Krystyna Mylostna

(she/her/hers)

Curriculum Vitae

University of British Columbia
Okanagan campus
3333 University Way Kelowna, BC Canada V1V 1V7

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Nationality: Ukrainian

EDUCATION

DOCTOR OF PHILOSOPHY IN ASTRONOMY AND ASTROPHYSICS — Nov 2010 - Dec 2014
Institute of Radio Astronomy of National Academy of Sciences of Ukraine
Thesis project: "Radio emissions of lightning in the atmospheres of the planets"
Advisor: Zakharenko V.V., Doctor of Physical and Mathematical Sciences.
Defense: Fall, 2014

MASTER OF SCIENCE IN ASTRONOMY — Sep 2009 - Jun 2010
V.N. Karazin Kharkiv National University

BACHELOR OF SCIENCE IN PHYSICS — Sep 2005 - Jun 2009
V.N. Karazin Kharkiv National University

PROFESSIONAL APPOINTMENTS

Research Associate — May 2023 - present
University of British Columbia
Department of Computer Science, Mathematics, Physics and Statistics
in the IK Barber Faculty of Science

ASSISTANT RESEARCH OFFICER — May 2022 - April 2023
Dominion Radio Astrophysical Observatory
Herzberg Astronomy and Astrophysics Research Centre
National Research Council Canada

JUNIOR RESEARCH FELLOW — May 2020 - Apr 2022
Institute of Radio Astronomy of National Academy of
Sciences of Ukraine, Kharkiv, Ukraine — Jan 2014 - Jul 2017
Department of astrophysics

LEADING ENGINEER RADIOPHYSICIST — Jan 2013 - Dec 2013
Institute of Radio Astronomy of National Academy of
Sciences of Ukraine, Kharkiv, Ukraine

FIRST CATEGORY RESEARCH ENGINEER Mar 2011 - Apr 2011
Institute of Radio Astronomy of National Academy of
Science of Ukraine, Kharkiv, Ukraine

SCHOLARSHIPS & PROJECTS

SCHOLARSHIP OF THE PRESIDENT OF UKRAINE FOR YOUNG SCIENTISTS
"Search and study of lightning discharges in the planetary Jul 2015 - Dec 2016
atmospheres using the biggest telescopes in the decameter wavelength range."

HEAD OF THE PROJECT Jul 2015 - Dec 2016
Grant holder of the scholarship of the President of Ukraine for young scientists
"Search and study of lightning discharges in the planetary atmospheres using the biggest telescopes in the decameter wavelength range."

JUNIOR PARTICIPANT Jan 2010 - Dec 2012
(responsibilities: data processing)
NASU-CNRS PICS (Projet international de coopération scientifique) program "Development of LF radio astronomy with ultra high sensitivity and resolutions"

TEACHING EXPERIENCE

Sessional instructor in physics PHYS 215 Thermodynamics Jan 2024 - Apr 2024
University of British Columbia
Department of Computer Science, Mathematics, Physics and Statistics
in the IK Barber Faculty of Science

Sessional instructor IN ASTRONOMY (Assistant professor, part-time)
V. N. Karazin Kharkiv National University, Sep 2015 - Jun 2016
School of radio physics, biomedical electronics and computer. Sep 2016 - Jan 2017

Sessional instructor IN ASTRONOMY (seasonal volunteer) Sep 2020 - Dec 2020
V. N. Karazin Kharkiv National University, Sep 2021 - Dec 2021
School of radio physics, biomedical electronics and computer.

LEADERSHIP AND SERVICE ROLES

CHAIRMAN of Young Scientists Council of the Institute of Radio Astronomy of Dec 2014 - Dec 2016
National Academy of Sciences of Ukraine

MEMBER of Young Scientists Council of the Institute of Radio Astronomy of Jan 2017 - Apr 2022
National Academy of Sciences of Ukraine

WELLNESS AMBASSADOR for HAA at NRC Oct 2022 - Apr 2023

AWARDS, CONTESTS

CONTESTANT 2020
Grants of the National Academy of Sciences of Ukraine to research laboratories / groups of young scientists of

the National Academy of Sciences of Ukraine for conducting research in priority areas of science and technology
Project: Study of sporadic radio emission of objects of the Solar system and the Sun's galactic environment using UTR-2 (Ukraine) and NenuFAR (France) radio telescopes
Presented by Institute of Radio Astronomy

WINNER 2015 - 2016
Projects of research works of young scientists of the National Academy of Sciences of Ukraine
Project: Search and study of lightning discharges in the planetary atmospheres using the biggest telescopes in decameter wavelength range.
Presented by Institute of Radio Astronomy

