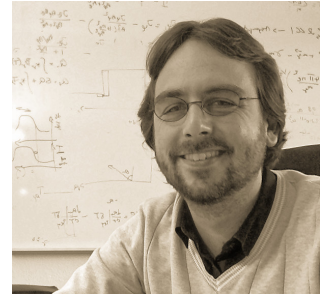


Geoffroy Lesur (orcid.org/0000-0002-8896-9435)

Date of birth: 28-Oct-1981, French

CNRS researcher (CRCN), Institut de Planétologie et d'Astrophysique de Grenoble (IPAG)

Web page: <http://ipag.osug.fr/lesurg/>



Education

- 2004 – 2007 PhD at Laboratoire d'Astrophysique de Grenoble (supervisor: P-Y. Longaretti): *Instabilities and local sources of turbulence in accretion discs*
- 2001 – 2004 Education and master degree in theoretical physics (Ecole Normale Supérieure de Lyon, with honors)

Current and previous positions

- 2010 – CNRS Research staff (CRCN) at Institut de Planétologie et d'Astrophysique de Grenoble (IPAG).
- 2007 – 2010 Postdoctoral fellow - Department of Applied Mathematics and Theoretical Physics - Cambridge (UK) (supervisor: John Papaloizou & Gordon Ogilvie).

Fellowships & Awards

- 2017 Invited key participant for KITP disc program (Santa Barbara, January-February 2017)
- 2017-2019 PI of the Tremplin-ERC ANR project "MHDiscs" ANR-17-ERC2-0007
- 2016-2017 Interviewed and ranked A at ERC consolidator calls 2016 & 2017.
- 2016 JILA-university of Boulder invited visiting fellow (June-July 2016)
- 2012 – 2015 Marie Curie reintegration grant PCIG09-GA-2011-294110.
- 2010 Lyman Spitzer fellowship (Princeton, USA). Declined due to an offer from CNRS.
- 2007 Daniel Guignier young researcher prize of the French Society for Physics (SFP)
- 2001 – 2006 ENS-Lyon fellowship

Supervision

- 2017 – 2019 Postdoc supervisor of Antoine Riols (IPAG)
- 2016 – 2019 PhD supervisor of Nicolas Scepi (IPAG): dwarf novae.
- 2014 – 2017 PhD supervisor of William Bethune (IPAG): protoplanetary discs.
- 2012 – 2014 Postdoc co-supervisor of Heloise Meheut (CEA Saclay), hired in 2016 by CNRS (Nice)
- 2011 – 2017 Supervisor of 4 master students.
- 2007 – 2010 Day to day supervisor of Hanno Rein (Cambridge)

Teaching activities

- 2016 - Circumstellar discs and exoplanets (Master 2, Université Grenoble Alpes)
- 2015 & 2017 Invited lecturer at the 2015 & 2017 Plasma Astrophysics Winter School of the Ecole de Physique des Houches (Les Houches, France). Topics: accretion disc dynamics. Audience: ~60 people per year.
- 2014 - 2015 Numerical fluid dynamics for astrophysical flows (master level).

Institutional responsibilities

- 2016 – Elected member of IPAG laboratory council
- 2013 – 2015 Member of the research commission of Grenoble Observatory.
- 2013 – President of the computing commission of Grenoble Observatory.
- 2011 – Webmaster of IPAG public website.

Organisation of scientific meetings

- 2017 PI of the Les Houches winter school *From laboratories to astrophysics: the expanding Universe of plasma physics*. International audience (~60 participants, mostly PhD students and postdocs)
- 2016 IPAG workshop *Origin of asymmetries in protoplanetary discs* co-PI with Myriam Benisty (IPAG). National audience (~30 participants)
- 2013 Les Houches school *From black holes to cosmic rays: when plasmas go wild. A tribute to Guy Pelletier* co-Pi with Gilles Henri (IPAG). International audience (~40 participants)
- 2013 – Periodic organisation (every ~ 9 months) of a workshop dedicated to fluid mechanics in Grenoble University. National audience (~ 30 participants at each workshop)

