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DATE OF BIRTH	March 12, 1988, Holbæk, Denmark		
NATIONALITY	Danish		

## EDUCATION

**Ph.D., 2011 - 2015**, defended Nov 6th 2015 — advisor: Prof. Johan P. U. Fynbo.

Dark Cosmology Centre, University of Copenhagen

Thesis title: *“Galaxies in the early universe characterized in absorption and emission”*

**M.S., 2010 - 2013**, Astronomy — advisor: Prof. Johan P. U. Fynbo

Dark Cosmology Centre, University of Copenhagen

**B.S., 2006 - 2009**, Physics and Astronomy

Niels Bohr Institute, University of Copenhagen

## RESEARCH EXPERIENCE

2018 – Feb	<b>Institut d'Astrophysique de Paris</b> , France Postdoctoral researcher, funded by ANR grant, working with Dr. P. Noterdaeme
2016 – 2018 Jan Jan	<b>Institut d'Astrophysique de Paris</b> , France Postdoctoral research fellow, funded by the Danish Council for Independent Research, working with Dr. P. Noterdaeme
2015 – 2016 Dec Jan	<b>Dark Cosmology Centre, University of Copenhagen</b> , Denmark Postdoctoral Researcher, working with Dr. L. Christensen
2012 – 2014 Dec Dec	<b>European Southern Observatory</b> , Santiago, Chile PhD Studentship, working with Dr. C. Ledoux

## GRANTS AND FELLOWSHIPS

2017, 2019	<b>ESO Scientific Visitor Programme, ESO Santiago, Chile</b> 5 and 6 weeks, respectively, working with Dr. C. Ledoux.
2015	<b>MOBILEX fellowship — Danish Council for Independent Research</b> <i>“Chemical Enrichment and Dust in the Early Universe”</i> , Grant ID: DFF - 5051-00115 2 year research grant, Jan 2016 – Jan 2018 (2,000,000 DKK = ~267,000 €)
2012, 2014	<b>Instrument Center for Danish Astrophysics</b> Two travel grants (2 × ~2000 €)
2011	<b>Danish Agency for Science and Innovation</b> Travel grant (~2000 €)

## TEACHING

- 2016 — 2019 **Informal co-supervision of PhD student A. Ranjan**  
(advisors: Noterdaeme & Petitjean)
- 2017 **NEON summer school in observational astronomy**  
Isaac Newton Telescope and Nordic Optical Telescope, La Palma, Spain  
15 days mentoring a group of 4 students.  
*Responsibilities:* data reduction, preparation and execution of observations,  
written and oral presentation
- 2015 **Invited lecture for master's course "Galaxy Formation"**  
Niels Bohr Institute, University of Copenhagen  
2 x 45 min entitled "Damped Lyman- $\alpha$  Absorbers as probes of Galaxy Evolution"
- 2012, 2014 **T.A. for the Observing School at the Nordic Optical Telescope**  
Organized by the Niels Bohr Institute, University of Copenhagen  
3 nights at the telescope each year, 7.5 ECTS each course.  
*Responsibilities:* data reduction, preparation of observations, written presentation
- 2012 **T.A. in Electromagnetism**  
Niels Bohr Institute, University of Copenhagen, 30h in total

## PROGRAMMING AND DATA ANALYSIS

- Programming languages:** Python, HTML, JavaScript, Fortran, IRAF, SQL
- Data reduction:** Long-slit spectroscopy, echelle spectroscopy (X-Shooter),  
imaging and slit-less spectroscopy (*HST*/WFC3)
- Statistics:** Bayesian parameter estimation (incl. MCMC methods),  
model comparison
- Software development (Python):**
- VoigtFit Absorption line analysis (Krogager 2018), see github
- PyNOT An automated pipeline to reduce NOT/ALFOSC spectra
- drizPSF Simulation of effective PSF for combined imaging data sets of *HST*/WFC3
- xsh A automated data-organizer and reduction pipeline manager for VLT/X-shooter

## OBSERVING EXPERIENCE

- As PI:** NTT at La Silla; VLT/X-shooter; VLT/SINFONI; VLT/ESPRESSO;  
ALFOSC at Nordic Optical Telescope (NOT)
- As Co-I:** VLT/UVES; Southern African Large Telescope (SALT);  
Gran Telescopio Canarias (GTC); Giant Metrewave Radio Telescope (GMRT);  
MeerKAT (SKA precursor in South Africa); *Hubble Space Telescope*: WFC3
- As observer:** VLT/X-Shooter; NOT/ALFOSC; Isaac Newton Telescope; NTT/EFOSC2
- Technical project** at ESO/VLT characterizing the 'diaphragm observing mode' for X-Shooter  
working with instrument scientist, Dr. C. Martayan.

## INSTITUTIONAL RESPONSABILITIES

- 2019 – Postdoc representative at the Conseil de Laboratoire at IAP, France
- 2018 – Organization of weekly social events for physics postdocs across Paris, France
- 2017 Organizer of ‘VoigtFit Workshop’, Dark Cosmology Centre, Denmark
- 2017 Member of SOC for Special Session at EWASS, Prague, Czech Republic  
“Damped Lyman-alpha Absorbers in Absorption and Emission”
- 2010 – 2015 Organization of daily astro-ph journal club at Dark Cosmology Centre, Denmark
- 2014 – 2015 Organization of weekly seminars at Dark Cosmology Centre, Denmark
- 2013 – 2014 Organization of weekly, informal student presentations at ESO, Chile
- 2013 Member of LOC for ESO workshop, “Deconstructing Galaxies”, Chile