VOLUNTEER EXPERIENCE AND knowledge translation

"Brain Awareness Week Lab Presentations", University of British Columbia Okanagan campus March 15, 2024
Lecturer in Free University MM in Kharkiv Fall 2014 - Winter 2016
Co-organizer of excursions to the S. Braude Radio Astronomy Observatory Fall 2013 - Winter 2016

COMPUTER AND TECHNICAL SKILLS

- Object-Oriented Programming, Scientific Programming
- Visualization Tools: SAOImage DS9, KVIS (KARMA 1.7.25 software), Horos, MRtrix3Tissue
- Programming Languages: Python 3 (3 year), IDL (7 years), MatLab (1 year)
- Operating Systems: Linux, Windows, MacOC

OPERATING OBSERVATIONS

Observations at UTR-2 radio telescope. Responsibilities: scheduling observations, operating the radio telescope, setting calibration. Dec 2009 - Apr 2022

Observations at Synthesis telescope. Responsibilities: operating the radio telescope, data calibration, data preprocessing. May 2022-Apr 2023

LANGUAGES

English: Fluent, Ukrainian: Native, French: Elementary, Spanish:Elementary

Self-development

1. Instructional skill workshop (ISW) 2024
2. Teaching development program for new employees TDP UBCO 2023/2024.

PUBLISHED RESEARCH CONTRIBUTIONS (Medical imaging)

1. Mylostna K., Nelson S., Osman I., Bjarnason T. A., Shehata M., MacMillan E.L., and Feldman R.E. Deep Learning Approaches for Clinical MRI Coil Failure Recognition. Proceedings of the ESMRMB annual meeting, Barcelona, Spain, October 2 – 5, 2024.
2. Nelson S., Mylostna K., Gupta A., Osman I., Bjarnason T. A., Shehata M., MacMillan E.L., and Feldman R.E. Towards Real-Time RF Coil Failure Recognition Using Deep Transfer Learning. Proceedings of the International Society of Magnetic Resonance in Medicine, Singapore, May 4 – 9, 2024.
3. K. Mylostna, E. MacMillan, R. Feldman. Adapting A Semi-Automated Perivascular Space Segmentation Tool From 7T to 3T of T_2 Weighted MRI. Proceedings of the 2023 UBC Radiology Fundamental Science Research Day, Vancouver, October 16, 2023.
4. Mylostna K., Nelson S., Osman I., Bjarnason T. A., Shehata M., MacMillan E.L., and Feldman R.E. Meta-Learning Approach for Clinical MRI Coil Failure Recognition. Proceedings of the 16th Annual UBC MRI Research Group's Retreat, Vancouver, June 5th, 2024.

PUBLISHED RESEARCH CONTRIBUTIONS (Astrophysics)

FIRST AUTHOR PEER-REVIEWED PUBLICATIONS

1. Fine time structure of lightning on Saturn (in Russian) / **K. Y. Mylostna**, V. V. Zakharenko, A. A. Konovalenko, G. Fisher, P. Zarka, and M. A. Sidorchuk // Radio physics and radio astronomy. –2014. –Vol.19, No1. –P. 10-19.
2. Search and study of storm activity on Saturn and other planets of the Solar system (in Russian) / **K. Mylostna**, V. V. Zakharenko // Radio physics and radio astronomy. –2013. –Vol. 18, No1. –P. 12-25.

PEER-REVIEWED PUBLICATIONS

3. SPORADIC RADIO EMISSION OF SPACE OBJECTS AT LOW-FREQUENCIES. V. Zakharenko, V Karazin, V. Ryabov, I. Kravtsov, **K. Yu. Mylostna**, et al.. Radio physics and radio astronomy, 2021, 26 (2), pp.99-129, https://doi.org/10.15407/rpra26.02.099
4. Identification of Saturn Lightning Recorded by the UTR-2 Radio Telescope and Cassini Spacecraft (in Russian) / V. V. Zakharenko, **K. Y. Mylostna**, G. Fischer, A. A. Konovalenko, P. Zarka, J.–M. Grießmeier, B. P. Ryabov, D. M. Vavriv, V. B. Ryabov, H. Rucker, P. Ravier, M. A. Sidorchuk, B. Cecconi, A. Coffre, L. Denis, C. Fabrice, R. V. Kozhyn, D. V. Mukha, L. Pallier, J. Schneider, V. A. Shevchenko, V. V. Vinogradov, R. Weber, and V. S. Nikolaenko // Radio physics and radio astronomy. –2010. –Vol. 15. No4. –P. 361–368.

