

# Curriculum Vitae

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## Education

- 6/1999-12/2004 Ph.D., Astronomy & Astrophysics, Pennsylvania State University, USA  
Thesis title: "X-ray and Optical Emission from Neutron stars and Pulsar-Wind Nebulae";  
Advisor: Prof. George Pavlov
- 9/1996-6/1998 M.S., Theoretical Physics, Moscow Institute of Physics and Technology, Russia, Thesis title:  
"Gamma-ray bursts bursts on neutron stars";  
Advisor: Prof. Yakov Istomin
- 1992-1996 B.S., Physics, Moscow Institute of Physics and Technology, Russia

## Current Appointments

- 8/2012-present Assistant Professor, Department of Physics, George Washington University  
8/2012-present Courtesy Assistant Professor, Department of Astronomy, University of Florida

## Previous Appointments

- 2/2008-8/2012 Associate Scientist, Department of Astronomy, University of Florida
- 4/2007-2/2008 Research Associate, Department of Astronomy & Astrophysics, Pennsylvania State University  
(Penn State)
- 1/2005-3/2007 Postdoctoral Research Scholar, Department of Astronomy & Astrophysics, Penn State
- 6/2000-12/2004 Graduate Research Assistant, Dept. of Astronomy and Astrophysics, Penn State
- 9/1999-5/2000 Graduate Teaching Assistant, Dept. of Astronomy and Astrophysics, Penn State
- 8/1998-5/1999 Graduate Research Assistant, Department of Physics, University of Kansas
- 9/1996-5/1998 Research Assistant, P.N. Lebedev Physical Institute of the Russian Academy of Sciences,  
Moscow, Russia

## My GW carrier at a Glance

- Appointed as Assistant Professor of Physics in August 2012.

### **External funding**

- I was awarded 23 federal grants (18 as PI or Co-PI) totaling \$919K.

### **Scholarly Research Contributions and Achievements**

- My research contributions include:
  - 76 publications including 30 refereed papers and 2 refereed book chapters;
  - 15 invited talks at the conferences, external department colloquia, symposiums and workshops;
  - Results of my research have been featured in 9 NASA press releases as well as in GW Research Magazine (Spring 2013), CCAS Newsletter (Sep 2012), CCAS Featured Story (Feb 2017);
  - GW OVPR Early Career Research Award in Spring 2016

### **Academic Services and Professional Development at GW**

- developed and taught 1/3 of PHYS 6810 Applied Statistics and Data Analysis in Physics (Spring 2016)
- re-designed and taught ASTR 3161 (“Space Astrophysics”) separately (in Spring 2013 and Spring 2016) and together with PHYS 6630 (“Astrophysics I”) as cross-listed course (in Spring 2014);
- taught ASTR 1002 (“Origins of the Cosmos”) for 3 semesters (143 students in total) in Student-Centered Active-Learning Environment with Upside-down Pedagogies (SCALE-UP) which showed significantly higher learning outcomes, compared to traditional (lecture/lab) teaching method;
- supervised 3 undergraduate students in the Undergraduate Research course ASTR 4195;
- supervised research projects for 2 high school students;
- supervised research by 3 graduate students, and 1 postdoc; served as a member of 8 PhD thesis committees; Ph.D. advisor for 2 graduate students (Jeremy Hare and Noel Klingler);
- completed professional development training at the AAPT New Physics and Astronomy Faculty workshop in November 2014, and GW Faculty Learning Community for Junior Faculty in Spring 2015;

### **Service to the Profession and Community while at GW**

- co-organized GW participation and represented GW at the 2014 and 2016 Astronomy Night at the National Mall events which attracts thousands of visitors annually;
- ran GW booth at the Undergraduate Orientation Reception (recruitment event) at the 223rd American Astronomical Society meeting in DC, January 2014, with about 300 students attending;
- organized (in 2014) and co-organized (in 2016) a regional DC/VA/MD meeting for young astrophysicists and astronomers (students and postdocs), held at GW;
- delivered 2 public outreach/press-conference talks, with approximately 100 people attending;
- participated in 4 international, 4 national, and 3 internal (GW) proposal review panels in 2013-2016;
- remain an active member of VERITAS collaboration, NASA Physics of the Cosmos (PCOS) Program, American Astronomical Society (AAS), and American Association of Physics Teachers (AAPT).

## **Grants, Academic Honors, and Service to the University, Profession, and Community**

### **Summary of federally funded research**

During 2008-2016, I was a **PI or Co-PI of 22** and Co-I of another 12 NASA and NSF funded programs (listed below) with the total awarded federal funding of **\$1.8M** (with co-investigator shares being subtracted).

**Since arriving at GW in August 2012**, I was awarded **\$919K** in federal funding (with co-investigator shares being subtracted) coming from **24** programs in **18 of which I am a PI or Co-PI**.

#### **Federal research funding (including observing, archival, and theory research programs):**

NuSTAR Cycle 2	Principle Investigator, “Hard X-ray portrait of LS 5039”, <b>\$51.1K</b> , Dates: 01/01/2017-12/31/2017, <b>NASA/GSFC</b>
XMM-Newton Cycle 15	Principle Investigator, “Sleuthing for compact objects accreting from the interstellar medium”, <b>\$56.0K</b> Dates: 01/01/2017-12/31/2017, <b>NASA/GSFC</b>
Hubble Cycle 23	Principle Investigator, “Establishing the nature of the far-UV emission from the double pulsar”, <b>\$34K</b> Dates: 2017-2019, <b>NASA/STScI</b> , funding approved pending successful observations
Swift Cycle 12	Co-Investigator (Admin PI), “Revealing pulsars hidden in the 3rd Fermi catalogue”, <b>\$45.0K</b> , Dates: 10/01/2016-09/30/2017, <b>NASA/GSFC</b>
Hubble Cycle 23	Co-Investigator (Admin PI), “Intermediate Age Cluster GLIMPSE-C01”, <b>\$23.3K</b> , Dates: 10/01/2015-09/30/2018, <b>NASA/STScI</b>
XMM-Newton Cycle 14	Principle Investigator, “Detailed study of PSR B0656+14”, <b>\$53.3K</b> , Dates: 02/08/2016-02/07/2017, <b>NASA/GSFC</b>
Chandra Cycle 16	Principle Investigator, “X-ray counterparts of puzzling GeV-TeV sources”, <b>\$58.9K</b> , Dates: 06/16/2015-06/15/2017, <b>NASA/SAO</b>
Chandra Cycle 16	Principle Investigator, “Snap-shot survey of unidentified Fermi sources”, <b>\$50.4K</b> , Dates: 12/31/2014-01/31/2017, <b>NASA/SAO</b>
HST Cycle 22	Principle Investigator, “Thermal evolution of old neutron stars ”, <b>\$10.8K</b> , Dates: 11/29/2014-11/30/2017, <b>NASA/STScI</b>
NASA ADAP	Co-Principal Investigator, “Revealing pulsars hidden in the 2nd Fermi catalogue”, <b>\$42K</b> , <b>Dates: 01/30/2013-01/31/2015</b> , <b>NASA</b>

NASA ADAP

Principle Investigator, "XMM-Newton observation of a new energetic pulsar", **\$32.4K**, Dates: 01/30/2013-01/31/2015, **NASA/GSFC**