## INSTRUMENTATION AND INTERNATIONAL SURVEYS

### PI of the 4MOST-Gaia Purely Astrometric Quasar Survey

#### WEAVE-QSO survey

Co-I Responsible for target selection and data quality

#### MeerKAT Absorption Line Survey (MALS)

Co-I and working group chair for optical spectroscopic follow-up

#### NOT Transient Explorer (NTE)

Co-I of instrumental development for the Nordic Optical Telescope

#### Maunakea Spectroscopic Explorer (MSE)

Science Team Member

## PUBLIC OUTREACH

- 2019 “Nuit de l’Astronomie 2020”, IAP, France  
Member of organizing committee
- 2018 “Fête de la Science”, IAP, France
- 2012, 2013 **Two press releases** in English distributed by the Niels Bohr Institute, Denmark  
Entitled: “Baby galaxies grew up quickly” and “New knowledge about early galaxies”

## LANGUAGES

[ILR SCALE]

Danish	native (5)	Spanish	professional fluency (3)
English	full professional fluency (4)	German	elementary (1)
French	professional fluency (3)	Japanese	elementary (1)

**TALKS AT INTERNATIONAL CONFERENCES**

WEAVE busy week - IAC, Tenerife, Spain, Sep 2019

*“WEAVE-QSO final summary”*

WEAVE-QSO virtual meeting, Sep 2019

*“Metallicity Evolution and Dust Reddening from DLAs”*

ESO Thirty Minute Talk - Santiago, Chile, Feb 2019

*”Dissecting the High-redshift Interstellar Medium”*

Van de Hulst Centennial Symposium - Leiden, Netherlands, Nov 2018

Poster: *“Dissecting the High-redshift Interstellar Medium”*

Galaxies in Absorption - Pune, India, Dec 2017

*“Emission counterparts of metal-rich DLAs”*

VoigtFit Workshop - Copenhagen, Denmark, Nov 2017

*“An introduction to absorption lines”* and *“VoigtFit: what it is and what it isn’t”*

The 10th meeting on Cosmic Dust - Tokyo, Japan, Aug 2017

*“Molecular absorption line systems with 2175Å bumps”*

Invited review at ‘GRBs meet Galaxies’ - Marseille, France, Sep 2017

*“Damped Lyman-alpha Absorbers in Absorption and Emission”*

WEAVE-QSO Meeting - Marseille, France, Jul 2017

*“Quasar Target Selection with Gaia Proper Motions”*

ESO Thirty Minute Talk - Santiago, Chile, Jan 2017

*“The metallicity-luminosity relation for high-z, absorption-selected galaxies”*

Probing baryons in the Universe - Sèvres, Paris, France, Nov 2016

*“Emission counterparts of metal-rich DLAs”*

Galaxies on Top of Quasars - Pittsburgh, United States of America, Apr 2016

*“Metals and molecules in dusty DLAs”*

Assembly of the Danish Astronomical Society - Helsingør, Denmark, May 2015

*”Dust in Damped Lyman-alpha Absorbers”*

Chemical Evolution Workshop - Copenhagen, Denmark, Aug 2014

*“Chemical evolution in DLAs”*

6th workshop on Galaxies in Absorption - Paris, France, Sep 2014

*”Galaxies in Absorption: Metal-rich DLAs”*

Metal Production and Distribution in a Hierarchical Universe - Paris, France, Oct 2013

*“Emission from high-metallicity DLAs”*

Science with the Nordic Optical Telescope - Århus, Denmark, Oct 2012

*"Evidence for steep extinction curves towards galactic centres"*

The 5th meeting on Cosmic Dust - Kobe, Japan, Aug 2012

*"Dust in Damped Lyman-alpha absorbing galaxies"*

ESA's space instrumentation summer school - Alpbach, Austria, 2011

Team leader for science case study: *"FIO: a far-infrared interferometer in space"*

## OTHER TALKS

Lunch talk at LAM - Marseille, France, Feb 2020

*"Absorption Spectroscopy: a Unique Probe of Galaxy Evolution"*

Seminar at IRAP - Toulouse, France, Jan 2020

*"Absorption Spectroscopy: a Unique Probe of Galaxy Evolution"*

Seminar at CRAL - Lyon, France, Sep 2019

*"Absorption Spectroscopy: a Unique Probe of Galaxy Evolution"*

'Galaxies' Journal Club, IAP - Paris, France, Sep 2019

*"Dissecting the High-redshift Interstellar Medium"*

ICAP journal club at IAP - Paris, France, Jun 2019

*"Dissecting the High-redshift Interstellar Medium"*

Seminar at Ioffe Institute - St. Petersburg, Russia, Oct 2018

*"Probing high-redshift galaxies with Damped Lyman-alpha Absorbers"*

Seminar at Dark Cosmology Centre - Copenhagen, Denmark, May 2018

*"Constraining ISM properties at high-z towards a lensed quasar"*

Postdoc Day at IAP - Paris, France Mar 2018

*"Quasar absorption systems as probes of the high-z universe"*

ICAP journal club at IAP - Paris, France, Dec 2017

*"Dust Bias in SDSS Quasar Samples"*

Journal club at IAP - Paris, France, Jun 2017

*"Emission counterparts of metal-rich DLAs"*

Lunch talk at ESO/MPA/MPE - Garching, Germany, Apr 2017

*"Emission counterparts of metal-rich DLAs"*

Seminar at Dark Cosmology Centre - Copenhagen, Denmark, Feb 2015

*"Astronomy on the other side: a summary of my studentship at ESO"*

ESO science day - Santiago, Chile, Feb 2014

*"Galaxy Evolution studied in absorption and emission"*