5. Earliest recorded ground-based decameter wavelength observations of Saturn's lightning during the giant E-storm detected by Cassini spacecraft in early 2006/ A.A. Konovalenko, N.N. Kalinichenko, H.O. Rucker, A. Lecacheux, G. Fischer, P. Zarka, V.V. Zakharenko, **K.Y. Mylostna**, J.-M. Grießmeier, E.P. Abranin, I.S. Falkovich, K.M. Sidorchuk, W.S. Kurth, M. L. Kaiser and D.A. Gurnett // Icarus. –2013. –Vol. 224, No1. –P.14-23.
6. Ground-based and spacecraft observations of lightning activity on Saturn / V. Zakharenko, **K. Mylostna**, A. Konovalenko, P. Zarka, G. Fischer, J.-M. Grießmeier, G. Litvinenko, H. Rucker, M. Sidorchuk, B. Ryabov, D. Vavriv, V. Ryabov, B. Cecconi, A. Coffre, L. Denis, C. Fabrice, L. Pallier, J. Schneider, R. Kozhyn, V. Vinogradov, D. Mukha, R. Weber, V. Shevchenko, V. Nikolaenko // Planetary and Space Science. –2012. –Vol. 61, No1. –P. 53-59.
7. Coordinated synchronous observations of Solar System objects using the ground-and space-based methods of low-frequency radio astronomy. // Stanislavsky A.A.,Konovalenko A.A.,Zakharenko V.V.,Bubnov I.N.,Volvach, Ya. S.,Dorovskyy V.V., Koval A.A, **Mylostna K. Y.**// Kosm. Nauka tehnol.2015. Vol. 21. No4, P.51-55.
8. The modern radio astronomy network in Ukraine: UTR-2, URAN and GURT. Konovalenko, A., Sodin, L., Zakharenko, V., Zarka, P., Ulyanov, O., Sidorchuk, M., Stepkin, S., Tokarsky, P., Melnik, V., Kalinichenko, N., Stanislavsky, A., Koliadin, V., Shepelev, V., Dorovskyy, V., Ryabov, V., Koval, A., Bubnov, I., Yerin,S., Gridin, A., Kulishenko, V., Reznichenko, A., Bortsov, V., Lisachenko, V., Reznik, A., Kvasov, G., Mukha, D., Litvinenko, G., Khristenko, A., Shevchenko, V. V., Shevchenko, V. A., Belov, A., Rudavin, E., Vasylieva, I., Miroshnichenko, A., Vasilenko, N., Olyak, M., **Mylostna, K.**, et al, 2016. // Exp. Astron. – 2016 – VOL.42. – P. 11–48 – doi:10.1007/s10686-016-9498-x.
9. Astrophysical studies with small low-frequency radio telescopes of new generation, Radio physics and radio astronomy. Konovalenko A. A., S. M. Yerin, I. M. Bubnov,P. L. Tokarsky, V. V. Zakharenko, O. M. Ulyanov,M. A. Sidorchuk, S. V. Stepkin, A. O. Gridin, G. V. Kvasov,V. L. Kolyadin, V. M. Melnik, V. V. Dorovskyy,M. M. Kalinichenko, G. V. Litvinenko, P. Zarka ,L. Denis, J. Girard, H. O. Rucker M. Panchenko ,A. A. Stanislavski , O. D. Khristenko, D. V. Mukha, O. M. Reznichenko, V. M. Lisachenko, V. V. Bortsov, A. I. Brazhenko, I. Y. Vasylieva, A. O. Skoryk,A. I. Shevtsova, and **K. Y. Mylostna** // –2016. –Vol.21, No2. –P. 83-131
10. Digital receivers for low-frequency radio telescopes UTR-2, URAN, GURT. Zakharenko V., Konovalenko A., Ulyanov O., Sidorchuk M., Stepkin S., Koliadin V., Kalinichenko N., Stanislavsky A., Dorovskyy V., Shepelev V., Bubnov I., Yerin S., Koval A., Shevchuk N., Vasylieva I., **Mylostna K.**, et al, //Journal of Astronomical Instrumentation. –2016–Vol.5, No4. –DOI:10.1142/S2251171716410105.
11. Up to date state of low-frequency radio astronomy in Ukraine: ground-based and common ground-space studies. Space study in Ukraine in 2014–2016. A. Konovalenko, P. Zarka, V. Zakharenko, O. Ulyanov, M. Sidorchuk, S. Stepkin, P. Tokarsky, A. Stanislavsky, N. Kalinichenko, Koliadin V., V. Melnik, V. Dorovskyy, Shepelev V., A. Koval, I. Bubnov, S. Yerin, **K. Mylostna**, et al. / Наук. ред. : О.П. Федоров ; ІКД НАНУ та ДКАУ. – К. : Академперіодика, 2016. – 144 с., 16 с. іл
12. Solar System Low-Frequency Radio Emission Studies with the UTR-2, URAN and GURT Radio Telescopes. Y. Volvach, A. Konovalenko, P. Zarka, H. Rucker, V. Zakharenko, O. Ulyanov, M. Sidorchuk, S. Stepkin, V. Melnik, N. Kalinichenko, A. Stanislavsky, P. Tokarsky, V. Koliadin, V. Shepelev, V. Dorovskyy, I. Bubnov, S. Yerin, A. Reznichenko, G. Litvinenko, A. Koval, N. Shevchuk, I. Vasylieva, **K. Mylostna**, A. Skoryk, A. Shevtsova, E. Vasylkovsky, V. Ryabov, A. Lecacheux, L. Denis, M. Panchenko, G. Fischer, M. Imai, J.-M. Griessmeier, G. Mann, O. Litvinenko. // 32nd URSI GASS, At Montreal,