Hubble Cycle 20

Principle Investigator, "Multiwavelength spectra of the fine structure of the Crab", **\$29.3K**, Dates: 11/29/2012-11/29/2015, **NASA/STScI**

Chandra Cycle 14

Principle Investigator, "Unveiling the Nature of Galactic Sources Detected by Chandra", **\$64.5K**, Dates: 02/27/2013/-02/28/2016, **NASA/SAO**

Chandra Cycle 14

Principle Investigator, "PSR J1906+0746: Cheshire cat's grin", **\$36.7K**, Dates: 07/12/2013/-07/11/2015, **NASA/SAO**

Chandra Cycle 14

Principle Investigator, "Multiwavelength spectra of the fine structure of the Crab", **\$13.1K**, **Dates:** 11/29/2013-11/28/2015, **NASA/SAO**

LP Chandra Cycle 14

Principle Investigator, "A comparative study of two outstanding pulsar tails", **\$69.6K**, Dates: 06/01/2013-31/05/2016, **NASA/SAO**

XVP Chandra Cycle 14

Co-Investigator, "A Legacy Study of the Relativistic Shocks of PWNe", **\$59.9K**, 11/18/2012-11/19/2015, **NASA/SAO**

Chandra Cycle 13

Principal Investigator, "Is HESS J1741-302 truly dark?", **\$35.1K**, **Dates:** 10/28/2013-10/27/2014, **NASA/SAO**

NASA ADAP

Co-Investigator, "Archival Study of Isolated Pulsars and Their Winds", **\$64.5K**, Dates: 10/01/12-09/30/12, **NASA/GSFC via PSU**

Chandra Cycle 11

Co-Investigator, "Young, hot PSR J1357-6429 and its PWN", **\$18.2K**, Dates: 01/25/13-01/24/14, **NASA/SAO**

Chandra Cycle 10

Principal Investigator, "X-ray emission from the double neutron star binary J1537+1155", **\$12.8K**, Dates: 01/18/13-01/17/2014, **NASA/SAO**

Chandra Cycle 13

Co-Investigator, "The puzzling outflow from the PSR B1259-63/SS 2883 binary", **\$21.7K**, Dates 12/19/2012-05/18/2015, **NASA/SAO**

Hubble Cycle 19

Co-Investigator (Admin. PI), "Thermal emission from the famous double pulsar J0737-3039", **\$35.8K**, Dates: 11/29/2012 - 11/30/2016, **NASA/STScI**

Hubble Cycle 18

Principal Investigator, "ACS polarimetry of the Vela pulsar-wind nebula", **\$42K**, Dates: 02/01/2013-01/31/2014, **NASA/STScI**

***Projects completed at UF prior to joining GW***

Chandra Cycle 12	Principal Investigator, "Is Swift J1834.9-0846 a magnetar related to SNR W41 and HESS J1834-087?", <b>\$6K</b> , Dates: Closed, <b>NASA/SAO</b>
Hubble Cycle 18	Co-Investigator (Admin. PI), "The magnetar SGR 0418+5729 in the optical and infra-red", <b>\$30K</b> , Dates: Closed, <b>NASA/STScI</b>
Chandra Cycle 11	Principal Investigator, "The long tail of PSR J1740+1000", <b>\$43.1K</b> , Dates: Closed, <b>NASA/SAO</b>
XMM-Newton Cycle 8	Principal Investigator, "Searching for PWNe in three center-filled Supernova Remnants", <b>\$40.3K</b> , Dates: Closed, <b>NASA</b>
Suzaku Cycle 4	Principle Investigator, "Crushed plerion HESS J1809-193: TeV to X-ray connection", <b>\$25.2K</b> , Dates: <b>Closed</b> , <b>NASA/SAO</b>
NSF AAG	Principal Investigator, "Collaborative Research: Unidentified Galactic TeV Sources: Neutron Star Connection", <b>\$252.5K</b> , Dates: Closed, <b>NSF</b>
NASA ADAP	Co-Investigator, "Archival Study of Isolated Pulsars and Their Winds", <b>\$71.8K</b> , Dates: Closed, <b>NASA/GSFC</b>
NASA ADAP	Principal Investigator, "Multiwavelength study of unidentified extended TeV sources", <b>\$286.2K</b> , Dates: Closed, <b>NASA/GSFC</b>
Hubble Cycle 17	Co-Investigator, "Far-UV Phase-resolved Spectroscopy of PSR B0656+14", <b>\$34.6K</b> , Dates: Closed, <b>NASA/STScI</b>
LP Chandra Cycle 10	Co-Investigator, "The unique dynamical Vela pulsar-wind nebula", <b>\$78.4K</b> , Dates: Closed, <b>NASA/SAO</b>

**Conferences/workshops organized at GW:**

I organized the 2<sup>nd</sup> regional DC/VA/MD meeting for young astrophysicists and astronomers (undergraduate students, graduate students, and postdocs) that took place at GW on July 10-11, 2014. The meeting attracted about 70 participants from 9 different universities and institutions and featured 6 prominent scientists as plenary speakers. Conference talks and participant list are available at <http://home.gwu.edu/~kargaltsev/ConferenceProgram.html> and <http://home.gwu.edu/~kargaltsev/conference-participants.html>

I was a co-organizer of the 4<sup>rd</sup> regional DC/VA/MD meeting for young astrophysicists and astronomers that took place at GW on July 15, 2016. Forty-five participants from 18 universities, organizations, and colleges presented their research and participated in the discussions. See <https://physics.columbian.gwu.edu/4th-annual-dcvamd-summer-astrophysics-meeting> for details.

My long-term goal is to transform the summer conference series into a recurring event at GW via establishing close ties with the NASA GSFC internship program. This will increase the visibility of the GW Astrophysics & Astronomy program and help to attract new graduate students into the program.

### Awards, nominations, and fellowships:

2016	GW OVPR Early Career Research Award
2015	Innovative Cross-Disciplinary Excellence (DICE) Award
2015	Columbian College Facilitating Fund (CCFF) Award
2015	Nominated from GW for 2016 Blavatnik National Awards for Young Scientists
2004	Graduate Alumni Association Dissertation Award, Penn State
2002	Daniel Zacheus Foundation for Astronomical Science, Travel Grant
1998-2001	Braddock Fellowship, Penn State (for excellence in studying)
1996, 1998	I. E. Tamm Theoretical Department fellowship at P. N. Lebedev Physical Institute
1997-1998	Russian Foundation in Fundamental Research, grant #96-02-18203

### Peer Review Panel Service:

2016/03	NASA Postdoctoral Fellowship program
2016/03	GW internal review panel
2016/03	NYU Abu Dhabi Research Enhancement Fund, external reviewer
2015/12	NASA Postdoctoral Fellowship program
2015/11	ESA <i>XMM-Newton X-ray Observatory</i> AO-15 panel
2015/02	<i>NuSTAR X-ray Observatory Cycle 1</i> panel
2014/03	GW internal review panel
2014/06	<i>Chandra X-ray Observatory</i> AO-16 panel
2014/11	NASA Postdoctoral Fellowship program
2013/05	<i>Hubble Space Telescope Cycle 21</i> panel
2011/08	NASA Postdoctoral Fellowship program
2010/06	<i>Chandra X-ray Observatory</i> AO-12 panel
2010/04	<i>Fermi Gamma-ray Observatory</i> AO-3 panel
2009/08	NASA Astrophysics Data Analysis panel
2008/03	<i>Suzaku X-ray Observatory</i> AO-3 panel

### Journal Refereeing:

2007-present Regular reviewer (5-6 papers per year on average) for top-ranked international astronomy and astrophysics journals including *Astrophysical Journal*, *Astronomy and Astrophysics*, *Monthly Notices of Royal Astronomical Society*, *Publications of the Astronomical Society of Japan*.