Commissions of trust

- 2016 External referee and panel member for a lecturer position (ENS Lyon)
- 2015 External referee and panel member for a lecturer position (ENS Paris)
- 2013 – Member of the French national supercomputer panel (GENCI)
- 2014 Referee for J. Miniere PhD thesis (Observatoire de Paris, under the supervision of Serge Bouquet and Claire Michaut)
- 2013 External examiner and referee for CJ Donnelly PhD thesis (Cambridge university, under the supervision of Gordon Ogilvie)
- 2013 – 2015 External examiner for 4 PhD thesis: V. Prat (Toulouse, France), N. Cabral (Bern, Switzerland), J. Faure (Paris, France), S. Richard (Marseille, France)
- 2007 – Referee for A&A, ApJ, MNRAS, Phys. of plasmas, Phys. of fluids, J. of fluid mech. (~5 papers per year)

Major collaborations

- 2016 – *strongly magnetised discs*, Mitch Begelman, Upasana Das (Boulder, USA), 1 refereed joint article.
- 2013 – *MHD turbulence cascade*, Stanislas Boldyrev, Justin Walker (Madison, USA) 2 refereed joint article
- 2012 – *Hall-dominated MRI*, Matthew Kunz (Princeton, USA), 2 refereed joint articles.
- 2011 – *MHD winds and jets*, Jonathan Ferreira (IPAG, Grenoble), 1 refereed joint article, 1 submitted.
- 2007 – *Pm effect and winds*, Sébastien Fromang (CEA Saclay, France), 4 refereed joint articles.

Publication record

Bibliometric informations as of February 2018 obtained from [NASA ADS](#) are as follows:

Type	# Article	# Total citations	w/o self-citations	H-index
All	56	1672		
All refereed	40	1657	1484	20
- as 1st author	13	814	792	12

1. U. Das, M. C. Begelman, G. Lesur, Instability in strongly magnetized accretion discs: a global perspective. *MNRAS* **473**, 2791–2812 (2018).
2. N. Scepi, G. Lesur, G. Dubus, M. Flock, Impact of convection and resistivity on angular momentum transport in dwarf novae. *A&A* **609**, A77 (2018).
3. V. Zhdankin, J. Walker, S. Boldyrev, G. Lesur, Universal small-scale structure in turbulence driven by magnetorotational instability. *MNRAS* **467**, 3620–3627 (2017).
4. S. Fromang, G. Lesur, Angular momentum transport in accretion disks: a hydrodynamical perspective. *ArXiv e-prints*, arXiv: [1705.03319 \[astro-ph.EP\]](#) (2017).
5. W. Béthune, G. Lesur, J. Ferreira, Global simulations of protoplanetary disks with net magnetic flux. I. Non-ideal MHD case. *A&A* **600**, A75 (2017).
6. P. Hennebelle, G. Lesur, S. Fromang, Spiral-driven accretion in protoplanetary discs . III. Tridimensional simulations. *A&A* **599**, A86 (2017).
7. A. Riols, F. Rincon, C. Cossu, G. Lesur, G. I. Ogilvie, P.-Y. Longaretti, Magnetorotational dynamo chimeras. The missing link to turbulent accretion disk dynamo models? *A&A* **598**, A87 (2017).
8. M. Benisty *et al.*, Shadows and spirals in the protoplanetary disk HD 100453. *A&A* **597**, A42 (2017).
9. G. R. J. Lesur, H. Latter, On the survival of zombie vortices in protoplanetary discs. *MNRAS* **462**, 4549–4554 (2016).
10. P. Hennebelle, G. Lesur, S. Fromang, Spiral-driven accretion in protoplanetary discs. II. Self-similar solutions. *A&A* **590**, A22 (2016).
11. W. Béthune, G. Lesur, J. Ferreira, Self-organisation in protoplanetary discs. Global, non-stratified Hall-MHD simulations. *A&A* **589**, A87 (2016).
12. J. Walker, G. Lesur, S. Boldyrev, On the nature of magnetic turbulence in rotating, shearing flows. *MNRAS* **457**, L39–L43 (2016).
13. J. B. Simon, G. Lesur, M. W. Kunz, P. J. Armitage, Magnetically driven accretion in protoplanetary discs. *MNRAS* **454**, 1117–1131 (2015).
14. G. Lesur, P. Hennebelle, S. Fromang, Spiral-driven accretion in protoplanetary discs. I. 2D models. *A&A* **582**, L9 (2015).
15. H. Meheut, S. Fromang, G. Lesur, M. Joos, P.-Y. Longaretti, Angular momentum transport and large eddy simulations in magnetorotational turbulence: the small Pm limit. *A&A* **579**, A117 (2015).
16. A. Riols, F. Rincon, C. Cossu, G. Lesur, G. I. Ogilvie, P.-Y. Longaretti, Dissipative effects on the sustainment of a magnetorotational dynamo in Keplerian shear flow. *A&A* **575**, A14 (2015).
17. G. Lesur, M. W. Kunz, S. Fromang, Thanatology in protoplanetary discs. The combined influence of Ohmic, Hall, and ambipolar diffusion on dead zones. *A&A* **566**, A56 (2014).
18. N. J. Turner, S. Fromang, C. Gammie, H. Klahr, G. Lesur, M. Wardle, X.-N. Bai, Transport and Accretion in Planet-Forming Disks. *Protostars and Planets VI*, 411–432 (2014).
19. A. Riols, F. Rincon, C. Cossu, G. Lesur, P.-Y. Longaretti, G. I. Ogilvie, J. Herault, Global bifurcations to subcritical magnetorotational dynamo action in Keplerian shear flow. *Journal of Fluid Mechanics* **731**, 1–45 (2013).

