

# María Claudia **Ramírez-Tannus**

*PhD in astrophysics.*

Science Park 904, P.O. Box 94249,  
1090 GE Amsterdam Netherlands  
✉ [maclarata@gmail.com](mailto:maclarata@gmail.com)  
Birth date: 1988.09.10, Colombian

---

## Research Experience

Postdoctoral Fellow at MPIA, Heidelberg

From 09.19 I will start a three year postdoc fellowship to do research about the origin of massive binaries

Postdoctoral Researcher

04.19 – present **Finishing PhD papers and supporting the research group**

Host: Prof. Dr. Lex Kaper *Anton Pannekoek Institute (API), Amsterdam, NL*

PhD in Astrophysics

09.14 – 09.18 **The outcome of massive star formation**

Supervisors: Prof. Dr. Lex Kaper, Prof. Dr. Alex de Koter, *API, Amsterdam, NL*

Master Thesis

05.13 – 07.14 **Star Formation in the outer disk of the spiral galaxy NGC6946.**

Supervisors: Prof. Dr. Eva Grebel, Dr. Anna Pasquali, *ARI, Heidelberg, GER*

Research Assistant

08.11 – 04.12 **1. Study on the universality and linearity of the Leavitt Law in the LMC and SMC galaxies. / 2. Be stars classification**

Supervisors: Prof. J.A. García-Varela, Prof. B.E. Sabogal, *Los Andes U., Bogotá, COL*

---

## Education

05.12 – 07.14 **Master of Science in Physics**, *Ruprecht-Karls-Universität Heidelberg, Germany.*

08.07 – 08.11 **Bachelor of Science in Physics**, *Universidad de Los Andes, Bogotá, Colombia.*

08.06 **High School diploma**, *La Candelaria High School, Bogotá, Colombia.*

---

## Observational experience

08.2017,07.2018 **William Herschel Telescope, La Palma.** Project PI and observer: ISIS/WHT.

02.2016 **ESO/NEON Observing School at La Silla, Chile.** Two weeks of observing experience including lectures, proposal preparation, 3-night of observations in the ESO NTT, and Danish 1.54-m telescopes, and data reduction.

01.2012 **School of Observational Astronomy for Latin-American Students.** Two weeks of observing experience including lectures and data reduction in the UNAM/INAOE 1-m telescope in Tonanzintla, México.

---

## Awards

11.2017 **First prize in poster competition (60 EUR)**, *IAUS 329: Massive stars*, New Zealand.

11.2017 **IAU travel grant (400 EUR)**, *IAUS 329: Massive stars*, New Zealand.

02.2016 **Participation and full coverage of local expenses**, *ESO/NEON Observing School.*

2014 – 2017 **3 work visit and travel grants (1900 EUR)**, *LKBF (Leids Kerkhoven-Bosscha Fonds).*

---

## Invited Talks

03.2018 **On the origin of close massive binaries?**

Coffee talk, Royal Observatory Edinburgh (ROE), Edinburgh, Scotland.

- 05.2017 **M17: Hints on the origin of close massive binaries?**  
VLT-VFTS FLAMES Tarantula Survey Collaboration Meeting, Leuven, Belgium.
- 08.2016 **Massive pre-main sequence stars in M17**  
Astronomy and Astrophysics' Seminar. Universidad de los Andes, Colombia.
- 08.2014 **Star formation in the outer disk of the spiral galaxy NGC 6946**  
Astronomy and Astrophysics' Seminar. Universidad de los Andes, Colombia.

## Teaching Experience

- 2017 – 2018 **Co-supervision of master students**, *University of Amsterdam*, The Netherlands.  
Martijn van Gelder, Stephan de Wit, Frank Backs, and Annelotte Derkink.
- 2014 – 2017 **Teaching assistant**, *University of Amsterdam*, The Netherlands.  
Observational astrophysics.
- 2008 – 2011 **Teaching assistant**, *Universidad de Los Andes*, Bogotá, Colombia.  
Physics 1, Physics 2, Thermodynamics, and Solid State Physics' at a bachelor level.

## Outreach Activities

- 04.2017 **Public Talk**, *The search for massive young stars in the Omega Nebula*, Amsterdam.
- 2014 – 2017 **Open Day** at Science Park, University of Amsterdam.