### Membership in professional societies:

- 2016 – present Honorary Member of Sigma Pi Sigma Society
- 2014 – present American Association of Physics Teachers
- 2000 – present American Astronomical Society

**Research collaboration membership:**

- 2012 – present Member of Chandra X-ray Visionary Project team “A Legacy Study of the Relativistic Shocks in Pulsar-Wind Nebulae” (with Harvard, Stanford, and Penn State)
- 2014 – present Member of PRAXyS (X-ray polarimetry mission proposed to NASA) team, leader of the SNR/PWN science working group
- 2015 – present Member of Athena X-ray Observatory Science Working Group
- 2014 – present Member of OCTOCAM (new instrument proposed for Gemini observatory) Team
- 2007 – 2011 Member of International X-ray Observatory Science Team
- 2008 – present Associate Member of the VERITAS collaboration
- 2000 – present Member of Neutron Star Group at Penn State University Department of Astronomy
- 2000 – 2008 Member *Chandra* ACIS Team (Penn State University)

**Public outreach and press conferences:**

- Co-organized GW participation and represented GW at the 2016 Astronomy Night at the National Mall event, which attracted about 10,000 visitors
- Co-organized GW participation and represented GW at the 2014 Astronomy Night at the National Mall event, which attracted about 7,000 visitors.
- Press conference “Rotating Spiral Structure of the Vela Pulsar Jet”, at the 221st American Astrophysical Society Meeting, January 2013, Long Beach, CA;
- NASA Hyperwall presentation “Pulsars and Supernova Remnants” for general public at the 221st American Astrophysical Society Meeting, January 2013, Long Beach, CA;
- Developed the content for the Astrophysics Group Webpages and the 2<sup>nd</sup> and 4<sup>th</sup> regional DC/VA/MD meeting (held at GW) webpages, distributed GW recruitment materials at these events.

**Service to the Department and the University:**

Graduate Admissions Director (since January 2016) and Graduate Program Committee member since (January 2013) – duties include reviewing applications, performing rankings, exchanging e-mails with applicants, conducting Skype interviews, organizing prospective student visits to the Physics Department;

Member of the GW Astronomy, Physics, and Statistics Institute of Sciences (APSIS) since 2015.

Member of the astrophysics faculty search committee in 2015-2016;

Physics Department Colloquium Committee, Member, 2012, 2014 (invited and hosted 6 speakers in 2013-2014);

Chair of the Astronomy Intro Courses teaching team, 2014-2015;

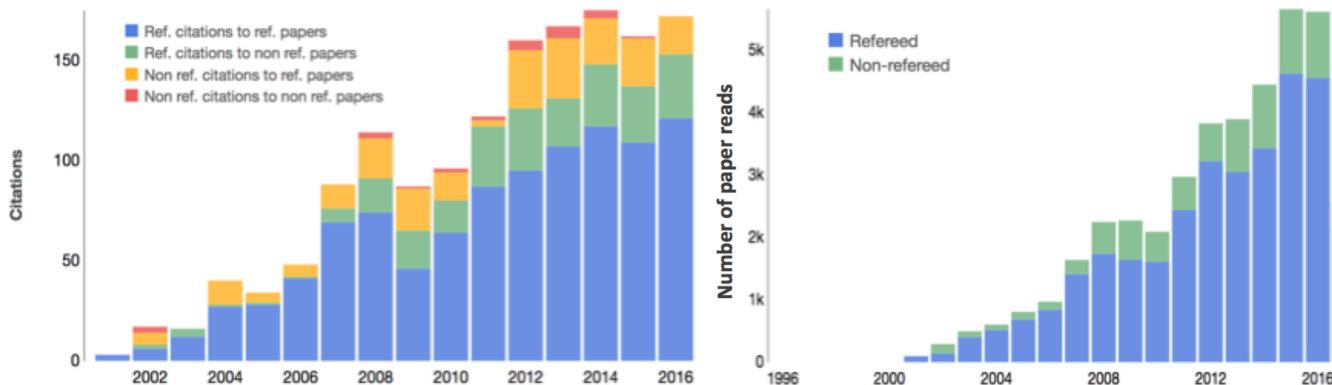
Physics Department Web Committee, Member, 2013-2015;

Organized and ran GW booth at the Undergraduate Orientation Reception (recruitment event) at the 223rd American Astronomical Society meeting in DC, January 2014;

Physics Department Equipment committee, Member, 2013;

## Publications and Press Releases

Kargaltsev has 163 publications (72 refereed), cited more than 1,350 times (excluding self-citations; according to NASA Astrophysics Data System as of May 26, 2017: [http://adsabs.harvard.edu/cgi-bin/nph-abs\\_connect?author=kargaltsev,+o](http://adsabs.harvard.edu/cgi-bin/nph-abs_connect?author=kargaltsev,+o)). These include: an article in Science as a leading author (journal impact factor 31.5), 59 articles in Astrophysical Journal (16 as a leading author; the journal impact factor 6.3), 9 articles in other referred journals and publications, and 2 referred book chapters (as a leading author). The latest 27 peer-reviewed articles and two book chapters have been written at GW during the past 4 years. *h*-index=26; *tori*-index=10.3 (source Google Scholar).



**Figure 1:** Number of citations per year (left) and paper downloads from NASA ADS (right) for papers authored or co-authored by Kargaltsev as a function of time. (Source: NASA Astrophysics Data System Abstract Service, <https://ui.adsabs.harvard.edu/#search/q=%20author%3A%22Kargaltsev%22&sort=date%20desc%2C%20bibcode%20desc/metrics>)

### Articles in Peer-Reviewed Journals

Below “<sup>g</sup>” denotes graduate student and “<sup>p</sup>” denotes postdoctoral scholar working under O. Kargaltsev’s supervision.

