

# RNDr. Jan Kára, Ph.D.

Curriculum vitae

## PERSONAL INFORMATION

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Date and Place of Birth: July 25, 1993, Most, Czech Republic  
Address: Pod Uličkou 275, 294 04 Dolní Bousov, Czech Republic  
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## EDUCATION

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**2023** **Faculty of Mathematics and Physics, Charles University, Prague**  
Examen Rigorosum in natural sciences (RNDr.)

**2018 – 2023** **Faculty of Mathematics and Physics, Charles University, Prague**  
Ph.D. in Theoretical Physics, Astronomy and Astrophysics  
Thesis: Cataclysmic variable stars

**2016 – 2018** **Faculty of Mathematics and Physics, Charles University, Prague**  
Master's degree in Astronomy and Astrophysics (Mgr.)  
Thesis: Flare stars

**2013 – 2016** **Faculty of Mathematics and Physics, Charles University, Prague**  
Bachelor's degree in Physics (Bc.)  
Thesis: CCD photometry of variable objects in nearby galaxies

## PROFESSIONAL EXPERIENCE

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**January 1, 2023 – June 30, 2023** **Institute of Geology of the Czech Academy of Sciences**  
Data analyst

**October 1, 2023 – June 30, 2024** **Astronomical Institute of Charles University**  
Postdoctoral researcher

## STAYS ABROAD

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**April 2019** **National Autonomous University of Mexico, Ensenada, Mexico**  
Scientific visit

**2020 – 2021** **European Southern Observatory, Santiago, Chile**  
Internship (6 months in Santiago, Chile + 12 months remotely)

**July 2022** **National Autonomous University of Mexico, Ensenada, Mexico**  
Scientific visit

## SKILLS

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**Language:** Czech (native), Slovak (fluent), English (fluent), German (basic proficiency)  
**Computer:** OS Windows, OS Linux, macOS, Microsoft Office, Python, LaTeX, IRAF  
**Others:** Driver's licence (category B)

## OBSERVING EXPERIENCE

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**2018 – present** **Mayer 65-cm telescope, Ondřejov Observatory, Czech Republic**  
Telescope operator, photometry, ~ 80 nights

**2018 – present** **Danish 1.54-m telescope, La Silla Observatory, Chile**  
Telescope operator, photometry, 46 nights

## SCIENTIFIC CONFERENCES

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- 2024 Symbiotic stars, weird novae, and related embarrassing binaries**, Prague  
Organiser: Astronomical Institute of Charles University  
Talk about the structure of accretion flow in IX Velorum.
- 2024 What was that? – Planning ESO follow up for transients, variables, and solar systems objects in the era of LSST**, Garching  
Organiser: European Southern Observatory  
Poster and lightning talk about Doppler tomography of cataclysmic variables during outbursts.
- 2023 55th Conference on Variable Star Research**, Brno  
Organiser: Variable Star and Exoplanet Section of the Czech Astronomical Society  
Talk about cataclysmic variables at the boundary between stable and unstable accretion discs.
- 2023 The Golden Age of Cataclysmic Variables and Related Objects VI**, Palermo  
Talk about the period gap cataclysmic variable CzeV404 Her.
- 2022 54th Conference on Variable Star Research**, Ostrava  
Organiser: Variable Star and Exoplanet Section of the Czech Astronomical Society  
Talk about Doppler tomography of the nova like IX Vel.
- 2022 EUROWD22: 22nd European Workshop on White Dwarfs**, Tübingen  
Organiser: Eberhard Karls Universität Tübingen  
Poster about light curve modelling and Doppler tomography of the dwarf nova AY Psc.
- 2021 53rd Conference on Variable Star Research**, Prague  
Organiser: Variable Star and Exoplanet Section of the Czech Astronomical Society  
Talk about light curve modelling and Doppler tomography of the dwarf nova CzeV40 Her
- 2020 52nd Conference on Variable Star Research**, online  
Organiser: Variable Star and Exoplanet Section of the Czech Astronomical Society  
Talk about observing campaign of superoutburst of the dwarf nova CzeV404 Her.
- 2019 51st Conference on Variable Star Research**, Ostrava  
Organiser: Variable Star and Exoplanet Section of the Czech Astronomical Society  
Talk about preliminary results of the PhD thesis about Cataclysmic stars.
- 2018 50th Conference on Variable Star Research**, Brno  
Organiser: Variable Star and Exoplanet Section of the Czech Astronomical Society  
Talk about results of the master thesis about Flare stars.
- 2017 49th Conference on Variable Star Research**, Brno  
Organiser: Variable Star and Exoplanet Section of the Czech Astronomical Society  
Talk about partial results of the master thesis about Flare stars.

