

Ileyk El Mellah  
born on 5<sup>th</sup> April, 1989  
French citizen

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## Research

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- Since 2016    **FWO [Pegasus]<sup>2</sup> Marie Skłodowska-Curie fellowship with Rony Keppens**  
Center for mathematical Plasma Astrophysics – KU Leuven
- 2013-16       **PhD with Fabien Casse & Andrea Goldwurm** – Paris Diderot University  
*Wind accretion onto compact bodies*
- 2011-12       **One-year volunteer internship supervised by Saul Rappaport on**  
*Monitoring of close-in binaries and short period exoplanets with Kepler*  
Kavli Institute for Astrophysics – MIT
- Ap-Ag 2010   **BSc internship supervised by Jean-François Lestrade on**  
*Gravitational perturbations of debris discs by a passing-by star*  
LESIA – Paris Observatory
- Jn-Jl 2009     **BSc internship supervised by Gérard Belmont & Patrick Robert on**  
*Resampling of the CLUSTER satellites data*  
Plasma Physics Laboratory – Paris

## Education

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- 2013-16       **PhD with Fabien Casse & Andrea Goldwurm** – Paris Diderot University  
*Wind accretion onto compact bodies*
- 2012-13       **Master degree in Astrophysics, with distinction** – Paris Observatory
- 2010-12       **Normalien at the *Ecole Normale Supérieure* of Cachan**
- 2011-12       **Research internship and graduate courses** – MIT, Cambridge
- 2010-11       **French *Agrégation* of Physics & Chemistry** – ENS of Cachan, FR  
Rank : 2<sup>nd</sup> in 1,409 candidates
- 2008-10       **Bachelor degree in Fundamental Physics, with honours** – ENS
- 2006-08       **Preparatory classes to *Grandes Ecoles*** – Lycée Janson-de-Sailly, Paris

## Communication

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### Conferences

- Oc 2018 Stellar Winds in Massive X-ray Binaries workshop - Santander, SP
- Oc 2018 Leuven-Amsterdam-Bonn massive stars meeting - Leuven, BE
- Ag 2018 IAU General Assembly - High Mass X-ray Binaries symposium - Vienna, AT
- Jl 2018 COSPAR Assembly - Pasadena, US
- Jn 2018 Belgium FNRS meeting - Brussels, BE
- Sp 2017 Frontiers of Astrophysical Modeling - Leuven, BE
- Ag 2017 Numerical techniques in MHD simulations - Cologne, DE
- Jl 2017 French Astronomy Society meeting - Paris, FR
- Jn 2017 European Week of Astronomy and Space Science - Prague, CZ
- Mr 2017 CHARM meeting - Brussels, BE
- Fb 2017 Stellar Winds in Massive X-ray Binaries workshop - ISSI Bern, SW
- Oc 2016 CHARM meeting - Ghent, BE
- Sp 2016 Super-Eddington accretion on compact objects - Arbatax, IT
- My 2016 International school of Computational Astrophysics - Les Houches, FR
- Dc 2015 Texas symposium - Geneva, SW
- Jn 2015 French Astronomy Society meeting - Toulouse, FR
- Mr 2015 Turbulence, magnetic fields and self organization - Les Houches, FR
- Nv 2014 Magnetic fields from the sun to black holes - Paris, FR
- My 2013 Cosmic Accelerators - Institute for scientific studies - Cargèse, FR

### Seminars

- Nv 2018 IRAP Toulouse - FR
- Jl 2018 TAPIR Caltech - US
- Fb 2018 LUPM Montpellier - FR
- Dc 2017 Radboud University Nijmegen - NL
- Nv 2017 ESAC Madrid - SP
- Sp 2017 Observatory of Paris - FR
- Sp 2016 Aarhus University - DK
- Ap 2016 Paris 7 University - FR
- Ap 2016 KU Leuven - BE
- Oc 2015 CEA Paris, AIM laboratory - FR

### Posters

- Jl 2018 Formation of wind-captured discs in high mass X-ray binaries - COSPAR
- Jn 2017 Clumpy wind accretion in Supergiant X-ray binaries - EWASS
- Dc 2015 Wind accretion onto compact objects - Texas symposium
- Nv 2014 Wind accretion undergoing flip-flop instability - IAP Paris

## Grants & awards

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- 2016 3-years FWO [Pegasus]<sup>2</sup> Marie Skłodowska-Curie fellowship
- 2013-16 3-years PhD fellowship from the Ecole Normale Supérieure of Cachan
- 2013-16 3-years teaching assistant grant from the Université of Paris 7 Diderot
- 2011 French *Agrégation* of Physics and Chemistry - Rank : 2<sup>nd</sup> / 1,409
- 2010-12 2-years *normalien* study fellowship from the ENS of Cachan

## Computing & observing time

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- 2018 Mapping the wind and accretion in Vela X-1 - XMM-Newton (co-l., subm.)
- 2018 Spectral evolution of the HMXB IGR J16393 - XMM-Newton (co-l., subm.)
- 2017-18 Computing time on the Flemish Tier-1 VSC cluster : 2.5 Mh·CPU
- 2015-16 Computing time on the French CINES Tier-1 cluster : 600 kh·CPU
- 2012 1-week observing time at the Mont Mégantic Observatory (Canada)

## Supervision & teaching

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### Supervision

2018-...	Co-supervisor with Jon Sundqvist of a graduate student, Nicolas Moens
2018	Reader for Florian Driessen's Master thesis supervised by Jon Sundqvist
2018	Reader for Prem Kumar Bulusu's Master thesis supervised by Hugues Sana

### Teaching

2018-19	Lecturer in Computational methods for Astrophysics, 5 <sup>th</sup> year - KU Leuven
2017-18	Teaching assistant (TA) Linear Algebra, 1 <sup>st</sup> year - KU Leuven
2016-17	TA Computational methods for Astrophysics, 5 <sup>th</sup> year - KU Leuven
2014-16	TA Classical Mechanics, 1 <sup>st</sup> year - Univ. of Paris 7 Diderot
2013	TA Physics for Medical studies, 1 <sup>st</sup> year - Univ. of Paris 7 Diderot
2013	TA Deterministic systems and signals, 4 <sup>th</sup> year - Univ. of Paris 7 Diderot
2012-13	Private lessons with the company <i>Cours Thalès</i> - Paris
2011	French <i>Agrégation</i> of Physics & Chemistry
2009-10	High school Gustave Eiffel - Cachan

## Community service

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### Reviewing

2018	Reviewer for The Astrophysical Journal
2018	Reviewer for DiRAC High Performance Computing Tier-1

### Outreach

Oc 2017	1h30 radio interview on scientific communication in <i>Faconde</i> - Brussels
Nv 2015	Community manager and webmaster of the Young Physicists Meeting - Paris
Oc 2015	Festival of Science - Paris Diderot University
Sp 2015	3D-printed models and Wolfram interactive applet for the Roche potential
2013	Java applet on Turing theory of morphogenesis - Paris Observatory