



Anaïs BARDYN

Astrochemist

abardyn@carnegiescience.edu

7333 New Hampshire Ave, Apt 1203, Takoma Park, MD, 20912

Date of Birth: 05/21/1988

French nationality

Postdoctoral fellow at DTM, Carnegie Institution of Washington

Since July 2017

EDUCATION

- 2013 - 2016 **Ph.D. Astrochemistry/Astrobiology** - University Paris-Est (France)
Defended on December 9th, 2016
- 2012 - 2013 **M.S. (2nd year) Chemistry and Physics of the Atmosphere** - University Paris-Est Créteil (France)
Summa cum laude, rank : 1/18
- 2011 - 2012 **M.S. (1st year) Environmental Sciences and Engineering** - University Paris-Est Créteil (France)
Magna cum laude
- 2008 - 2011 **B.S. Chemistry** - University Paris-Est Créteil (France)
including a year (2010 - 2011) studying abroad at University of Murcia (Spain)
Magna cum laude

RESEARCH

- July 2017-... **Postdoctoral Research**
Laboratory: Department of Terrestrial Magnetism, Carnegie Institution of Washington (USA)
Supervisors: Conel Alexander and Larry Nittler
Characterization of extraterrestrial organic material laboratory analyses and comparison with in situ measurements of cometary dust by the COSIMA/Rosetta instrument
- Jan. - May 2017 **Postdoctoral Research**
Laboratory: LISA (Créteil, France) - Supervisor: Hervé Cottin
Exploitation of the COSIMA data to characterize the organic matter in comet 67P/Churyumov-Gerasimenko's particles
- 2013 - 2016 **Graduate Research**
Laboratories: LISA and LPC2E (France) - Supervisors: Hervé Cottin and Christelle Briois
Thesis title: *Characterization of the organic matter in comet 67P/Churyumov-Gerasimenko's particles by mass spectrometry with the COSIMA instrument on board the Rosetta spacecraft*
- Spring 2013 **M.S. Research Internship**
Laboratory: LISA (Créteil, France) - Supervisor: Hervé Cottin
Characterization of the cometary organic material by TOF-SIMS: input of the alkanes to the library of COSIMA mass spectra

INTERNATIONAL EXPERIENCES

- 2010 - 2011 **Murcia, Spain**
B.S. (3rd year) Chemistry - University of Murcia - *Grant of excellence for international mobility*
- Spring 2008 **Darwin, Australia**
Au pair, childcare worker, waitress
- 2004 - 2005 **Iowa, USA**
Grade 11 - Pomeroy-Palmer High School - *Student exchange via YFU program*

TEACHING EXPERIENCE

- March 2016 **Workshop on comets**
Animation for children - Vincennes
- 2015 - 2016 **Astronomy courses (20h)**
Charcot Junior High School (Joinville-le-Pont)
- 2014 - 2015 **Teaching assistant in Chemistry for undergraduate students (50h)**
University of Orléans - *Experimental chemistry, chemical kinetics, solution chemistry*
- 2013 - 2014 **Teaching assistant in Chemistry for undergraduate students (25h)**
University Paris-Est Créteil - *Experimental chemistry*

SKILLS and LANGUAGES

Laboratory

- Mass spectrometry
- TOF-SIMS
- Data mining
- Organics and minerals in comets and meteorites
- Software: Origin, Labview (*basic*)

Languages

- French: native
- English: fluent
- Spanish: good

Others

- Member of the French Astrobiology Society (*SFE*)
- Local organization member of the conference Exobiologie Jeunes Chercheurs (*EJC'15*)
- Astrobiology introductory course (*RED'14 and RED'15*)
- 2013-2014 : PhD student representative in the laboratory council (*LISA*)
- 2013-2016 : PhD student representative in the university research committee (*University Paris-Est Créteil*)