20. M. W. Kunz, G. Lesur, Magnetic self-organization in Hall-dominated magnetorotational turbulence. *MNRAS* **434**, 2295–2312 (2013).
21. S. Fromang, H. Latter, G. Lesur, G. I. Ogilvie, Local outflows from turbulent accretion disks. *A&A* **552**, A71 (2013).
22. G. Lesur, J. Ferreira, G. I. Ogilvie, The magnetorotational instability as a jet launching mechanism. *A&A* **550**, A61 (2013).
23. A. Lamberts, G. Dubus, G. Lesur, S. Fromang, Impact of orbital motion on the structure and stability of adiabatic shocks in colliding wind binaries. *A&A* **546**, A60 (2012).
24. G. I. Ogilvie, G. Lesur, On the interaction between tides and convection. *MNRAS* **422**, 1975–1987 (2012).
25. J. Herault, F. Rincon, C. Cossu, G. Lesur, G. I. Ogilvie, P.-Y. Longaretti, Periodic magnetorotational dynamo action as a prototype of nonlinear magnetic-field generation in shear flows. **84**, 036321 (2011).
26. G. Lesur, P.-Y. Longaretti, Non-linear energy transfers in accretion discs MRI turbulence. I. Net vertical field case. *A&A* **528**, A17 (2011).
27. S.-J. Paardekooper, G. Lesur, J. C. B. Papaloizou, Vortex Migration in Protoplanetary Disks. *ApJ* **725**, 146–158 (2010).
28. L. Jouve, M. R. E. Proctor, G. Lesur, Buoyancy-induced time delays in Babcock-Leighton flux-transport dynamo models. *A&A* **519**, A68 (2010).
29. E. L. Rempel, G. Lesur, M. R. E. Proctor, Supertransient Magnetohydrodynamic Turbulence in Keplerian Shear Flows. *Physical Review Letters* **105**, 044501 (2010).
30. P.-Y. Longaretti, G. Lesur, MRI-driven turbulent transport: the role of dissipation, channel modes and their parasites. *A&A* **516**, A51 (2010).
31. G. Lesur, G. I. Ogilvie, On the angular momentum transport due to vertical convection in accretion discs. *MNRAS* **404**, L64–L68 (2010).
32. G. Lesur, J. C. B. Papaloizou, The subcritical baroclinic instability in local accretion disc models. *A&A* **513**, A60 (2010).
33. H. Rein, G. Lesur, Z. M. Leinhardt, The validity of the super-particle approximation during planetesimal formation. *A&A* **511**, A69 (2010).
34. G. Lesur, P.-Y. Longaretti, Turbulent resistivity evaluation in magnetorotational instability generated turbulence. *A&A* **504**, 309–320 (2009).
35. G. Lesur, J. C. B. Papaloizou, On the stability of elliptical vortices in accretion discs. *A&A* **498**, 1–12 (2009).
36. G. Lesur, G. I. Ogilvie, Localized magnetorotational instability and its role in the accretion disc dynamo. *MNRAS* **391**, 1437–1450 (2008).
37. G. Lesur, G. I. Ogilvie, On self-sustained dynamo cycles in accretion discs. *A&A* **488**, 451–461 (2008).
38. S. Fromang, J. Papaloizou, G. Lesur, T. Heinemann, MHD simulations of the magnetorotational instability in a shearing box with zero net flux. II. The effect of transport coefficients. *A&A* **476**, 1123–1132 (2007).
39. G. Lesur, P.-Y. Longaretti, Impact of dimensionless numbers on the efficiency of magnetorotational instability induced turbulent transport. *MNRAS* **378**, 1471–1480 (2007).
40. G. Lesur, P.-Y. Longaretti, On the relevance of subcritical hydrodynamic turbulence to accretion disk transport. *A&A* **444**, 25–44 (2005).

