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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 from neutron stars”; Advisor: Prof. Yakov Istomin
1992-1996	B.S., Physics, Moscow Institute of Physics and Technology, Russia

8/2017-present	Associate Professor, Department of Physics, George Washington University
8/2012-8/2017	Assistant Professor, Department of Physics, George Washington University
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
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, Moscow, Russia

During 2008-2020, Kargaltsev was PI of 31 and Co-I of 22 NASA and NSF funded programs with the total awarded federal funding of \$2.9M (after subtracting co-investigator shares). Of these \$0.9M were awarded at UF (2008-2012) and \$2M while at GW (2012-current).

*Below is the complete list of funded research programs (including observing, archival, and theory programs; the dollar amounts are after subtracting the Co-Is shares).*

NuSTAR Cycle **Principal Investigator**, “The Vela Pulsar and Its PWN in Hard X-rays”, **\$73K**, Dates: 01/01/2021-12/31/2021, **NASA**

Chandra Cycle 22	<b>Principal Investigator</b> , “Magnetosphere-PWN Connection: Resolving the X-ray PWN around the MeV PSR J1849-0001”, <b>\$63K</b> , Dates: 02/20/2021-02/20/2023, <b>NASA/SAO</b>
Chandra Cycle 22	Co- Investigator, “The moving filament of the Guitar nebula”, <b>\$32K</b> , Dates: 02/20/2021-02/20/2023, <b>NASA/SAO</b>
Chandra Cycle 22	Co- Investigator, “Survey of gamma-ray pulsars“, <b>\$27.4K</b> , Dates: 03/15/2021-03/15/2023, <b>NASA/SAO</b>
Hubble Cycle 27	Co-Investigator, “External and internal heating in the old pulsar PSR B0950+08”, <b>\$15.2K</b> , Dates: 06/01/2020-05/31/2023, <b>NASA/STScI</b>
Chandra Cycle 21	<b>Principal Investigator</b> , “X-ray content of Galactic Fermi LAT 4FGL sources”, <b>\$60K</b> , Dates: 01/29/2020-01/28/2022, <b>NASA/SAO</b>
NASA ADAP	<b>Principal Investigator</b> , “Multiwavelength Identification of Galactic High-Energy Sources”, <b>\$266.5K</b> , Dates: 02/24/2019-02/23/2022, <b>NASA ADAP</b>
Chandra Cycle 20	<b>Principal Investigator</b> , “Discovering compact objects in intermediate clusters”, <b>\$80K</b> , Dates: 04/01/2019-03/31/2021, <b>NASA/SAO</b>
Chandra Cycle 20	Co-Investigator (PI N. Klingler, PSU), “The Pulsar Wind Nebula of PSR J1016-5857”, <b>\$23.3K</b> , Dates: as soon as the observation takes place (currently scheduled for September 2019), <b>NASA/SAO</b>
Chandra Cycle 19	<b>Principal Investigator</b> , “Discovering extended sources in Chandra images”, <b>\$74.9K</b> , Dates: 01/01/2018-12/31/2019, <b>NASA/SAO</b>
Chandra Cycle 19	<b>Principal Investigator</b> , “X-ray Imaging of the High-mass Gamma-ray Binary HESS J0632+057”, <b>\$63K</b> , Dates: 01/01/2018-12/31/2019, <b>NASA/SAO</b>
Chandra Cycle 19	Admin. Investigator (science PI my GW PhD student Jeremy Hare), “Bright X-ray counterparts of galactic 3FGL sources”, <b>\$14.2K</b> Dates: 01/01/2018-12/31/2019, <b>NASA/SAO</b>
Chandra Cycle 19	Co-Investigator (PI R. Romani, Stanford University), “The Answer is Blowing in the Wind: Jet Sweepback in Three PWNe”, <b>\$41.5K</b> , Dates: 01/01/2018-12/31/2019, <b>NASA/SAO</b>
Chandra Cycle 19	Co-Investigator (PI A. Timokhin, NASA GSFC), “Testing pair production in pulsar magnetosphere”, <b>\$8.9K</b> , Dates: 01/01/2018-12/31/2019, <b>NASA/SAO</b>
Chandra Cycle 19	Co-Investigator (PI B. Rangelov, TSU), “Multi-wavelength classification of X-ray sources in M33”, <b>\$21.7K</b> , Dates: 01/01/2018-12/31/2019, <b>NASA/SAO</b>
Fermi Cycle 10	<b>Principle Investigator</b> , “Multiwavelength Identification of Fermi LAT Sources”, <b>\$57.9</b> , Dates: 01/01/2018-12/31/2018, <b>NASA/GSFC</b>
XMM-Newton Cycle 16	Admin. Investigator (science PI my GW PhD student Jeremy Hare), “Bright X-ray counterparts of galactic 3FGL sources”, <b>\$46.2K</b> , Dates: 01/01/2018-12/31/2018, <b>NASA/GSFC</b>
XMM-Newton Cycle 16	<b>Principle Investigator</b> , “Features in the X-ray spectrum of an isolated rotation-powered pulsar”, <b>\$79.7K</b> , Dates: 01/01/2018-12/31/2018, <b>NASA/GSFC</b>