1. Hare<sup>g</sup>, J., **Kargaltsev, O.**, Pavlov, G. G., Rangelov<sup>p</sup>, B., & Volkov, I., “*Chandra Observations of the field containing HESS J1616-508*”, 2017, [ApJ accepted](#)
2. Dubner, G., Castelletti, G., **Kargaltsev, O.**, Pavlov, G. G.; Bietenholz, M.; Talavera, A., “*Morphological Properties of the Crab Nebula: A Detailed Multiwavelength Study Based on New VLA, HST, Chandra, and XMM-Newton Images*”, 2017, [ApJ, 840, 82](#)
3. Pannuti, T. G., Rho, J., **Kargaltsev, O.**, et al., “*CTIO, ROSAT HRI, and Chandra ACIS Observations of the Archetypical Mixed-morphology Supernova Remnant W28 (G6.4-0.1)*”, 2017, [ApJ, 839, 59](#)
4. Reynolds, S. P., Pavlov, G. G., **Kargaltsev, O.**, Klingler<sup>g</sup>, N., Renaud, M., Mereghetti, S. 2017, “*Pulsar-Wind Nebulae and Magnetar Outflows: Observations at Radio, X-Ray, and Gamma-Ray Wavelengths*”, Space Science Reviews, 2017, [DOI 10.1007/s11214-017-0356-6](#)
5. Rangelov<sup>p</sup>, B., Pavlov, G., **Kargaltsev, O.**, Reisenegger, A., Guillot, S., & Reyes, C., “*Hubble Space Telescope Detection Of The Millisecond Pulsar J2124-3358 And Its Far-Ultraviolet Bow Shock Nebula*”, 2016, [ApJ, 835, 264](#)
6. Klingler<sup>g</sup>, N., Rangelov<sup>p</sup>, B., **Kargaltsev, O.**, Pavlov, G., Romani, R., Posselt, B., Slane, P., Temim, T., Ng, C.-Y., Bucciantini, N., Bykov, A. M., Swartz, D., & Buehler, R., “*Deep Chandra Observations Of The Pulsar Wind Nebula Created By PSR B0355+54*”, 2016, [ApJ, 828, 70](#)

7. Rangelov<sup>p</sup>, B., Pavlov, G. G., **Kargaltsev, O.**, Durant, M., Bykov, A. M., & Krassilchchikov, A., “*First Detection of a Pulsar Bow Shock Nebula in Far-UV: PSR J0437-4715*”, [2016, ApJ, 831, 129](#)
8. Klingler<sup>g</sup>, N., **Kargaltsev, O.**, Rangelov, B., Pavlov, G. G., Posselt, B. & Ng C.-Y. “*Chandra Observations of Outflows from PSR J1509-5850*”, [2016, ApJ, 828, 70](#)
9. Younes, G., Kouveliotou, C., **Kargaltsev, O.**, Gill, R., Granot, J., Watts, A. L., Gelfand, J., Baring, M. G., Harding, A., Pavlov, G. G., van der Horst, A. J., Huppenkothen, D., Göğüş, E., Lin, L., & Roberts, O. J. “*The wind nebula around magnetar Swift J1834.9-0846*”, [2016, ApJ, 824, 138](#)
10. Birzan, L., Pavlov, G. G., & **Kargaltsev, O.**, “*Chandra Observations of the Elusive Pulsar Wind Nebula around PSR B0656+14*”, [2016, ApJ, 817, 129](#)
11. Sonbas<sup>p</sup>, E., Rangelov<sup>p</sup>, B., **Kargaltsev, O.**, Dhuga, K. S., Hare, J., & Volkov, I. “*X-Ray Sources in the Dwarf Spheroidal Galaxy Draco*”, [2016, ApJ, 821, 54](#)
12. Hare<sup>g</sup>, J., Rangelov<sup>p</sup>, B., Sonbas<sup>p</sup>, E., & **Kargaltsev, O.** “*Multi-wavelength study of HESS J1741-302*”, [2016, ApJ, 816, 52](#)
13. Williams, B. J., Rangelov<sup>p</sup>, B., **Kargaltsev, O.**, & Pavlov, G. G. “*Magnesium-rich Ejecta in the SNR G284.3–1.8 Around the High-mass Gamma-Ray Binary 1FGL J1018.6–5856*”, [2015, ApJ, 808, L19](#)
14. Pavlov, G. G., Hare<sup>g</sup>, J., **Kargaltsev, O.**, Rangelov<sup>p</sup>, B., & Durant, M. “*An Extended X-Ray Object Ejected from the PSRB1259-63/LS2883 Binary*”, [2015, ApJ, 806, 192](#)
15. Auchettl, K., Slane, P., Romani, R., Posselt, B., Pavlov, G., **Kargaltsev, O.**, Ng, C.-Y., Temim, T., Weisskopf, M., Bykov, A., Swartz, D. “*X-ray analysis of the proper motion and the pulsar-wind nebula of PSR J1741-2054*”, [2015, ApJ, 802, 68](#)
16. Kirichenko, A., Danilenko, A., Shternin, P., Shibanov, Y., Ryspaeva, E., Zyuzin, D., Durant, M., **Kargaltsev, O.**, Pavlov, G. G., & Cabrera-Lavers, A. “*Optical Observations of Psr J2021+3651 in the Dragonfly Nebula With the GTC*”, [2015, ApJ, 802, 17](#)
17. Rangelov<sup>p</sup>, B., Posselt, B., **Kargaltsev, O.**, Pavlov, G., Hare<sup>g</sup>, J., & Volkov, I. “*Multiwavelength Study of the Northeastern Outskirts of the Extended TeV Source HESS J1809-193*”, [2014, ApJ, 796, 34](#)
18. Aliu, E., et al. “*Spatially Resolving the Very High Energy Emission from MGRO J2019+37 with VERITAS*” [2014, ApJ, 788, 78](#) (This is VERITAS collaboration paper. According to collaboration rules, the list of authors is alphabetically ordered list of collaboration members consisting of about 90 names. For this paper **Kargaltsev** contributed approximately 30%.)
19. Arumugasamy, P., Pavlov, G. G., & **Kargaltsev, O.** 2014, “*XMM-Newton Observations of Young and Energetic Pulsar J2022+3842*” [ApJ, 790, 103](#)
20. **Kargaltsev, O.**, Pavlov, G. G., Durant, M., Volkov, I., & Hare<sup>g</sup>, J. “*The Dynamic X-Ray Nebula Powered by the Pulsar B1259-63*”, 2014, [ApJ, 784, 124](#)
21. Durant<sup>p</sup>, M., **Kargaltsev, O.**, & Pavlov, G. G. “*Hubble Space Telescope Detection of the Double Pulsar System J0737-3039 in the Far-ultraviolet*”, 2014, [ApJL, 783, L22](#)
22. Aliu, E., et al. “*Observations of the Unidentified Gamma-Ray Source TeV J2032+4130 by VERITAS*”, [2014, ApJ, 783, 16](#) (This is VERITAS collaboration paper. According to collaboration rules, the list of

authors is alphabetically ordered list of collaboration members consisting of about 90 names. For this paper **Kargaltsev** contributed approximately 40%).