Canada, August 2017. HJ24P-3

CONFERENCE PROCEEDING

1. **K. Mylostna**, A. Shevtsova, S. Yerin "Search and Study of Planetary Lightning with UTR-2 Radio Telescope" in Proc. of International Young Scientists Forum on Applied Physics (YSF 2015), Dnipropetrovsk, Ukraine, 29 Sept. –02 Oct. 2015, pp. RAA-2.
2. **K. Mylostna**, Low-frequency radio astronomy study of planetary lightning // Proceedings of the XL YERAC conference, September, 5–9, 2016, Bonn.
3. Study of SED's emission parameters. **K. Y. Mylostna**, V.V. Zakharenko, G. Fischer, A. A.Konovalenko, and P. Zarka. Planetary Radio Emissions VIII, Proceedings of the 8th International Workshop held at Seggauberg, Austria, October 25-27, 2016. Edited by G. Fischer, G. Mann, M. Panchenko, and P. Zarka. Austrian Academy of Sciences Press, Vienna, 2018, p. p. 223 - 232.
4. Multi-antenna observations in the low-frequency radio astronomy for the solar system objects and related topics studies - Planetary Radio Emissions VIII, Proceedings of the 8th International Workshop held at Seggauberg, Austria, October 25-27, 2016. Edited by G. Fischer, G. Mann, M. Panchenko, and P. Zarka. Austrian Academy of Sciences Press, Vienna, 2018, p. 467-478
5. Ground-based and space observations of planetary thunderstorm activity /V. Zakharenko, **K.Y. Mylostna**, A. Konovalenko, G. Litvinenko, G. Fischer, P. Zarka,H. Rucker // Proceedings of the EGU General Assembly, 2010. – Vienna, Austria, May 2–7, 2010. – P. 4562.
6. Ground-based and space observations of planetary thunderstorm activity /V. Zakharenko, **C. Milostnaya**, A. Konovalenko, G. Litvinenko, G. Fischer, P. Zarka,H.O. Rucker, M. Grießmeier, B. Ryabov, D. Vavriv, V. Ryabov, P. Ravier, M. Sidorchuk,B. Cecconi, A. Coffre, L. Denis, C. Fabrice, R. Kozhyn, D. Mukha, L. Pallier, J.Schneider, V. Shevchenko, V. Vinogradov, R. Weber, V. Nikolaenko // MSMW'10 Symp.Proceedings, June 21–26, 2010,– Kharkov, Ukraine, 2010, – P. 1-3,10.1109/MSMW.2010.5546101.
7. Identification of Saturn lightning registered by UTR-2 radio telescope and spacecraft Cassini / V. Zakharenko, **K.Y. Mylostna**, A. Konovalenko, G. Litvinenko,G. Fischer // Proceedings of the XL YERAC conference, July 5–8, 2010, – Alcalá de Henares, Spain, 2010, – P. 4. Search and study of electrostatic discharges in the Solar System with the radio telescope UTR-2 / V. Zakharenko, K. Mylostna, A. Konovalenko, V. Kolyadin,P. Zarka, J.-M. Griessmeier, G. Litvinenko, M. Sidorchuk, H. Rucker, G. Fischer, B. Cecconi, A. Coffre, L. Denis, V. Shevchenko, V. Nikolaenko // EPSC Abstracts. –2012. – Vol. 7. – EPSC 2012-186-3.
8. Search and study of lightning on planets of the Solar System /V. Zakharenko, A. Konovalenko, V. Kolyadin, P. Zarka, J.-M. Grissmeier, **K. Mylostna**, G. Litvinenko, M. Sidorchuk, H. Rucker, B. Cecconi, A. Coffre, L. Denis,V. Shevchenko, V. Nikolaenko, G. Fisher // EGU General Assembly 2012, held 22–27 April, 2012 in Vienna, Austria, P. 8341.
9. Study of Saturn electrostatic discharges in a wide range of time scales /**K. Mylostna**, V. Zakharenko, A. Konovalenko, V. Kolyadin, P. Zarka,J.−M. Grießmeier, G. Litvinenko, M. Sidorchuk, H. Rucker, G. Fischer, B. Cecconi,A. Coffre, L. Denis, V. Nikolaenko, V. Shevchenko // Odessa astronomical Publications– 2013. –Vol. 26, No 2 – P. 251-253.
10. Coordinated observations using the world largest low-frequency radio telescopes and space missions / A.A. Konovalenko, P. Zarka, V.L. Kolyadin, V.V. Zakharenko, S.V. Stepkin, M. Panchenko, A. Lecacheux, H.O. Rucker, G. Fischer, O.M. Ulyanov, V.N. Melnik, G.V. Litvinenko, M.A. Sidorchuk, I.N. Bubnov, Ya.Yu.