SCIENTIFIC COMMUNICATIONS

Peer reviewed publications

See the separate link: *Publications*

Oral communications

- **A. Bardyn**, D. Baklouti, C. Briois, H. Cottin, N. Fray, C. Engrand, H. Fischer, M. Hilchenbach, S. Merouane, P. Modica, J. Paquette, J. Rynö, O. Stenzel, L. Thirkell and the COSIMA team, *Cometary dust composition and its variation as seen by COSIMA over nearly two years of the Rosetta mission*, **COMETS**, Toulouse (France), November 2016.
- **A. Bardyn**, C. Briois, H. Cottin, N. Fray, L. Thirkell, M. Hilchenbach and the COSIMA team, *COSIMA et la comète Churyumov-Gerasimenko*, **ESEP**, Observatoire de Meudon (France), January 2016.
- **A. Bardyn**, M. Hilchenbach, C. Briois, J. Kissel, A. Koch, Y. Langevin, R. Schulz, J. Silén, and the COSIMA team, *COSIMA- In-situ dust particles measurements in the inner coma of comet 67P/Churyumov-Gerasimenko*, **DPS**, Washington (USA), November 2015.
- **A. Bardyn**, C. Briois, H. Cottin, N. Fray, L. Thirkell, M. Hilchenbach and the COSIMA team, *L'instrument COSIMA à bord de ROSETTA – La poussière de la comète 67P/Churyumov-Gerasimenko*, **EJC**, Paris (France), November 2015.
- **A. Bardyn**, M. Hilchenbach, Y. Langevin, C. Briois, J. Kissel, A. Koch, R. Schulz, J. Silén, J. Rynö, H. Cottin, N. Fray, L. Thirkell, K. Hornung, H. Lehto, K. Lehto, S. Siljeström, B. Zaprudin and the COSIMA team, *The COSIMA instrument on board ROSETTA – Dust particles in the inner coma of comet 67P/Churyumov-Gerasimenko*, **EANA**, Noodwijk (The Netherlands), October 2015.
- **A. Bardyn**, C. Briois, H. Cottin, N. Fray, L. Thirkell, M. Hilchenbach, *Characterization of the cometary solid organic matter by mass spectrometry: application to the COSIMA instrument*, **AbGradE**, Edinburgh (Scotland), October 2014.

Posters

- **A. Bardyn**, C. Briois, H. Cottin, N. Fray, L. Thirkell, M. Hilchenbach and the COSIMA team, *Caractérisation de la matière organique cométaire par spectrométrie de masse : application à l'instrument COSIMA*, **JC2**, Toulouse (France), October 2015.
- C. Briois, D. Baklouti, **A. Bardyn**, H. Cottin, C. Engrand, N. Fray, M. Hilchenbach, K. Hornung, J. Kissel, Y. Langevin, R. Schulz, J. Silén, S. Siljeström, F. R. Orthous-Daunay, J. Rynö, A. Koch and the COSIMA Team, *The composition of 67P/Churyumov-Gerasimenko cometary dust as seen by COSIMA on board Rosetta*, **EGU**, Vienna (Austria), April 2015.
- **A. Bardyn**, C. Briois, H. Cottin, N. Fray, L. Le Roy, L. Thirkell, M. Hilchenbach, *Rosetta/COSIMA, Laboratory time-of-flight secondary ion mass spectra of PAHs for in situ detection in the cometary solid organic matter*, **SFE**, La Baule (France), October 2014.
- **A. Bardyn**, H. Cottin, N. Fray, C. Briois, L. Thirkell, L. Le Roy, C. Engrand, D. Baklouti, H. Krüger, J. Rynö, J. Silén, S. Siljeström, M. Hilchenbach, *COSIMA: In situ chemical analysis of cometary dust grains during the ROSETTA mission*, **ICW**, Toulouse (France), April 2014 (grant).
- **A. Bardyn**, C. Briois, L. Thirkell, N. Fray, L. Le Roy, H. Cottin, *Caractérisation de la matière organique cométaire par TOF-SIMS : apport des alcanes à l'exploitation de la banque de données de COSIMA*, **EJC**, Paris (France), October 2013.

Seminars

- **A. Bardyn**, *COSIMA in situ measurements of dust particles from comet 67P/Churyumov-Gerasimenko*, NASA Goddard Space Flight Center, Greenbelt (USA), July 2016.
- **A. Bardyn**, *COSIMA in situ measurements of dust particles from comet 67P/Churyumov-Gerasimenko*, Carnegie Institution, Washington (USA), September 2016.