23. **Kargaltsev, O.**, Rangelov<sup>p</sup>, B., Hare<sup>g</sup>, J., & Pavlov, G. G. “*Chandra imaging of gamma-ray binaries*”, [2014, Astronomische Nachrichten, 335, 301](#)
24. Pannuti, T. G., **Kargaltsev, O.**, Napier, J. P., & Brehm, D. “*XMM-Newton and Chandra Observations of the Ejecta-dominated Mixed-morphology Galactic Supernova Remnant G352.7-0.1*”, [2014, ApJ, 782, 102](#)
25. Posselt, B., Pavlov, G.G., Suleimanov, V., & **Kargaltsev, O.** “*New Constraints on the Cooling of the Central Compact Object in Cas A*”, [2013, ApJ, 779, 186](#)
26. Aliu, E. et al. “*Discovery of the TeV Gamma-ray Emission from CTA by VERITAS*”, [2012, ApJ, 764, 38](#)  
(This is VERITAS collaboration paper. According to collaboration rules, the list of authors is alphabetically ordered list of collaboration members consisting of about 90 names. For this paper **Kargaltsev** contributed approximately 40%).
27. Durant<sup>p</sup>, M., **Kargaltsev, O.**, Pavlov, G. G., Kropotina, J., & Levenfish, K. “*The Helical Jet of the Vela Pulsar*”, [2013, ApJ, 763, 72](#)
28. **Kargaltsev, O.**, Durant, M., & Pavlov, G. G. “*Pulsar Wind Nebulae from X-rays to VHE γ-rays*”, [2013, ASPC, 466, 167](#)
29. Posselt, B., Arumugasamy, P., Pavlov, G. G., Manchester, R. N., Shannon, R. M., & **Kargaltsev, O.** “*XMM-Newton Observation of the Very Old Pulsar J0108-1431*”, [2012, ApJ, 761, 117](#)
30. Younes, G., Kouveliotou, C., **Kargaltsev, O.**, Pavlov, G. G.; Göğüş, E.; Wachter, S. “*XMM-Newton View of Swift J1834.9-0846 and Its Magnetar Wind Nebula*”, [2012, ApJ, 757, 39](#)
31. **Kargaltsev, O.**, Durant<sup>p</sup>, M., Misanovic, Z., Pavlov, G. G. “*Absorption Features in the X-ray Spectrum of an Ordinary Radio Pulsar*”, [2012, Science, 337, 946](#)
32. Posselt, B., Pavlov, G. G., Manchester, R. N., **Kargaltsev, O.** & Garmire, G. P. “*Chandra Observations of the Old Pulsar PSR B1451-68*”, [2012, ApJ, 749, 146](#)
33. **Kargaltsev, O.**, Durant<sup>p</sup>, M., Pavlov, G. G., & Garmire, G. “*Chandra Pulsar Survey (ChaPS)*”, [2012, ApJS, 201, 37](#)
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### Refereed Book Chapters:

( [https://dl.dropboxusercontent.com/u/32774245/Kargaltsev\\_Refereed\\_Book\\_Chapters.pdf](https://dl.dropboxusercontent.com/u/32774245/Kargaltsev_Refereed_Book_Chapters.pdf) )

1. **Kargaltsev O.**, Rangelov<sup>p</sup>, B., & Pavlov G. “*Pulsar-Wind Nebulae as a Dominant Population of Galactic VHE Sources*” in “The Universe Evolution. Astrophysical and Nuclear Aspects”, Eds. I. Strakovskiy & L. Blokhintsev, 2013, Nova Science Publishers, Inc., [ISBN: 978-1628085457](#)
2. **Kargaltsev, O.**, Lyubarsky, Y., Striani, E., & Cerutti, B. “*Pulsar-Wind Nebulae Recent Progress in Observations*” in “The strongest magnetic fields in the Universe”, Springer 2016, [ISBN: 978-1493935499](#)

### Selected Non-refereed Publications

1. **Kargaltsev O.**, “*X-ray view of pulsar wind nebulae: What we can learn with Athena?*”, Exploring the Hot and Energetic Universe: The first scientific conference dedicated to the Athena X-ray observatory, Madrid, Spain, 8-10 September 2015, Proceedings of a conference held 8-10 September, 2015 in Madrid, Spain, p.60, [available online](#)
2. Levenfish, K. P., Bykov, A. M., Durant, M., **Kargaltsev, O.**, Kropotina, Y. A., Pavlov, G. G., Krassilchchikov, A. M., & Uvarov, Y. A. “*Finest persistent structures in the Vela PWN*” 2013, Memorie della Societa Astronomica Italiana, 84, 588
3. **Kargaltsev, O.**, Gogus, E., Kouveliotou, C., & Pavlov, G. 2011, “*Unusually strong X-ray pulsations from Swift J1834.9-0846*”, The Astronomer's Telegram, 3600, 1
4. Gogus, E., Kouveliotou, C., **Kargaltsev, O.**, & Pavlov, G. 2011, “*Swift J1834.9-0846: Precise X-ray Position and the Confirmation of its Spin Period*”, The Astronomer's Telegram, 3576, 1
5. Pavlov, G. G., Misanovic, Z., **Kargaltsev, O.**, & Garmire, G. P. 2011, “*Chandra and XMM-Newton Observations of the Gamma-ray Binary 1FGL J1018.6-5856*”, The Astronomer's Telegram, 3228, 1
6. Gogus, E., Kouveliotou, C., **Kargaltsev, O.**, & Pavlov, G. 2011, “*Swift J1834.9-0846: precise X-ray position and the confirmation of its spin period*”, GRB Coordinates Network, 12302, 1
7. Paerels, F., Méndez, M., Agueros, M., Baring, M., Barret, D., Bhattacharyya, S., Cackett, E.; Cottam, J., Diaz Trigo, M., Fox, D.; Garcia, M., Gotthelf, E., Hermsen, W., Ho, W., Hurley, K., Konker, P., Juett, A., Kaaret, P., **Kargaltsev, O.**, Lattimer, J., Matt, G., Özel, F., Pavlov, G., Rutledge, R., Smith, R., Stella, L., Strohmayer, T., Tananbaum, H., Uttley, P., van Kerkwijk, M., Weisskopf, M., & Zane, S. 2009, “*The Behavior Of Matter Under Extreme Conditions*”, Astro2010: The Astronomy and Astrophysics Decadal Survey, Science White Papers, no. 230 (arXiv:0904.0435v1)
8. Misanovic, Z., Pavlov, G. G. & **Kargaltsev, O.** “*X-ray observations of pulsar J1740+1000*”, in Proc. of “8 years of Science with Chandra”, ([http://cxc.harvard.edu/symposium\\_2007/proceedings/topic\\_3.html](http://cxc.harvard.edu/symposium_2007/proceedings/topic_3.html))

9. **Kargaltsev, O.** & Pavlov, G. G., “*Vela PWN: A new perspective*”, 2004, in "Young Neutron Stars and Their Environments" (IAU Symposium 218, ASP Conf. Proc.), eds F. Camilo and B. M. Gaensler, p. 195, (astro-ph/0310767)
10. Sanwal, D., Pavlov, G. G., **Kargaltsev, O.**, Garmire, G. P., Zavlin, V. E., Burwitz, V., Manchester, R. N. & Dodson, R., “*X-ray Spectrum and Pulsations of the Vela Pulsar*”, in Neutron Stars in Supernova Remnants, ASP ser., v. 271, p. 353, 2002, eds. P.O. Slane & B. M. Gaensler.
11. **Kargaltsev, O.**, Pavlov, G. G., Sanwal D., & Garmire, G. P., “*The Vela pulsar wind nebula resolved with Chandra*”, in Neutron Stars in Supernova Remnants, ASP ser., v. 271, p. 181, 2002, eds. P.O. Slane & B. M. Gaensler.