Vasilyeva, A.I. Bojko, V. Shaposhnikov, G. Mann, N.N. Kalinichenko, I.S. Falkovich, A. Koval, **K. Mylostna**, O.S. Pylaev, V.A. Shepelev, A.P. Reznik // EPSC Abstracts. – 2013. – Vol. 8.–P. 55-56.

11. The study of saturnian lightning with high time resolution / **K. Mylostna**, V. Zakharenko, A.A. Konovalenko, G.V. Litvinenko // Proc. MSMW'13 Symp. Proceedings, Kharkov, Ukraine, June 23–28, 2013, P. 474-476.
12. High sensitive observations of the planetary radio emission in decameter wavelength / G. Litvinenko, V. Zakharenko, H. Rucker, A. Konovalenko, V. Shaposhnikov, P. Zarka, J.-M. Griessmeier, G. Fisher, V. Vinogradov, **K. Mylostna** //EGU 2013 Geophysical Research Abstracts. – 2013. – Vol. 15. – EGU 2013-5377-1.
13. The specialized web-catalog of observations of thunderstorm activity on planets of the Solar system / V.N. Tkachev, V.V. Zaharenko, **K.Y. Milostnaya** // The Strategies of Modern Science Development: Proceedings of the II International scientific–practical conference, 4-5 June 2013, Yelm, WA, USA, p. 3-7.
14. Solar system radio emissions studies with the largest low-frequency radio telescopes / Zakharenko, V.; Konovalenko, A.; Litvinenko, G.; Kolyadin, V.; Zarka, P.; **Mylostna, K.**; Vasylieva, I.; Griessmeier, J.M.;Sidorchuk, M.; Rucker, H.; Fischer, G.; Cecconi, B.; Coffre, A.; Denis, L.;Shevchenko, V.; Nikolaenko, V. - EPSC Abstracts –2014. – Vol. 9 – id. EPSC 2014 - 114.
15. Topical questions of extraterrestrial lightning activity investigations. YSC-2013, Kharkiv,Ukraine, 02 – 06 Dec. 2013. **K. Mylostna**. The specialized web-catalog of observations of thunderstorm activity on planets of the Solar system.
16. Sporadic phenomena in radio astronomy: from planetary lightning to gamma-ray bursts. **K. Mylostna**, II International Young Scientists Forum On Applied Physics And Engineering, Kharkiv,Ukraine, October 10-14, 2016.
17. Search for lightning in the Solar System. **Mylostna.K.** - RAS Early Career Poster Exhibition 2020. https://ras.ac.uk/poster-contest/krystyna-mylostna.

POPULAR SCIENCE PAPERS

1. Radio Telescope UTR-2: Ukrainian eyes in Universe (in Ukrainian). Y. Vasilkiskiy**,** S. Yerin**,** I. Kravtsov**, K. Mylostna,** A. Skoryk, A. Shevtsova**,** V. Kharlanova, N. Shevchuk**.** https://kunsht.com.ua/radioteleskop-utr-2-ukra%d1%97nski-ochi-u-vsesviti/

Concerning career interruptions: *In 2017 I took a maternity leave in order to take care of my child. The lack of childcare for children younger than 3 years old made me to prolong my maternity leave up to 3 years.*