

## RESEARCH INTERESTS

Formation of the first stars, stellar archaeology, formation and growth of supermassive black holes, machine learning, hydrodynamical simulations, semi-analytical models of galaxy formation, citizen science.

## EDUCATION & EMPLOYMENT

Assistant Professor, Institute for Physics of Intelligence, UTokyo	since 2018
JSPS Postdoctoral Research Fellow, University of Tokyo	2017—2018
PhD in Astrophysics, Institut d'Astrophysique de Paris	2014—2017
<i>Supervisor: Dr. Marta Volonteri</i>	
Canon Research Fellow, University of Tokyo	Spring 2017
ERC Student Scholarship, University of Texas at Austin	Spring 2014
Master of Physics, University of Heidelberg	2011—2014
<i>Supervisor: Prof. Dr. Ralf Klessen</i>	
Bachelor of Physics, University of Heidelberg	2008—2011
<i>Supervisor: Prof. Dr. Matthias Bartelmann</i>	

## FELLOWSHIPS & AWARDS

JSPS Postdoctoral Fellowship for Research in Japan	2017—2018
European Research Grant PhD Scholarship	2014—2017
Canon Foundation Research Fellowship	2017
European Research Grant Scholarship	2014
Award for teaching excellence from the University of Heidelberg	2013
Award of the German Physical Society for outstanding achievements in physics	2008
Ferri Porsche Award for extraordinary achievements in mathematics and physics	2008

## GRANTS

1.4Mio CPU hours awarded on XC50 @ CfCA Japan	2019—2020
2000€ from the International Astronomical Union for scientific outreach in Liberia	2019
NSF Travel Support (500USD)	2019
1.1Mio CPU hours awarded on XC50 @ CfCA Japan	2018—2019
"Grants-in-Aid for Scientific Research" Grant (Co-I, ~10,000USD)	2017—2018
IPMU "Focus Week" (~28,000USD)	2018
Shinko Zaidan conference support (Co-I, ~5,000USD)	2018
100,000 CPU hours awarded on XC30 @ CfCA Japan	2018

## PUBLICATION SUMMARY

16 accepted publications (12 as first author)  
2 submitted publication  
1 contributed book chapter  
Citation report via ADS: 300 citations, h-index=11

## STUDENT SUPERVISION

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Yuta Tarumi, Graduate Student, University of Tokyo	since 2018
Nikita Gupta, Undergraduate Student, Institute d'Astrophysique de Paris	2017
Mattis Magg, Undergraduate Student, University of Heidelberg	2015—2016

## TEACHING

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I have over 300h of teaching experience and gave over 10 different tutorials and lectures:

Study Group “Machine Learning”	Summer Term 2019
Invited Lecture on Gravitational Waves	compact course (2 days), 2019
Lecturer “Star Formation” seminar	Summer & Winter Term 2018/19
Teaching Assistant (TA) “Theoretical Physics 2”	Summer Term 2013
TA “Introduction to Astronomy & Astrophysics 1”	Winter Term 2012
TA “Theoretical Physics 1”	Winter Term 2012, 2013
Lecturer “Mathematics for Engineers”	compact course (2 weeks), 2012
TA “Physics B”	Summer Term 2012
TA “Physics A”	Winter Term 2011
Lecturer “Physics for Engineers”	1 week compact course 2011, 2012, 2013
TA “Physics for Medical Scientists”	1 week compact course 2010, 2011, 2012
TA “Mathematics for Medical Scientists”	1 week compact course 2010, 2011, 2012

## PUBLIC OUTREACH & SERVICE

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Referee for MNRAS, ApJ, JCAP	since 2016
Organisation of monthly Machine Learning Colloquium	2019
Speaker at “Science Cafe” Public Outreach Event in Aspen	2019
Organisation of a public outreach event for high-school students in Tokyo	2018
Organisation of a 1-day conference at the Institute d'Astrophysique de Paris	2015
Scientific Expert for the “Fête de la Science” at Sorbonne Universités	2015, 2016
Public outreach talk at a high school	2015
Organisation of a 2-week workshop for science teachers in Monrovia, Liberia	2012
Organisation of workshops for science teachers in Accra, Ghana	2010

## LEADERSHIP EXPERIENCE

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Organiser of the monthly “Machine Learning” seminar <i>Institute for Physics of Intelligence</i>	since 2019
Chair of Conference Organising Committee (90 participants) <i>“Stellar Archaeology as a Time Machine to the First Stars”</i>	2018
Founder and Oversea Coordinator of the Helping Hands Network <i>Non-profit organisation providing education to less privileged communities</i>	2012—2018
Organiser of the weekly BH/AGN seminar <i>Institute d'Astrophysique de Paris</i>	2016—2017
Student representative <i>for over 150 students of my PhD school</i>	2014—2016

## CONFERENCES & WORKSHOPS

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Invited Review Talk, Workshop “Titans of the Early Universe”	2017
Invited Talk, Workshop “Taiwanese Theoretical Astrophysics Workshop”	2018
Invited Talk, Workshop “Young Astronomers on Galactic Nuclei”	2016
Invited Talk, Workshop “From Île-de-France to the Edge of the Universe”	2015
Contributed Talk, Conference “Extremely Big Eyes...”	2019
Contributed Talk, Conference “Into the Starlight”	2019
Contributed Talk, Conference “Stellar Archaeology as a Time Machine...”	2018
Contributed Talk, Workshop “First Stars”	2018
Contributed Talk, Workshop “Celebration of CEMP & Gala of GALAH”	2017
Contributed Talk, Summer School “Astrophysical Jets”	2016
Contributed Talk, Conference “Elbereth”	2016
Contributed Talk, “EWASS” Conference	2015
Contributed Talk, Conference “First stars, galaxies, and black holes”	2015
Poster Presentation, Conference “First Stars V”	2016
Poster Presentation, Conference “Cosmology and First Light”	2015
Poster Presentation, Conference “First star and galaxy formation”	2014
Poster Presentation, Conference “Mind the Gap”	2013
Participation, Conference “Communicating Astronomy to the Public”	2018
Participation, Workshop “Galactic Archaeology”	2017
Participation, Conference “Protostars & Planets VI”	2013

## RESEARCH PRESENTATIONS

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Seminar, Brazilian Center for Research in Physics	2019
Seminar, University of Concepcion	2019
Seminar, Stanford University	2019
Invited Colloquium, University of Liberia	2018
Seminar, University of Notre Dame	2018
Seminar, Georgia Tech	2018
Seminar, Dublin City University	2018
Seminar, University of Tokyo	2018
Seminar, National Taiwan University	2018
Invited Colloquium, ICG Portsmouth	2017
Invited Colloquium, University of Kyoto	2017
Seminar, Tohoku University	2017
Seminar, Konan University	2017
Seminar, University of Tokyo	2017
Group Meeting, Harvard-Smithsonian CfA	2016
Seminar, MIT	2016
Group Meeting, University of Heidelberg	2016
Seminar, Institute d’Astrophysique de Paris	2015
Seminar, Institute d’Astrophysique de Paris	2014
Seminar, University of Texas in Austin	2014
Journal Club, Institute d’Astrophysique de Paris	2014
Group Meeting, University of Heidelberg	2013
Seminar, University of Göttingen	2013
Group Meeting, University of Heidelberg	2013