### Selected Conference Talks and Other Talks and Contributions

#### *Invited talks*

1. **Kargaltsev O.**, “*Population of galactic GeV-TeV sources seen by Fermi, VERITAS, and HAWC with a focus on pulsar wind nebulae.*”, Fermi/VERITAS/HAWC workshop 2017, College Park, MD USA, March 10-11, 2017
2. **Kargaltsev O.**, “*Chandra view of manifestations of neutron stars: particle outflows and synchrotron nebulae*”, Chandra Science for the Next Decade, Cambridge, MA USA, August 16-19, 2016
3. **Kargaltsev O.**, “*Is there a useful connection between the pulsar magnetosphere geometry and PWN morphology?*”, The Physics of Pulsar Magnetospheres workshop, NASA GSFC, June 7, 2016
4. **Kargaltsev O.**, “*X-ray View of Pulsar Wind Nebulae: What Chandra Did Not Tell Us*”, X-Ray Vision Workshop: Probing the Universe in Depth and Detail with the X-Ray Surveyor, Washington, DC, USA, 6-8 October 2015
5. **Kargaltsev, O.**, “*High-energy astrophysics of pulsars and their winds*”, Physics Department colloquium talk at University of Maryland Baltimore County, October, 7, 2015
6. **Kargaltsev, O.**, Pavlov., G. G. & Rangelov B. “*Pulsar wind nebulae in X-ray, TeV and in between*”, Future Space-based Gamma-ray Observatories, NASA GSF, February 5-6, 2015
7. **Kargaltsev, O.**, “*Multiwavelength observations of pulsar wind nebulae*”, Physics of Neutron Stars – 2014, July 28 - August 1, 2014, St. Petersburg, Russia
8. **Kargaltsev, O.** “*X-ray emission properties of rotation-powered pulsars*”, 40th COSPAR Scientific Assembly, Moscow, Russia, Aug 2-10, 2014
9. **Kargaltsev, O.**, *Gamma-Ray Emission from Pulsar Wind Nebulae*, 2nd Workshop on Galactic Physics with VERITAS, Columbia University, NY, May 5-7, 2014
10. **Kargaltsev, O.** “*Isolated NSs and non-accreting pulsars*”, "Neutron Stars (NSs) as Physics Labs: Future Opportunities with NICER Symposium, NASA GSFC, Greenbelt, MD, March 27, 2014

11. **Kargaltsev, O.**, *Observations of Pulsar-Wind Nebulae*, The Strongest Magnetic Fields in the Universe, Bern, Switzerland, Feb 16-20, 2014
12. **Kargaltsev, O.**, “*Isolated Neutron Stars and Non-Accreting Pulsars*”, Symposium *Neutron Stars as Physics Labs: Future Opportunities with NICER*, NASA GSFC, March 27, 2014
13. **Kargaltsev, O.**, Pavlov, G., & Durant, M. “*X-ray observations of pulsar-wind nebulae: current status and future prospects*” 2013, XMM-Newton Workshop: The Fast and the Furious: Energetic Phenomena in Isolated Neutron Stars, Pulsar Wind Nebulae and Supernova Remnants, Madrid, Spain, 22-24 May, 2013
14. **Kargaltsev, O.** “*X-ray and gamma-ray properties of pulsar-wind nebulae*”, Physics Department colloquium at the University of Texas Arlington, Nov 28, 2012
15. **Kargaltsev, O.** “*Multiwavelength properties of pulsars and their wind nebulae*”, the Supernova Seminar at NASA Goddard Space Flight Center, Dec 12, 2012
16. **Kargaltsev, O.** “*Electromagnetic Radiation From Pulsars And Magnetars*”, 2012, Apr 25, University of Zielona Góra, Zielona Gora, Poland
17. **Kargaltsev, O.** “*Pulsar-wind nebulae in X-rays and gamma-rays: highlights, population analysis, and outlook*” 2012, January 18-21, Tucson, Arizona, VERITAS collaboration meeting
18. **Kargaltsev, O.** “*Multiwavelength observations of pulsar wind nebulae*”, 2011, July 11-15, St. Petersburg, Russia, “[Physics of Neutron Stars - 2011](#)” conference
19. **Kargaltsev O.** “*Pulsar Wind Nebulae in Gamma-Rays*”, Barnard College, Columbia University, NYC, May 28-29, 2010 “VERITAS Workshop on High Energy Galactic Physics”
20. **Kargaltsev O.** “*Pulsar-wind nebulae in X-rays and TeV gamma-rays*”, September 7-11, 2009, Bologna, Italy, “X-ray Astronomy 2009: Present Status, Multi-Wavelength Approach And Future Perspectives”
21. **Kargaltsev O.** “*Pulsar winds across the electromagnetic spectrum*”, Purdue University, October 27, 2009, Lafayette, IN, the HEA colloquium at the Department of Physics
22. **Kargaltsev O.** & Pavlov G. “*Chandra observations of Pulsar-Wind Nebulae*”, June 15-18, 2009, Marciana Marina, Isola d'Elba, Italy, “Pulsars in their diversity” conference
23. **Kargaltsev, O.** “*Pulsars and Pulsar-Wind Nebulae: TeV to X-Ray Connection*”, 2008, TeV Unidentified Sources Workshop, Penn State University, PA, June 2008
24. **Kargaltsev, O.** “*X-ray view of Pulsar-Wind Nebulae*”, 2008, 37th COSPAR Scientific Assembly, 13-20 July 2008, Montréal, Canada., p.1447
25. **Kargaltsev, O.** “*Chandra Observations of Radio Pulsars*”, 2005, in Six Years of Science with Chandra: Dedicated to Leon Van Speybroeck

*Other talks and conference presentations*

1. **Kargaltsev O.**, “*Spatially resolved spectra and dynamics of PWNe*”, 5th Session of the Sant Cugat Forum on Astrophysics, Sant Cugat, Spain, June 14-17, 2016, contributed talk
2. **Kargaltsev, O.**, Pavlov, G. G., Rangelov, B., Hare, J. “*Fast-moving ejecta from the gamma-ray binary PSR B1259-63/LS 2883*”, 29<sup>th</sup> International Astronomical Union General Assembly, Honolulu, August 3-14, 2015, contributed talk
3. O'Donnell, C., Hahn, P., **Kargaltsev, O.**, Cobb, B., & Teodorescu, R. “*Improved Conceptual Understanding in Active Learning Reformed Introductory Astronomy Courses*”, 2015 AAPT meeting, July 25-29, 2015, College Park, MD
4. **Kargaltsev, O.**, Pavlov, G. G., Durant, M., Volkov, I., & Hare, J. “*Variable nebula of PSR B1259-63 resolved by Chandra*”, American Astronomical Society, AAS Meeting #223, 2014, #114.05  
**Kargaltsev, O.**, Bykov, A., Krassilchchikov, A., Rangelov, B., Pavlov, G., Klingler, N., Kropotina, J., & Levenfish, K., “*The inner structure of the Vela pulsar-wind nebula*”, 40th COSPAR Scientific Assembly, 2-10 August 2014, Moscow, Russia, Abstract E1.15-10-14
5. Brehm, D., **Kargaltsev, O.**, Rangelov, B., Volkov, I., & Pavlov, G. G. “*Automated classification of Chandra X-ray sources*” 2014, American Astronomical Society Meeting Abstracts, 223, #255.13
6. Klingler, N., Rangelov, B., **Kargaltsev, O.**, et al. “*Deep Chandra observations of pulsar tails: PSR B0355+54*” 2014, American Astronomical Society Meeting Abstracts, 223, #153.28
7. Rangelov, B., **Kargaltsev, O.**, & Pavlov, G. G. “*Gamma-ray and X-ray Properties of Pulsar Wind Nebulae and Unidentified Galactic TeV Sources*” 2014, American Astronomical Society Meeting Abstracts, 223, #153.22
8. Hare, J., Rangelov, B., Posselt, B., **Kargaltsev, O.**, & Pavlov, G. G. “*Chandra and Suzaku observations of two galactic TeV sources*” 2014, American Astronomical Society Meeting Abstracts, 223, #153.21
9. **Kargaltsev, O.**, Pavlov, G. G., Durant, M., Volkov, I., & Hare, J. “*Variable nebula of PSR B1259-63 resolved by Chandra*” 2014, American Astronomical Society Meeting Abstracts, 223, #114.05
10. Arumugasamy, P., Pavlov, G., **Kargaltsev, O.** “*XMM-Newton observations of the distant energetic pulsar J2022+3842*” 2013, XMM-Newton Workshop: The Fast and the Furious: Energetic Phenomena in Isolated Neutron Stars, Pulsar Wind Nebulae and Supernova Remnants, 22-24 May, 2013, Madrid, Spain.
11. Pavlov, G., **Kargaltsev, O.**, Posselt, B.; Durant, M. “*X-ray observations of rotation-powered pulsars*” 2013, XMM-Newton Workshop: The Fast and the Furious: Energetic Phenomena in Isolated Neutron Stars, Pulsar Wind Nebulae and Supernova Remnants, 22-24 May, 2013, Madrid, Spain.
12. Pavlov, G. & **Kargaltsev, O.** “*X-ray properties of rotation-powered pulsars*”, 2013, IAU Symposium, 291, 117
13. **Kargaltsev, O.**, Durant, M., Pavlov, G. G., Bykov, A. M., Kropotina, J. & Levenfish, K. “*The Rotating Spiral Structure of the Vela Pulsar Jet*”, 2013, American Astronomical Society, AAS Meeting #221, #443.21

