

Employment

2019 – now **Postdoctoral researcher at Max Planck Institute for Astronomy** in “*Supermassive Black Holes and Galaxies in the epoch of reionization*” group lead by Eduardo Bañados

Research interests

Galaxies and quasars at high-redshift, radio-loud quasar host galaxies, cosmic star formation history, observations (from optical to mm)

Education

- 2016 – 2019 **PhD in the Laboratoire d’Astrophysique de Marseille**
Thesis: “*The properties of the galaxies at the end of HI reionization epoch*”
Supervisor: Olivier Le Fèvre
- 2014 – 2016 **Erasmus Mundus Master Course in Astrophysics - Astromundus** (by 5 partner universities: University of Innsbruck, University Roma Tor Vergata, University of Belgrade, University of Göttingen, University of Padova)
Thesis: “*LSST Software Stack: Adaptation to ESO-NTT SOFI camera and application to a Ks-band dataset for reduction and analysis*”,
Supervisors: Giovanna Temporin and Darko Jevremović
- 2009 – 2014 **Specialist Degree in Astronomy in Ural Federal University**
Thesis “*Doppler Imaging of a Young Binary Star V 4046 Sgr*”
Supervisor: Dmitriy Kononov
- 2012 – 2014 **Additional qualification in pedagogy** at the Center for Pedagogical Education of Ural Federal University

Awarded scholarships

2014-2016 Erasmus Mundus Joint Master Scholarship (Astromundus)

Approved telescope proposals

PI:

2022 “*The origin of extreme [CII] and FIR continuum emission in the radio and X-ray brightest quasars at $z > 6$* ” IRAM, NOEMA (28h)

Co-I (selected proposals):

- 2020-2022 “*The host galaxies of the most distant radio quasars at $z > 6$* ”, series of proposals IRAM, NOEMA (24h); PI: Eduardo Bañados
- 2021 “*The JWST-legacy narrow-band survey of H-alpha and [OIII] emitters in the epoch of reionization*”, JWST (18.4h); PI: Eduardo Bañados

Talks

- 2018 “*Luminosity Function of the galaxies in the end of Reionization*”
The growth of galaxies in the Early Universe, Sesto, Italy
- 2018 “*Luminosity Function of the galaxies in the end of Reionization*”
The Franco-Indian School “From Reionization to Large Scale Structure. A multi-wavelength approach”, Pune, India
- 2019 “*The properties of the galaxies in the end of Reionization*”
The growth of galaxies in the Early Universe, Sesto, Italy
- 2020 “*The dust-hidden star formation rate density at $z > 4$* ”
Galaxy Coffee in Max Planck Institute for Astronomy

- 2020 “*The dust-hidden star formation rate density at $z > 4$* ”
Summer All Zoom Epoch of Reionization Astronomy Conference, virtual
- 2021 “*The host galaxies of radio-loud quasars at $z > 6$* ”
Summer All Zoom Epoch of Reionization Astronomy Conference, virtual
- 2021 “*The host galaxies of radio-loud quasars at $z > 6$* ”
European Astronomical Society Annual Meeting
- 2022 “*The host galaxies of radio-loud quasars at $z > 6$* ”
The National Astronomy Meeting (NAM)
- 2022 “*The host galaxies of radio-loud quasars at $z > 6$* ”
Café Club in Laboratoire d’Astrophysique de Marseille
- 2022 “*The host galaxies of radio-loud quasars at $z > 6$* ”
Galaxy Coffee in Max Planck Institute for Astronomy

Poster presentations

- 2014 “*Spektralnye issledovaniya molodoy dvoynoy zvezdy V 4046 Sgr (Spectral analysis of young binary V 4046 Sgr)*”
The 43rd Student Scientific Conference “Physics of Space”, Kourvka Observatory, Russia
- 2016 “*Adaptation of LSST Software Stack to ESO-NTT SOFI Near-Infrared Camera*”
LSST@Europe2, Belgrade, Serbia
- 2021 “*Main sequence at $z > 4$ with ALMA Large Program to INvestigate [CII] at Early times*”
European Astronomical Society Annual Meeting
- 2022 “*Star-forming galaxies at $z > 5$ with VUDS*”
From galaxies to cosmology with deep spectroscopic surveys, A tribute to Olivier Le Fèvre, Marseille, France

Outreach communications

- 2016 Talk “*Enigmas of galaxy evolution*” at the Conference of the Application of Esperanto in Science and Technology in Modra, Slovakia
- 2016 Guest on the internet-podcast <https://kern.punkto.info/> for the topic “*Galaxies*”
- 2020 Online talk “*Astrophysicists and climate change*” at the Conference of the Application of Esperanto in Science and Technology (online)
- 2020 Talk “*Galaxy evolution*” at the Esperanto Astronomy Day (online)
- 2020 Talk “*Galaxies far, far away*” for the IAU Outreach Global Project “*100 Hours of Astronomy*”

Teaching experience

- 2013 Pedagogical practice in High School Nr. 9 (teaching astronomy)

Service roles

- 2017-2019 Member of the Seminar Organizing Committee at Laboratoire d’Astrophysique de Marseille
- 2022-now MPQueer network of Max Planck Society, member of the steering committee

Language Skills

Russian	●●●●●
English	●●●●●
German	●●●●●
French	●●●●○
Esperanto	●●●●●
Italian	●●●○○
Spanish	●○○○○

Computer Skills

Programming languages: Python

Astronomical software: GILDAS, IRAF, DS9, CASA, ESO-MIDAS

List of publications

First author publications:

- Khusanova Y., Bañados E., Mazzucchelli C., et al., 2022, A&A, 664, A39. doi:10.1051/0004-6361/202243660 “*The [CII] and FIR properties of $z > 6$ radio-loud quasars*”
- Khusanova Y., Béthermin M., Le Fèvre O., et al., 2021, A&A, 649, A152. doi:10.1051/0004-6361/202038944 “*The ALPINE-ALMA [CII] survey. Obscured star formation rate density and main sequence of star-forming galaxies at $z > 6$* ”
- Khusanova Y., Le Fèvre O., Cassata P., et al., 2020, A&A, 634, A97. doi:10.1051/0004-6361/201935400 “*The UV and Ly α Luminosity Functions of galaxies and the Star Formation Rate Density at the end of HI reionization from the VIMOS Ultra-Deep Survey (VUDS)*”

Other publications:

- Faisst A. L., Yan L., Béthermin M., Cassata P., [...], Khusanova, Y., et al., 2022, Univ, 8, 314. doi:10.3390/universe8060314 “*ALPINE: A Large Survey to Understand Teenage Galaxies*”
- Rojas-Ruiz S., Bañados E., Neeleman M., Connor T., Eilers A. C., Venemans B. P., Khusanova Y., et al., 2021, ApJ, 920, 150. doi:10.3847/1538-4357/ac1a13 “*The Impact of Powerful Jets on the Far-infrared Emission of an Extreme Radio Quasar at $z \sim 6$* ”
- Pozzi F., Calura F., Fudamoto Y., [...], Khusanova, Y., et al., 2021, A&A, 653, A84. doi:10.1051/0004-6361/202040258 “*The ALPINE-ALMA [CII] survey. Dust mass budget in the early Universe*”
- Lemaux B. C., Fuller S., Bradač M., [...], Khusanova, Y., et al., 2021, MNRAS, 504, 3662. doi:10.1093/mnras/stab924 “*The size and pervasiveness of Ly α -UV spatial offsets in star-forming galaxies at $z \sim 6$* ”
- Thomas R., Pentericci L., Le Fèvre O., [...], Khusanova, Y., et al., 2021, A&A, 650, A63. doi:10.1051/0004-6361/202038438 “*Less and more IGM-transmitted galaxies from $z \sim 2.7$ to $z \sim 6$ from VANDELS and VUDS*”
- Loiacono F., Decarli R., Gruppioni C., [...], Khusanova, Y., et al., 2021, A&A, 646, A76. doi:10.1051/0004-6361/202038607 “*The ALPINE-ALMA [C II] survey. Luminosity function of serendipitous [C II] line emitters at $z \sim 5$* ”
- Gruppioni C., Béthermin M., Loiacono F., [...], Khusanova, Y., et al., 2020, A&A, 643, A8. doi:10.1051/0004-6361/202038487 “*The ALPINE-ALMA [CII] survey. The nature, luminosity function, and star formation history of dusty galaxies up to $z \simeq 6$* ”
- Dessauges-Zavadsky M., Ginolfi M., Pozzi F., [...], Khusanova, Y., et al., 2020, A&A, 643, A5. doi:10.1051/0004-6361/202038231 “*The ALPINE-ALMA [C II] survey. Molecular gas budget in the early Universe as traced by [C II]*”
- Fudamoto Y., Oesch P. A., Faisst A., Béthermin M., Ginolfi M., Khusanova Y., et al., 2020, A&A, 643, A4. doi:10.1051/0004-6361/202038163 “*The ALPINE-ALMA [CII] survey. Dust attenuation properties and obscured star formation at $z \sim 4.4$ – 5.8* ”
- Béthermin M., Fudamoto Y., Ginolfi M., Loiacono F., Khusanova Y., et al., 2020, A&A, 643, A2. doi:10.1051/0004-6361/202037649 “*The ALPINE-ALMA [CII] survey: Data processing, catalogs, and statistical source properties*”
- Le Fèvre O., Béthermin M., Faisst A., [...], Khusanova, Y., et al., 2020, A&A, 643, A1. doi:10.1051/0004-6361/201936965 “*The ALPINE-ALMA [CII] survey. Survey strategy, observations, and sample properties of 118 star-forming galaxies at $4 < z < 6$* ”
- Faisst A. L., Schaerer D., Lemaux B. C., [...], Khusanova, Y. et al., 2020, ApJS, 247, 61. doi:10.3847/1538-4365/ab7ccd “*The ALPINE-ALMA [C II] Survey: Multiwavelength Ancillary Data and Basic Physical Measurements*”

- Thomas R., Pentericci L., Le Fevre O., [...], Khusanova, Y. et al., 2020, A&A, 634, A110. doi:10.1051/0004-6361/201935925 “*The intergalactic medium transmission towards $z > 4$ galaxies with VANDELS and the impact of dust attenuation*”
- Jones G. C., Béthermin M., Fudamoto Y., [...], Khusanova, Y. et al., 2020, MNRAS, 491, L18. doi:10.1093/mnrasl/slz154 “*The ALPINE-ALMA [C II] survey: a triple merger at $z \sim 4.56$* ”
- Ginolfi M., Jones G. C., Béthermin M., [...], Khusanova, Y. et al., 2020, A&A, 633, A90. doi:10.1051/0004-6361/201936872 “*The ALPINE-ALMA [C II] survey: Star-formation-driven outflows and circumgalactic enrichment in the early Universe*”
- Kononov D. A., Khusanova Y. I., Sytov A. Y., 2018, Doppler tomography of the young binary system V4046 Sgr, A.A. Boyarchuk Memorial Conference, 227-232
- McLure R. J., Pentericci, L., Cimatti, A., [...], Khusanova, Y., et al., 2018, “*The VANDELS ESO public spectroscopic survey, MNRAS, 479, 25*”
- Pentericci L., McLure, R. J., Garilli, B., [...], Khusanova, Y., et al., 2018, “*The VANDELS ESO public spectroscopic survey: Observations and first data release, A&A, 616, A174*”