



Joke Claeys

Personal Information

Birth date 07/04/1986
Birth place Ghent, Belgium
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Current occupation

I started my PhD in Astrophysics at Utrecht University on September 1st, 2009. Since the 1st of February 2012 I am continuing my doctoral project at the Department of Astrophysics of the Radboud University of Nijmegen. The defense of my thesis is expected to be in October 2013.

Education

- 09/2009–present **Doctorate**, *University Utrecht - Radboud University Nijmegen*, The Netherlands, Supervisor: Dr. Onno Pols - Promotor: Prof. Dr. Frank Verbunt.
“The binary progenitor evolution of supernovae”
- 2007–2009 **Master Degree in Physics and Astronomy**, *Rijksuniversiteit Gent*, Ghent, Belgium, Great distinction (average 8).
Thesis title: *Binary progenitor models of type IIb supernovae*.
Thesis advisors: Prof. Dr. Maarten Baes (B), Dr. Onno Pols (NI)
- 2004–2007 **Bachelor Degree in Physics and Astronomy**, *Rijksuniversiteit Gent*, Ghent, Belgium, Distinction (average 7) .
Thesis title: *Spectroscopy of Saturn*. Thesis advisor: Prof. Dr. Sven De Rijcke
- 1998–2004 **High-school Diploma**, *Sint-Bavohumaniora*, Ghent, Belgium.

Refereed Publications

- **J. S. W. Claeys**, S. E. de Mink, O. R. Pols, J. J. Eldridge, and M. Baes. Binary progenitor models of type IIb supernovae. *A&A*, 528:A131, April 2011.
- R. Di Stefano, R. Voss, and **J. S. W. Claeys**. Spin-up/Spin-down Models for Type Ia Supernovae. *APJ*, 738:L1, September 2011.

- A. S. Hamers, O. R. Pols, **J. S. W. Claeys**, and G. Nelemans. Population synthesis of triple systems in the context of mergers of carbon-oxygen white dwarfs. *MNRAS*, page 704, February 2013.
- **J. S. W. Claeys**, O. R. Pols, R. G. Izzard, J. Vink, and F. Verbunt. The Progenitor Evolution of Type Ia Supernovae: A Parameter Study. In Prep.
- S. Toonen, **J. S. W. Claeys**, N. Mennekens, and A. J. Ruiter. PopCORN: Hunting down the differences between binary population synthesis codes. Subm. to *A&A*.

Non-Refereed Publications

- **J. S. W. Claeys**, O. R. Pols, J. Vink, and R. G. Izzard. The Search for Progenitor Models of Type Ia Supernovae. In V. Kalogera and M. van der Sluys, editors, *American Institute of Physics Conference Series*, volume 1314 of *American Institute of Physics Conference Series*, pages 262–263, December 2010.
- **J. S. W. Claeys**, O. R. Pols, J. Vink, and R. G. Izzard. Type Ia Supernovae and the Uncertainties in their Progenitor Evolution. In *IAU Symposium*, volume 281 of *IAU Symposium*, pages 236–239, January 2013.
- R. Di Stefano, R. Voss, and **J. S. W. Claeys**. Spin-Up/Spin-Down Models. In *IAU Symposium*, volume 281 of *IAU Symposium*, pages 64–67, January 2013.
- **J. S. W. Claeys**, S. Toonen, and N. Mennekens. POPCORN: A comparison of binary population synthesis codes. In G. Pugliese, A. de Koter, and M. Wijburg, editors, *370 Years of Astronomy in Utrecht*, volume 470 of *Astronomical Society of the Pacific Conference Series*, page 163, January 2013.
- S. Toonen, G. Nelemans, M. Bours, S. Portegies Zwart, **J. S. W. Claeys**, N. Mennekens, and A. Ruiter. Progenitors of Supernovae Type Ia. In Krzesiń, J. ski, G. Stachowski, P. Moskalik, and K. Bajan, editors, *18th European White Dwarf Workshop.*, volume 469 of *Astronomical Society of the Pacific Conference Series*, page 329, January 2013.