14. Arumguasamy, P., Posselt, B., Pavlov, G. G., Manchester, R. N. & Shannon, R. & **Kargaltsev, O.** “*XMM-Newton Observation of the Very Old Pulsar J0108-1431*”, 2013, American Astronomical Society Meeting Abstracts, 221, #412.07
15. **Kargaltsev, O.**, Pavlov, G. G., Durant, M., Kropotina, J., Levenfish, K., Bykov, A. M. “*Resolving The Remarkable Vela Pulsar Wind Nebula In Space And Time With Chandra.*” 2011, AAS High Energy Astrophysics Division, 12, #20.09
16. Durant, M., **Kargaltsev, O.**, & Pavlov, G. G. “*Pulsar Spectra from IR to Gamma-rays*”, 2011, AAS High Energy Astrophysics Division, 12, #20.06
17. Durant, M., **Kargaltsev, O.**, & Pavlov G. G., “*Pulsar-wind nebulae: Studying particle SED and its evolution with spatially-resolved spectra*”, 2011, July 11-15, St. Petersburg, Russia
18. Durant, M., **Kargaltsev, O.**, & Pavlov, G. “*Old But Hot: Ultraviolet Spectrum Of The Millisecond Pulsar J0437-4715*”, 2010, Bulletin of the American Astronomical Society, 41, #315.05
19. Durant, Martin, **Kargaltsev, O.**, & Pavlov, G. “*Old But Hot: Ultraviolet Spectrum Of The Millisecond Pulsar J0437-4715*”, AAS Meeting #216, #315.05
20. Pavlov, G. & **Kargaltsev, O.**. “*Chandra Observations of the Vela Pulsar Wind Nebula*”, Chandra's First Decade of Discovery, 22-25 September, 2009 in Boston, MA
21. **Kargaltsev O.** & Pavlov G. “*Pulsar-Wind Nebulae in the Chandra Era*” at “Supernova Remnants And Pulsar Wind Nebulae In The Chandra Era”, July 8-10, 2009, Boston, MA
22. Schmitt, B., **Kargaltsev, O.**, & Pavlov, G. G. "XMM-Newton Observations of Two Candidate Supernova Remnants" July 8-10, 2009, Boston, MA
23. Park, Sangwook, **Kargaltsev, O.**, Pavlov, G., Mori, K., Slane, P. O., Hughes, J. P., Burrows, D. N., & Garmire, G. P. 2009 “*Nonthermal X-Rays from Supernova Remnant G330.2+1.0 and the Characteristics of its Central Compact Object* ”, BAAS, 41, 503
24. Mori, K., **Kargaltsev, O.**, Pavlov, G. G. et al. “*Suzaku mapping observations of the Vela X*”, 2008, 37th COSPAR Scientific Assembly, 13-20 July 2008, Montréal, Canada., p. 2105
25. **Kargaltsev, O.** & Pavlov, G. G. “*The Puzzles of the Vela Pulsar-Wind Nebula*”, 2008, 10<sup>th</sup> AAS High Energy Astrophysics Division Meeting, HEAD, #21.06
26. Pavlov, G. G., **Kargaltsev, O.**, & Wong, J. “*Young Energetic PSR J1617-5055, Its Underluminous Nebula, And TeV Source HESS J1616-508* ”, 2008, 10<sup>th</sup> AAS High Energy Astrophysics Division Meeting, HEAD, #12.07
27. **Kargaltsev, O.** & Pavlov G. G. “*New puzzles from Vela pulsar-wind nebula*”, 2008, AAS High-Energy Astrophysics Division Meeting #10, #12.06
28. **Kargaltsev, O.**, Pavlov, G., Sanwal, D., et al. “*X-ray Emission From Vela-like Pulsar B1800-21 And Other Young Pulsars Observed With Chandra*” 2006, AAS High-Energy Astrophysics Division Meeting #9, #7.57

29. **Kargaltsev, O.**, & Pavlov, G. G., “*X-ray Properties of Pulsars and their Wind Nebulae*”, 2004, AAS Meeting 205, #102.14
30. Pavlov, G. G., **Kargaltsev, O.**, Romani, R., & Zavlin, V. , “*Far-UV radiation from pulsars: Connecting X-rays with optical*”, 2004, American Astronomical Society, HEAD meeting #8, #11.02
31. Pavlov G. G., **Kargaltsev, O.**, Zavlin V. E., & Sanwal, D, “*Pulsars and Pulsar-wind Nebulae in the Chandra Era*”, 2003, in Four Years of Chandra Observations: A Tribute to Riccardo Giacconi
32. Teter, M. A., Pavlov, G. G., Sanwal, D. & **Kargaltsev, O.**, “*The Twisting Jet from the Vela Pulsar*”, 2002, 200th AAS Meeting, #78.06; BAAS, Vol. 34, p.779
33. **Kargaltsev, O.**, Pavlov, G. G., Sanwal, D., Garmire, G. P., “*The Compact Central Source of the SNR G266.2-1.2*”, 2002, 200th AAS Meeting, #72.02; BAAS, Vol. 34, p.764
34. Pavlov, G. G., Sanwal D., **Kargaltsev, O.**, & Garmire, G. P., “*The Vela Pulsar and its Synchrotron Nebula: Surprises from Chandra*” , 2001, in Two Years of Science with Chandra Symposium in Washington.