## SEMINARS

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- 2023 Seminar of the Astronomical Institute** Charles University, Czech Republic
- 2023 Seminar of Institute of Theoretical Physics and Astrophysics**, Masaryk University, Czech Republic
- 2023 Helsinki Astrophysics Seminar**, University of Helsinki, Finland
- 2021 Seminar of the Astronomical Institute** Charles University, Czech Republic

## TEACHING

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- 2021 – present Observational Course in Photometry**, Charles University, Prague  
Overseeing of observational courses in photometry for master students at Astronomical Institute of Charles University.
- 2023 Workshop on Observational Techniques**, Ondřejov  
Organiser: University of Potsdam, Astronomical Institute of Academy of Sciences of the Czech Republic  
Assistant for photometric observations with Mayer 65-cm telescope.
- 2022 Workshop on Observational Techniques**, Ondřejov  
Organiser: University of Potsdam, Astronomical Institute of Academy of Sciences of the Czech Republic  
Assistant for photometric observations with Mayer 65-cm telescope.
- 2021 Workshop on Observational Techniques**, Ondřejov  
Organiser: University of Potsdam, Astronomical Institute of Academy of Sciences of the Czech Republic  
Assistant for photometric observations with Mayer 65-cm telescope.
- 2019 Research Workshop on Evolved Stars**, Ondřejov  
Organiser: University of Potsdam  
Assistant for photometric observations with Mayer 65-cm telescope.

## ORGANISATION OF CONFERENCE

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- Jun. 2024** **Symbiotic stars, weird novae, and related embarrassing binaries**, Prague  
Organiser: Astronomical Institute of Charles University  
Member of the local organising committee.
- Sep. 2017** **MODEST17**, Prague  
Organiser: Astronomical Institute of Charles University  
Member of the local organising committee.
- Jun. 2017** **EWASS 2017**, Prague  
Organiser: EAS in cooperation with the Czech Astronomical Society and Astronomical Institute of Academy of Sciences of the Czech Republic  
Help during the conference as a volunteer.

## OTHER ACTIVITIES

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- 2023** **The Czech Republic in the European Southern Observatory**  
Organiser: Senate of the Czech Republic  
Conference commemorating 15<sup>th</sup> anniversary of the Czech Republic joining ESO and 60<sup>th</sup> anniversary of ESO.  
Lightning talk about ESO internship.
- 2018** **10 Years of the Czech Republic in ESA**  
Organiser: Astronomical Institute of Academy of Sciences of the Czech Republic  
Participation in a workshop focusing on space research and scientific and technical projects of ESA.
- 2017** **Ondřejov Summer School on Exoplanets**  
Organiser: Astronomical Institute of Academy of Sciences of the Czech Republic  
Participation in a summer school focusing on exoplanets and techniques of their detection and characterisation using spectroscopic and photometric data.

## LIST OF PUBLICATIONS

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### Refereed publications:

- Zasche, P., Henzl, Z., Merc, J., **Kára, J.**, & Kučáková, H. (2024). *Eight new 2+2 doubly eclipsing quadruple systems detected*. A&A, 687, A6., [2024A&A...687A...6Z](#)
- Krtička, J., Benáček, J., Budaj, J., Korčáková, D., Pál, A., Piecka, M., Zejda, M., Bakış, V., Brož, M., Chang, H.-K., Faltová, N., Gális, R., Jadlovský, D., Janík, J., **Kára, J.**, Kolář, J., Krtíčková, I., Kubát, J., Kubátová, B., Kurfürst, P., Labaj, M., Merc, J., Mikulášek, Z., Münz, F., Paunzen, E., Prišegen, M., Ramezani, T., Rievajová, T., Řípa, J., Schmidtbreick, L., Skarka, M., Szász, G., Weiss, W., Zajaček, M., & Werner, N. (2024). *Science with a Small Two-Band UV-Photometry Mission II: Observations of Stars and Stellar Systems*. Space Science Reviews, 220, 24. [2024SSRv..220...24K](#)
- Kára, J.**, Schmidtbreick, L., Pala, A. F., & Tappert, C. (2023). *Structure of the accretion flow of IX Velorum as revealed by high-resolution spectroscopy*. A&A, 678, A131., [2023A&A...678A.131K](#)
- Merc, J., Gális, R., Wolf, M., Dubovský, P. A., **Kára, J.**, Sims, F., Foster, J. R., Medulka, T., Boussin, C., Coffin, J. P., Buil, C., Boyd, D., & Montier, J. (2023). *Comprehensive analysis of a symbiotic candidate V503 Her*. AJ, 166, 65., [2023AJ....166...65M](#)
- Zasche, P., Henzl, Z., Mašek, M., Uhlař, R., **Kára, J.**, Merc, J., & Kučáková, H. (2023). *Detection of seven 2+2 doubly eclipsing quadruple systems*. A&A 675, A113., [2023A&A...675A.113Z](#)
- Kára, J.**, Zharikov, S., Wolf, M., Amantayeva, A., Subebekova, G., Khokhlov, S., Agishev, A. and Merc, J. (2023). *The Z Camelopardalis-type Star AY Piscium: Stellar and Accretion Disk Parameters*. ApJ, 950, 47., [2023ApJ...950...47K](#)
- Medina Rodriguez, A. L., Zharikov, S., **Kára, J.**, Wolf, M., Agishev, A., & Khokhlov, S. (2023). *VY Scl-type cataclysmic variable SDSS J154453.60+255348.8: stellar and disc parameters*. MNRAS 521, 5846-5859., [2023MNRAS.521.5846M](#)
- Šmelcer, L., Wolf, M., Kučáková, H., Zasche, P., **Kára, J.**, Hornoch, K., Zejda, M., & Auer, R. F. (2023). *A photometric study of NSVS 7453183: a probable quadruple system with long-term surface activity*. MNRAS 520, 353-363., [2023MNRAS.520..353S](#)
- Zasche, P., Henzl, Z., & **Kára, J.** (2022). *The first study of four doubly eclipsing systems*. A&A 659, A8., [2022A&A...659A...8Z](#)

10. **Kára, J.**, Zharikov, S., Wolf, M., Kučáková, H., Cagaš, P., Medina Rodriguez, A. L., & Mašek, M. (2021). *The periodgap cataclysmic variable CzeV404 Her: A link between SW Sex and SU UMa systems*. A&A 652, A49., [2021A&A...652A..49K](#)
11. Wolf, M., Kučáková, H., Zasche, P., Hornoch, K., **Kára, J.**, Merc, J., & Zejda, M. (2021). *Possible substellar companions in dwarf eclipsing binaries. SDSS J143547.87+373338.5, NSVS 7826147, and NSVS 14256825*. A&A 647, A65., [2021A&A...647A..65W](#)
12. Merc, J., Gális, R., **Kára, J.**, Wolf, M., & Vrašťák, M. (2020). *The nature of the symbiotic candidate 2MASS J07363415+6538548 in the field of NGC 2403*. MNRAS 499, 2116-2123., [2020MNRAS.499.2116M](#)
13. Zasche, P., Wolf, M., Kučáková, H., **Kára, J.**, Merc, J., Zejda, M., Skarka, M., Janík, J., & Kurfürst, P. (2020). *First apsidal motion and light curve analysis of 162 eccentric eclipsing binaries from LMC*. A&A 640, A33., [2020A&A...640A..33Z](#)
14. Zasche, P., Vokrouhlický, D., Wolf, M., Kučáková, H., **Kára, J.**, Uhlař, R., Mašek, M., Henzl, Z., & Cagaš, P. (2019). *Doubly eclipsing systems*. A&A 630, A128., [2019A&A...630A.128Z](#)

#### Telegrams:

1. Hornoch, K., Kucakova, H., **Kara, J.**, Wolf, M., & Shafter, A. W. (2024). *Discovery of a Probable Nova in M31*. The Astronomer's Telegram 16412, 1., [2024ATel16412....1H](#)
2. Hornoch, K., Scheirich, P., Srba, J., Skarka, M., Fatka, P., Henych, T., Pavelka, J., **Kara, J.**, Kucakova, H., & Shafter, A. W. (2023). *Discovery of a Probable Nova in M31*. The Astronomer's Telegram 15965, 1., [2023ATel15965....1H](#)
3. Hornoch, K., Carey, G., Kucakova, H., & **Kara, J.** (2019). *Discovery of a Possible Nova in M31*. The Astronomer's Telegram 13198, 1., [2019ATel13198....1H](#)