

# Nicolas Deparis | Research engineer

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🌐 github.com/NicolasDeparis • 📅 DOB 24/05/1986 - 33 years old

## Experience

<b>Fixed-term contract</b>	<b>2018–Present</b>
Scientific software developer	Observatoire Astronomique de Strasbourg/CNRS
Developing the SVOM MXT Scientific pipeline using microservice architecture	
<b>Fixed-term contract</b>	<b>2014</b>
6 months	Observatoire Astronomique de Strasbourg/CNRS
Implementing stellar formation in a RHD cosmological code	

## Education

<b>Ph.D. in Astrophysics</b>	<b>2014–2017</b>
Thesis title : Numerical study of the reionization with the simulation code EMMA	Strasbourg University
Supervisor: Dominique Aubert	
<b>Master in Theoretical Physics</b>	<b>2009–2011</b>
Specialization : Astrophysics	Strasbourg University
<b>Licence "Science de la Terre de l'Univers et de l'Environnement"</b>	<b>2008–2009</b>
Specialization : Géophysics	Louis Pasteur University
<b>Diplôme Universitaire de Technologie "Mesures Physiques"</b>	<b>2005–2007</b>
Specialization : Techniques Instrumentales	Paul Verlaine University

## Prize

**Atos - Joseph Fourier:** 2nd price in High Performance Computing - 06/2019

## Schools

**12/2019:** Gitlab CI & Gitflow - M2I formation, France  
**11/2018:** IV ASTERICS VO School - Observatoire de Strasbourg, France  
**11/2016:** Parallel computing by David Brusson - Ecole Supérieure du professorat et de l'éducation, Strasbourg - France  
**06/2016:** Gutenberg School on Astrophysics - Stars and Galaxy Formation - Observatoire de Strasbourg, France  
**05/2016:** Galaxy formation and evolution in a cosmological context by Andrea Cattaneo - Institut d'Astrophysique de Paris, France  
**01/2016:** From BioImage Processing to BioImage Informatics - Télécom Physique Strasbourg France  
**12/2015:** Principle of imaging for membrane systems - Institut Charles Sadron, Cronembourg, Strasbourg, France  
**03/2015:** Numerical Simulations in Astrophysics - Observatoire de Strasbourg, France

## Computing skills

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**Languages:** Python, C/C++, Fortran, Java

**Libraries:** MPI, CUDA, OpenMP, HDF5, OpenGL

**Tools:** Git, docker, Valgrind

**Known HPC centers:** PRACE TGCC Curie (France), PRACE CINES Occigen (France), OLCF Titan (USA)

## Conferences

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**06/2016:** Illuminating the Dark Ages: Quasars and Galaxies in the Reionization Epoch - MPIA Summer Conference 2016- Heidelberg, Germany

**06/2016:** Presentation at Journées de la SF2A - Lyon, France

**04/2016:** Presentation at 13th Potsdam/AIP Thinkshop "Near Field Cosmology" - Obergurgl, Tyrol, Austria

**10/2015:** Presentation at meeting ORAGE - Roscoff, France

**05/2015:** Poster at The Olympian Symposium 2015 Cosmology and the Epoch of Reionization - Paralia Katerini's, Mount Olympus, Greece

**05/2015:** CLUES meeting 2015 - Copenhagen, Denmark

## Publications

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**N. Deparis**, D. Aubert, P. Ocvirk, J. Chardin, and J. Lewis, "Impact of the reduced speed of light approximation on ionization front velocities in cosmological simulations of the epoch of reionization," *Astronomy and Astrophysics*, vol. 622, p. A142, Feb. 2019.

J. Chardin, G. Uhlich, D. Aubert, **N. Deparis**, N. Gillet, P. Ocvirk, and J. Lewis, "A deep learning model to emulate simulations of cosmic reionization," *Monthly Notices of the Royal Astronomical Society*, vol. 490, pp. 1055–1065, Nov 2019.

D. Aubert, **N. Deparis**, and P. Ocvirk, "EMMA: an adaptive mesh refinement cosmological simulation code with radiative transfer," *Monthly Notices of the Royal Astronomical Society*, vol. 454, pp. 1012–1037, Nov. 2015.

P. Ocvirk, D. Aubert, J. G. Sorce, P. R. Shapiro, **N. Deparis**, T. Dawoodbhoy, J. Lewis, R. Teyssier, G. Yepes, S. Gottlöber, K. Ahn, I. T. Iliev, and Y. Hoffman, "Cosmic Dawn II (CoDa II): a new radiation-hydrodynamics simulation of the self-consistent coupling of galaxy formation and reionization," *arXiv e-prints*, Nov. 2018.

D. Aubert, **N. Deparis**, P. Ocvirk, P. R. Shapiro, I. T. Iliev, G. Yepes, S. Gottlöber, Y. Hoffman, and R. Teyssier, "The Inhomogeneous Reionization Times of Present-day Galaxies," *Astrophysical Journal, Letters*, vol. 856, p. L22, Apr. 2018.

P. Ocvirk, D. Aubert, **N. Deparis**, and J. Lewis, "The impact of the reduced speed of light approximation on the post-overlap neutral hydrogen fraction in numerical simulations of the epoch of reionization," *arXiv e-prints*, Mar. 2018.

### Submitted

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**N. Deparis**, D. Aubert, P. Ocvirk, and N. Gillet, "Radiation and supernovae feedback during the epoch of reionization with emma," *Monthly Notices of the Royal Astronomical Society*, Submitted.

### Proceedings

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**N. Deparis**, D. Aubert, and P. Ocvirk, "Stellar feedback during the reionization with EMMA," in *SF2A-2016: Proceedings of the Annual meeting of the French Society of Astronomy and Astrophysics* (C. Reylé, J. Richard, L. Cambrésy, M. Deleuil, E. Pécontal, L. Tresse, and I. Vauglin, eds.), pp. 399–402, Dec. 2016.

A. Schaaff, **N. Deparis**, N. Gillet, P. Ocvirk, A. Steinmetz, P. Lespingal, and N. Buecher, "3D-Visualization of Astronomical Data in a Web Browser," in *Astronomical Data Analysis Software and Systems XXV* (N. P. F. Lorente, K. Shortridge, and R. Wayth, eds.), vol. 512 of *Astronomical Society of the Pacific Conference Series*, p. 503, Dec. 2017.

A. Schaaff, J. Berthier, J. Da Rocha, **N. Deparis**, S. Derriere, P. Gaultier, R. Houpin, J. Normand, and P. Ocvirk, "Immersive 3D Visualization of Astronomical Data," in *Astronomical Data Analysis Software and Systems XXIV (ADASS XXIV)* (A. R. Taylor and E. Rosolowsky, eds.), vol. 495 of *Astronomical Society of the Pacific Conference Series*, p. 125, Sept. 2015.

## References

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