [CEA Grenoble](#), SPrAM (2010)
18. [Brandeis University](#), Quantitative Biology seminar (2009)
17. [Brandeis University](#), MRSEC seminar (2009)
16. [Université Montpellier 2](#), matière molle (2009)
15. [ENS de Lyon](#), Laboratoire de physique (2008)

14. [Columbia University](#), Dpt of Chemistry (2008)
13. [Yale University](#), Materials Science, USA (2008)
12. [Harvard University](#), Dpt of Chemistry (2008)
11. [Brandeis University](#), Dpt of Physics (2009)
10. [Harvard University](#), Dpt of Physics (2008)
9. [ENS de Lyon](#), Laboratoire de physique (2007)
8. [CEA Grenoble](#), SPrAM (2007)
7. [Institut Charles Sadron](#) (2007)
6. [Université Montpellier 2](#), matière molle (2007)
5. [Université de Fribourg](#), Physics Dpt Day (2006)
4. [EPFL](#), Physics (2006)
3. [University of Aarhus](#), Dpt of Chemistry (2006)
2. [Université de Fribourg](#), Dpt of physics (2004)
1. [Lawrence Berkeley National Lab](#), Avanced Light Source (2002)

3 Media coverage

8. [CNRS actualités 2015](#) : Les rides hiérarchiques du yaourt
7. [Liquid Crystals Today 24, \(2015\)](#) : chiral rafts
6. [CNRS Actualités 2014](#) : Comment faire pour que deux gouttes en contact ne fusionnent pas ?
5. [Liquid Crystals Today 23 \(2014\)](#) : Chiral coalescence
4. [La Recherche 462 \(2012\)](#) : Comment changer la forme d'un materiau
3. [Nature 481, 268 \(2012\)](#) : A fresh twist for self-assembly
2. [Nature Physics 8,116 \(2012\)](#) : Sleight of handedness
1. [Journal Club for Condensed Matter Physics \(2012\)](#)

4 People

4.1 Post-docs

4. [B. Saint-Michel](#) (2015-present)
3. [M. Leocmach](#) (2013-2015)
→ 2015 : CNRS researcher, Institut Lumière Matière, Lyon, Fr
2. [A. Modlinska](#) (2013-2014)
→ 2014 : assistant professor, Poznan University, Poland
1. [M. Nespoulous](#) (2012-2013)
→ 2013 : assistant professor, Aix-Marseille University, Fr

4.2 PhD students

2. [M. Zakhary](#) (2009-2014) – co-advised with Z Dogic.
→ 2015 : Medical Physics Fellow at Mayo Clinic, Rochester USA
1. [S. Yardimci](#) (2009-2014) – co-advised with Z Dogic.
→ 2015 : Senior Scientific Officer at the Francis Crick Institute, London UK

4.3 Bachelor/Master students

13. [L. Auzemery](#) from UPMC and la Sorbonne (2017)
12. [P. H. Delville](#) from Ens de Lyon (2017)
11. [A. Lagarde](#) from école Polytechnique (2016)
10. [G. Jung](#) from Ens de Lyon (2016)
9. [D. Germain](#) from Ens de Lyon (2015)
8. [A. Kumar](#) from National Inst. of Tech. Surat (2013)
7. [S. Goldberg](#) from Brandeis University (2011)
6. [M. Henglin](#) from Williams College (2011)
5. [M. Zakhary](#) from Brandeis University (2009)
4. [S. Yardimci](#) from Brandeis University (2009)
3. [D. Frelat](#) from Ens de Lyon (2008)
2. [F. Guillard](#) from Ens de Lyon (2008)
1. [C. Varghese](#) from Indian Inst. of Tech. Bombay (2007)

5 Services

5.1 PhD Thesis committee

1. A. Boire, Sup' Agro, Montpellier, Fr (2013)

5.2 Conference organisation

1. CFCL2017 – Colloque sur les systèmes anisotropes auto-organisés, Lyon, Fr (2017)

5.3 Board member

1. Journal editorial board member for Scientific Reports (2017-present)

5.4 Referee

~ 5 articles/year for Optics Letters, Soft Matter, Scientific Report and PRL

6 Teaching and Outreach

6.1 University courses taught

9. [Soft Matter – 6h/year lecture](#), Master Sciences de la Matière, Ens de Lyon (2017-present)
8. [Soft interfaces – 8h/year lab course](#), *agrégation de chimie*, Ens de Lyon (2017-present)
7. [Physique expérimentale 1 – 24h/year lab course](#), Bachelor Science de la Matière, Ens de Lyon (2016-present)
6. [Physique expérimentale 2 – 24h/year lab course](#), Bachelor Science de la Matière, Ens de Lyon (2013-present)
5. [Physique des systèmes biologiques – 6h/year lecture](#), Master Science de la Matière, Ens de Lyon (2013-2016)
4. [Bio-Physics – 25h](#), Master of physics, East China Normal University (2014)
3. [Teacher at the *agrégation de physique* – 140h/year](#), Ens de Lyon (2007-2009)

2. [Introduction to physics lab – 70h/year lab course](#), Bachelor of physics, Université de Fribourg (2004-2007)
1. [Classical mechanics – 25h/year exercises](#), Bachelor of physics, Université du Mans (2001)

6.2 Outreach

2. [Setup and enlive physics experiments for children](#) at the Discovery Museums of Acton, Ma, USA (2011) and in a Kindergarden class at Bulle, CH (2007).
1. [co-organized the 2005 Einstein year at the physics dept of the University of Fribourg, CH](#) and for the occasion presented two 45 min Physics shows targetted toward the general public.

7 Grants

7.1 as Principal Investigator

9. Grand from Région Auvergne-Rhône-Alpes, co-PI with S. Manneville (2017-2022), 253 k€
8. Grant CNRS Emergence (2016), 10 k€
7. Sponsored fellowship from the French embassy in India and UCBL (2013) for A. Kumar
6. Grant from the Ens de Lyon (2013), 4 k€
5. Grant from the Fédération de recherche A.M. Ampère (2013), 10 k€
4. Grant from the Agence Nationale de la Recherche Française (ANR-11-PDOC-027, 2012-2015), 350 k€
3. Marie-Curie collaboration grant with J. Oberdisse, Montpellier (2007) 2 k€
2. Fellowship from the *UPMC* to support my master thesis at *U.C. Berkeley* (2002), 6 k€
1. Fellowship from the French government for my master degree (2001), 4 k€

7.2 as Collaborator

2. PI : G. Ovarlez (LOF, Bordeaux, Fr), grant from the ANR (2017-2021), 108 k€
1. PI : M. Leocmach (ILM, Lyon, Fr), grant from the Fédération de recherche A.M. Ampère (2016), 24 k€