### Press releases

- “Observatories Combine to Crack Open the Crab Nebula”, [NASA News Release](#), 05/10/2017
- “Chandra Images Show That Geometry Solves a Pulsar Puzzle”, [NASA/PSU/GWU News Release](#), January 18, 2017
- “Astronomers Find the First 'Wind Nebula' Around a Magnetar”, [NASA News Release](#), 06/21/2016
- “Pulsar Punches Hole in Stellar Disk”, [NASA/CXC News Release](#), 07/22/2015
- “Supernova Cleans Up Its Surroundings”, [NASA/CXC Media Release](#), 04/10/2014
- “New Chandra Movie Features Neutron Star Action”, [NASA/CXC News Release](#), 01/07/2013
- “Strange emissions may help unlock mysteries of pulsars”, [NBC News](#), 8/23/2012
- “Geriatric Pulsar Still Kicking”, [NASA/CXC News Release](#), 02/26/2009
- “Firehose-like jet discovered in action”, [NASA/CXC News Release](#), 06/30/2003

## Teaching at GW

The summary of courses taught at GW in 2012-2017 is provided in the Table.

Semester	Course	Course Title	Students	Credits	Level	Development
Spring 2017	PHYS 3181	Computational Physics	TBD	4	aUG	Developing content
Fall 2016	ASTR-1001-10	Stars, Planets, and Life in the Universe (Lect.)	102	4	UG	Research activities
Fall 2016	ASTR-1001-30	Stars, Planets, and Life in the Universe (Lab)	22	0	UG	Lab quiz & discussion
Fall 2016	ASTR-1001-31	Stars, Planets, and Life in the Universe (Lab)	28	0	UG	Lab quiz & discussion
Fall 2016	ASTR-1001-32	Stars, Planets, and Life in the Universe (Lab)	24	0	UG	Lab quiz & discussion
Fall 2016	ASTR-1001-33	Stars, Planets, and Life in the Universe (Lab)	28	0	UG	Lab quiz & discussion
Spring 2016	ASTR-3161	Space Astrophysics	11	3	aUG	Group problem-solving
Spring 2016	PHYS 6810*	Applied Statistics and Data Analysis in Physics	8	3	G	New course
Fall 2015	PHYS 6810*	Applied Statistics and Data Analysis in Physics	—	3	G	Course Development
Fall 2015	—	Mid-tenure teaching release	—	—	—	—
Spring 2015	AST 1002	Origins of the Cosmos ( <i>Scale-Up</i> )	49	4	UG	Group Peer Evaluation
Spring 2015	PHYS 4195	Undergraduate Research in Astrophysics	1	3	aGU	Individual
Spring 2015	PHYS 8150	Selected Topics in Astrophysics	4	3	G	Group-problem solving
Fall 2014	AST 1002	Origins of the Cosmos ( <i>Scale-Up</i> )	58	4	UG	Remote observing
Fall 2014	PHYS 4195	Undergraduate Research in Astrophysics	2	3	aGU	Individual
Spring 2014	ASTR-2161†	Space Astrophysics	3	3	aUG	Research paper
Spring 2014	PHYS-6630†	Astrophysics I	3	3	G	Extra content and HW
Spring 2014	PHYS 4195	Undergraduate Research in Astrophysics	2	3	aGU	Individual
Fall 2013	AST 1002‡	Origins of the Cosmos ( <i>Scale-Up</i> )	36	4	UG	Group Peer Evaluation
Fall 2013	PHYS 4195	Undergraduate Research in Astrophysics	1	3	aGU	Individual
Spring 2013	ASTR-2161	Space Astrophysics	4	3	aUG	New course
Spring 2013	PHYS 4195	Undergraduate Research in Astrophysics	1	3	aGU	Individual
Fall 2012	ASTR-2161	Space Astrophysics	4	3	aUG	Course Development

Notes: iUG – introductory undergraduate, aUG – advanced undergraduate (3XXX or higher number), G – graduate; \* – developed and taught 1/3 of the course content; † – these two courses were cross-listed and taught simultaneously; ‡ – co-taught with Prof. Cobb Kung

## Postdoc and student training and supervision at GW

### Undergraduate, graduate, and post-graduate training and research advising:

- Blagoy Rangelov (post-graduate) – mentoring, training, research advising, and supervising since February 2013; 22 publications (10 refereed papers) with Kargaltsev;
- Jeremy Hare (PhD student) – PhD thesis advising and mentoring since Fall 2013; 10 publications (6 refereed papers, one as the first author; all co-authored with Kargaltsev);
- Noel Klingler (PhD student) – PhD thesis advising and mentoring since Fall 2013; 7 publications (2 refereed papers, both as the first author; all co-authored with Kargaltsev);
- Yi Ding (graduate student) – training and research advising in Summer 2014, “Database of TeV sources associated with pulsars” (as a part of PHYS 8150 “Selected Topics in Astrophysics”);

- Derek Brehm (undergraduate) – training and research advising in Spring 2013 –Spring 2014, “Automated classification of X-ray Sources” (as a part of PHYS 4195); 2 publications with Kargaltsev (1 referred paper is in the *Astrophysical Journal*); Recipient of 2013 J. Roger Peverley Prize for Undergraduate Research in Physics and Berman Prize for Excellence in Experimental Physics; Derek graduated in Spring 2014 (BS in Physics with Honors); since Fall 2014, he is a graduate student at the Johns Hopkins University;
- Ali Ajmiri (undergraduate) – training and research advising in Spring 2014 – Fall 2014, “Population properties of gamma-ray bursts and pulsars with Fermi Gamma-ray Observatory data” (as a part of PHYS 4195);
- Laura Carpenter (undergraduate) – training and research advising in the Fall 2014, “Variability in the Chandra and Hubble images of Vela and Crab pulsar-wind nebulae” (as a part of PHYS 4195);
- Jacob Aketch (undergraduate) – training and research advising in Fall 2016, “Modeling pulsar tail emission”;
- Amir McGettrick (high school) – training and advising in Spring/Summer 2016, “The Effect of Hot Jupiters on the Pseudo Luminosity of their Host Stars”;
- Corrine Hall (high school) – internship: training, and advising starting Fall 2016, “The high-resolution infrared view of our Galaxy with HST”.

### **Summary of PhD committees (9):**

<b>Student Name</b>	<b>Graduation</b>	<b>My role</b>
Noel Klingler	Fall 2018	Ph.D. Advisor
Jeremy Hare	Fall 2018	Ph.D. Advisor
Qi Xia	Fall 2016	Reader
Steven Howell	Fall 2016	Reader (excused in Sept 2015)
Robert Coyne	Fall 2015	Reader
Michael Lujan	Spring 2014	Examiner
Ashwin Shenoy	Summer 2016	Reader
Maria Solyanik	Fall 2019	Chair
Oleksandr Koshchii	Summer 2018	Chair

### **Postdoc and student training and supervision at the University of Florida**

- Martin Durant (postdoc), advisor and supervisor in 2009 -2012  
 Sami-Matias Niemi (postdoc), advisor and supervisor in 2011  
 Deno Stelter (graduate student), co-advisor in 2012  
 Anuragini, Viswanathan (graduate student), research project with Kargaltsev in 2010-2012  
 Erika Seguin (undergraduate), term project in 2010  
 Adam Ismay (undergraduate), term project in 2009

### **Student training and supervision at the Pennsylvania State University**

- Brian Newman (graduate student, MS), co-advisor  
 Jared Wong (undergraduate), co-advisor  
 Brian Schmitt (undergraduate), advisor

Oleg Kargaltsev

Curriculum Vitae

Michael Pagano (undergraduate), co-advisor