Yana Khusanova

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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

2022 *"All wavelength exploration of the cosmic star formation history."*
CAR Seminar, Centre for Astrophysics Research, University of Hertfordshire

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", Kourovka 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 Comittee 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 $z > 4$"*
- Khusanova Y., Le Fèvre O., Cassata P., et al., 2020, A&A, 634, A97. doi:10.1051/0004-6361/201935400 *"The UV and Lyα 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 Lyα-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"*