Oral presentations (since 2010)

May 2017	Les Houches (France), <i>From laboratories to astrophysics: the expanding universe of plasma physics</i> , Invited lecture
February 2017	KITP Santa Barbara (USA), <i>Conference Disks, Dynamos, and Data: Confronting MHD Accretion Theory with Observations</i> , Invited talk
October 2016	Toulouse (France), <i>Workshop origine des planetes</i> , Invited review
August 2016	Vienna (Austria), <i>Plasma workshop Wolfgang Pauli institute</i> , Invited talk
June 2016	Boulder (USA), JILA seminar
March 2016	Edinburgh (UK) <i>Protoplanetary discussions</i> . Invited review talk.
October 2015	ESTEC (Nodwijk, NL) <i>Accretion/Outflow in Young stellar objects</i> . Invited review talk.
July 2015	Larnaka (Cyprus) <i>Disc dynamics and planet formation</i> . Invited review talk.
April 2015	Les Houches (FR) <i>Turbulence, magnetic fields and self-organization in laboratory and astrophysical plasmas</i> . Invited lecture.
January 2015	ISTERRE Grenoble (FR). Laboratory seminar.
November 2014	Cambridge(UK) <i>John Papaloizou retirement event</i> . Invited talk.
August 2014	Copenhagen (DK) <i>Non-ideal MHD, Stability and dissipation in Protoplanetary discs</i> . Invited talk.
July 2014	Chamonix (FR) <i>From the MRI to the sun</i> . Invited talk.
October 2013	Madison (USA). Physics department colloquium.
October 2013	Les Houches (FR) <i>From black holes to cosmic rays</i> . Contributed talk.
July 2013	Biarritz (FR) <i>Astronum 2013</i> . Invited talk.
July 2013	Heidelberg (DE) <i>Protostars and Planets VI</i> . Keynote.
May 2013	Boulder (USA) <i>GTP workshop on LES of MHD turbulence</i> Invited talk.
April 2013	Princeton (USA) <i>Stability, Energetics and Turbulent Transport in Astrophysical Fusion and Solar Plasmas</i> . Invited talk.
February 2013	Les Houches (FR) <i>The Future of plasma astrophysics</i> . Invited lecture.
September 2012	Marseille (FR) <i>Instabilities and structures in protoplanetary discs</i> . Invited review.
August 2012	Stockholm (SW) <i>Astrophysics code comparison Workshop</i> . Invited talk.
May 2012	Princeton (USA). Laboratory seminar.
February 2012	Ringberg (DE) <i>Transport Processes and Accretion in YSOs</i> . Invited review.
January 2011	LAB Bordeaux (FR). Laboratory seminar.
November 2011	Queen Mary University of London (UK). Laboratory seminar.
October 2010	Lyon (FR) <i>Frontiers in Computational astrophysics</i> . Contributed talk.
October 2010	Arles (FR) <i>Colloque PCMI 2010</i> . Contributed talk.
June 2010	Ishigaki (JP) <i>Evolving theory for planet formation</i> Invited review talk.
May 2010	KIAA, Beijing (CN) <i>Dynamics of Astrophysical Disks</i> . Invited talk.
March 2010	Nice observatory (FR). Laboratory seminar.
March 2010	ENS-LRA Paris (FR). Laboratory seminar.
March 2010	CEA Scalay (FR). Laboratory seminar.
February 2010	Newcastle (UK). Laboratory seminar.
February 2010	LERMA Paris (FR). Laboratory seminar.