Schools, Workshops and Conferences

- July 2013 **Workshop: “Steps Towards a New Generation of Stellar Models ”**, *Leiden, The Netherlands*.
- May 2013 **Dutch Astronomy Conference**, *Lommel, Belgium*, Contributed with a 15 min talk, Title: “The progenitor evolution of type Ia supernovae: effects of uncertainties in binary evolution”.
- September 2012 **MPA/ESO/MPE/Excellence Cluster Universe Conference on: “Supernovae Illuminating the Universe: from individuals to Populations”**, *Garching, Germany*, Contributed with a poster.
- April 2012 **Conference “370 years of astronomy in Utrecht”**, *Leeuwenhorst, The Netherlands*, Member of the Local Organizing Committee, Contributed with a poster.
- July 2011 **IAU Symposium 281 “Binary Paths to type Ia SNe explosions”**, *Padova, Italy*, Contributed with a 15 min talk, Title: “Type Ia supernovae and the uncertainties in their progenitor evolution”.
- June 2011 **Conference “Supernovae and their Host Galaxies”**, *Sydney, Australia*, Contributed with a poster.
- March 2011 **Conference “Evolution of Compact Binaries”**, *Viña del Mar, Chile*, Contributed with a 15 min talk, Title: “Type Ia supernovae and their progenitor evolution”.

- September 2010 **Workshop: “Observational signatures of type Ia supernova progenitors”, Leiden, The Netherlands.**
- June 2010 **XXVI IAP Annual Colloquium: “Progenitors and environments of stellar explosion”, Paris, France,** Contributed with a 12 min talk, Title: “Binary progenitor models of type IIb supernovae”.
- June 2010 **“International conference on binaries: In celebration of Ron Webbink’s 65th Birthday”, Mykonos, Greece,** Contributed with a poster.
- February 2010 **Conference: “Single/Binary massive stars”, Brussels, Belgium,** Contributed with a 15 min talk, Title: “Binary progenitor models of type IIb Supernovae”.
- October 2009 **NOVA Fall School 2009, Dwingeloo, The Netherlands.**
- September 2009 **Workshop: “Stellar mergers”, Leiden, The Netherlands.**
- May 2009 **Dutch Astronomy Conference, Kerkrade, The Netherlands,** Contributed with a poster.

Teaching and Supervision

- Teaching **2009-2011, Assistant: Stellar Structure and Evolution (Master course, 7.5 ECTS),** teaching computer sessions and exercise classes, grading.
- Supervisor **Bachelor research, Thomas Wijnen (Recurrent Novae in single degenerate binaries as possible progenitors of type Ia Supernovae), Mark Wanders (Evolution paths for single low-mass white dwarfs),** formulated the research projects and weekly meetings.

Languages

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|---------|----------------|--|
| Dutch | Native | |
| English | Fluent | <i>Courses: Scientific Communications in English (Master course)
Scientific writing for graduate students (PhD course)</i> |
| French | Good | <i>Second language in Belgium</i> |
| German | Limited | |

Computer skills

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|-----------|--------------|------------------------------------|
| C | Good | <i>Used in the daily work</i> |
| IDL | Good | <i>Used in the daily work</i> |
| Gnuplot | Good | <i>Used in the daily work</i> |
| Python | Good | <i>Used in the daily work</i> |
| Perl | Good | <i>Used in the daily work</i> |
| Fortran77 | Basic | <i>Used during master research</i> |

Collaborations

- Argelander-Institut für Astronomie, Bonn (R.G. Izzard)
- POPCORN-project: VUB, Brussels (N. Mennekens); Max-Planck-Institut für Astrophysik, Garching (A.J. Rüter)
- Harvard-Smithsonian Center for Astrophysics, Cambridge (R. Di Stefano)

- o SRON (Space Research Organization Netherlands), Utrecht (J. De Plaa)

Organization, Outreach & Media

- LOC-member **April 2011**, *Conference: 370 Years of Astronomy in Utrecht.*
- Press-release **September 2011**, *About research results in US en The Netherlands (NRC Handelsblad, important newspaper in the Netherlands).*
- Organization **2010-2011**, *Prize for high school students for the best astronomy project.*

Other

- Erasmus-project **Student exchange program**, 2008-2009, Study a half a year at the University of Utrecht, The Netherlands (Astrophysics).
- Grants **Travel grants**, *Leids Kerkhoven-Bosscha Fonds*, During my PhD I received three times a travel grant to participate in conferences at different locations around the world .
- Awarded observing time **XMM-Newton**, 2013-2014, The XMM-Newton view of chemical enrichment in bright galaxy clusters and groups (PI: J. De Plaa), 1590 ks.
- Presentation Skills **Drama class (11 yrs)**, *Repertoire study (greatest distinction – 9), Elocution (greatest distinction – 9), Poetry reading (great distinction – 8).*
- Associations **VVS (National association for Astronomy)**, 3 yrs effective member.
VVN (Student association for Physics), 1 yr vice-president, 2 yrs president of group WS (astronomy group).
Scouting, 12 yrs, 1 yr leader.