## Leadership experience

- 2014 – 2017 **Organizer of the biweekly massive stars meeting**, *API*, University of Amsterdam.
- 2016 **Member of the LOC for the Dutch Astronomy Conference**, *Nunspeet*, Netherlands.
- 2014 – 2015 **PhD students representative**, *API*, University of Amsterdam.

## Computer skills

**Computing:** Python, Fortran, Bash,  $\LaTeX$       **Astro. tools:** IRAF, esorex, DS9, gnuplot, TOPCAT

## Languages

**Spanish**, *mother tongue*.      **English**, **German**, **Portuguese**, *fluent*.      **French**, **Dutch**, *basic*.

## Refereed Publications

- Article **Ramírez-Tannus, M.C.**, Cox, N. L. J., Kaper, L., de Koter, A., *Diffuse interstellar bands in the HII region M17: Insights into their relation with the total-to-selective visual extinction  $R_V$* , **2018, A&A, 620, A52**
- Article **Ramírez-Tannus, M.C.**, Kaper, L., de Koter, A., Tramper, F., Bik, A., Ellerbroek, L.E., Ochsendorf, B.B., Ramírez-Agudelo, O.H., Sana, H., *Massive pre-main sequence stars in M17*, **2017, A&A, 604, A78**
- Letter Sana, H., **Ramírez-Tannus, M. C.**, de Koter, A., Kaper, L., Tramper, F., & Bik, A., *A dearth of short-period massive binaries in the young massive star forming region M 17. Evidence for a large orbital separation at birth?*, **2017, A&A, 599, L9** (showcased in Nature News & Views; **Geller, A. M. 2017, Nature, 547, 41**)
- Article García-Varela, A., Sabogal, B., **Ramírez-Tannus, M. C.**, *A Study on the Universality and Linearity of the Leavitt Law in the LMC and SMC Galaxies*, **2013, MNRAS, 431, 2278**

## Non-refereed publications

- Proceedings **Ramírez-Tannus, M.C.**, Kaper, L., et al. *Massive pre-main-sequence stars in M17*, **2017, IAU Symposium, 329, 439**
- Proceedings **Ramírez-Tannus, M.C.**, Kaper, L., et al. *Massive pre-main-sequence stars in M17*, **2016, IAU Symposium, 315, 67**

Proceedings **Ramírez-Tannus, M.C.**, Kaper, L. *VLT/X-shooter spectroscopy of massive pre-main-sequence stars in M17*, 2015, IAU General Assembly, 22, 2235517

---

## Papers in preparation

- VLT/KMOS **Ramírez-Tannus, M.C.**, Poorta, J., et al., *VLT/KMOS survey of massive stars in the giant HII regions M8, NGC6357, and G333.6-0.2*.
- WHT/ISIS **Ramírez-Tannus, M.C.**, Sana, H., et al., *Multi-epoch spectroscopic study of the O stars in M17*.
- VLT/SPHERE **Ramírez-Tannus, M.C.**, Reinot, A., et al. *Search for extreme mass-ratio binaries in M17*.
- VLT/X-shooter Poorta, J., **Ramírez-Tannus, M.C.**, et al. *Characterizing disks around massive young stellar objects in M17*.

---

## Contributed Talks

- 07.2017 **M17: Hints on the origin of close massive binaries?**  
The impact of binaries on stellar evolution, ImBaSE 2017, ESO/Garching.
- 05.2017 **Do young stars in M17 lack companions?**  
72nd Netherlands Astronomy Conference, NAC 2017. Nijmegen, The Netherlands.
- 06.2016 **Disks around massive stellar objects**  
Exoplanets and disks meeting. University of Amsterdam, The Netherlands.
- 03.2015 **X-shooter spectroscopy of massive-YSOs in 30-Dor**  
VFTS FLAMES Tarantula Survey Collaboration Meeting, Sheffield, UK.
- 11.2012 **Ultra Compact Dwarf Galaxies: Stripped Nuclei or Merged Super Star Clusters?**  
Seminar of Physical Processes of Shaping Galaxies. Ruprecht-Karls-Universität Heidelberg, Germany.
- 05.2012 **The Most Metal-Poor Galaxies**  
Seminar of Galactic and Extragalactic Astronomy, Ruprecht-Karls-Universität Heidelberg.
- 05.2011 **Distance to the Galaxy NGC7793 of the Sculptor Group**  
Astronomy and Astrophysics' Seminar. Universidad de los Andes, Colombia.