NuSTAR Cycle 2	<b>Principle Investigator</b> , “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	<b>Principle Investigator</b> , “Sleuthing for compact objects accreting from the interstellar medium”, <b>\$56K</b> , Dates: 01/01/2017-12/31/2017, <b>NASA/GSFC</b>
Hubble Cycle 23	<b>Principle Investigator</b> , “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>\$45K</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	<b>Principle Investigator</b> , “Detailed study of PSR B0656+14”, <b>\$53.3K</b> , Dates: 02/08/2016-02/07/2017, <b>NASA/GSFC</b>
Chandra Cycle 16	<b>Principle Investigator</b> , “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	<b>Principle Investigator</b> , “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	<b>Principle Investigator</b> , “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> , Dates: 01/30/2013-01/31/2015, <b>NASA</b>
NASA ADAP	<b>Principle Investigator</b> , “XMM-Newton observation of a new energetic pulsar”, <b>\$32.4K</b> , Dates: 01/30/2013-01/31/2015, <b>NASA/GSFC</b>
Hubble Cycle 20	<b>Principle Investigator</b> , “Multiwavelength spectra of the fine structure of the Crab”, <b>\$29.3K</b> , Dates: 11/29/2012-11/29/2015, <b>NASA/STScI</b>
Chandra Cycle 14	<b>Principle Investigator</b> , “Unveiling the Nature of Galactic Sources Detected by Chandra”, <b>\$64.5K</b> , Dates: 02/27/2013-02/28/2016, <b>NASA/SAO</b>
Chandra Cycle 14	<b>Principle Investigator</b> , “PSR J1906+0746: Cheshire cat's grin”, <b>\$36.7K</b> , Dates: 07/12/2013-07/11/2015, <b>NASA/SAO</b>
Chandra Cycle 14	<b>Principle Investigator</b> , “Multiwavelength spectra of the fine structure of the Crab”, <b>\$13.1K</b> , <b>Dates:</b> 11/29/2013-11/28/2015, <b>NASA/SAO</b>
LP Chandra Cycle 14	<b>Principle Investigator</b> , “A comparative study of two outstanding pulsar tails”, <b>\$69.6K</b> , Dates: 06/01/2013-31/05/2016, <b>NASA/SAO</b>
XVP Chandra Cycle 14	Co-Investigator, “A Legacy Study of the Relativistic Shocks of PWNe”, <b>\$59.9K</b> , 11/18/2012-11/19/2015, <b>NASA/SAO</b>
Chandra Cycle 13	<b>Principal Investigator</b> , “Is HESS J1741-302 truly dark?”, <b>\$35.1K</b> , <b>Dates:</b> 10/28/2013-10/27/2014, <b>NASA/SAO</b>

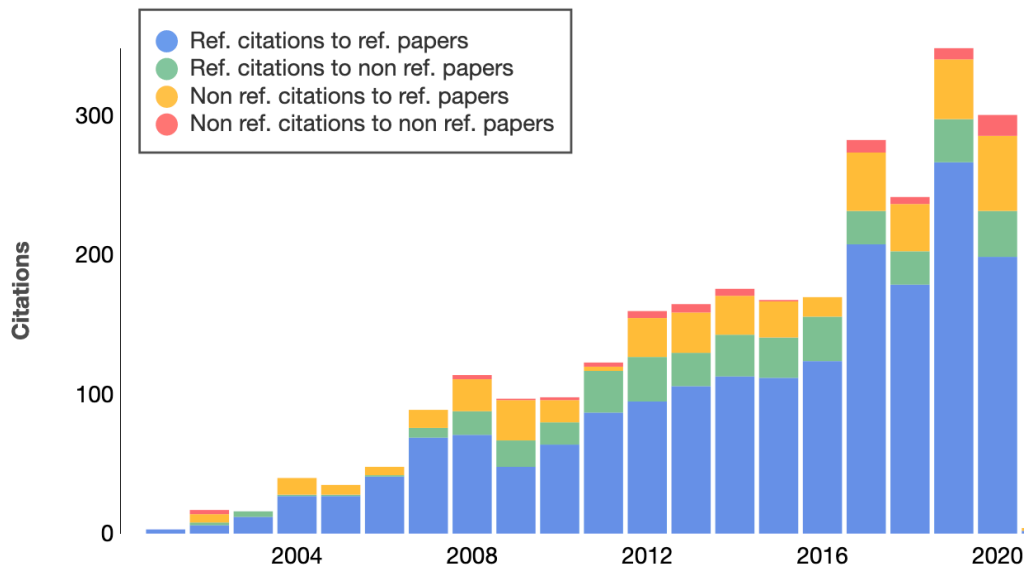
NASA ADAP	Co-Investigator, "Archival Study of Isolated Pulsars and Their Winds", <b>\$64.5K</b> , Dates: 10/01/12-09/30/12, <b>NASA/GSFC via PSU</b>
Chandra Cycle 11	Co-Investigator, "Young, hot PSR J1357-6429 and its PWN", <b>\$18.2K</b> , Dates: 01/25/13-01/24/14, <b>NASA/SAO</b>
Chandra Cycle 10	<b>Principal Investigator</b> , "X-ray emission from the double neutron star binary J1537+1155", <b>\$12.8K</b> , Dates: 01/18/13-01/17/2014, <b>NASA/SAO</b>
Chandra Cycle 13	Co-Investigator, "The puzzling outflow from the PSR B1259-63/SS 2883 binary", <b>\$21.7K</b> , Dates 12/19/2012-05/18/2015, <b>NASA/SAO</b>
Hubble Cycle 19	Co-Investigator (Admin. PI), "Thermal emission from the famous double pulsar J0737-3039", <b>\$35.8K</b> , Dates: 11/29/2012 - 11/30/2016, <b>NASA/STScI</b>
Hubble Cycle 18	<b>Principal Investigator</b> , "ACS polarimetry of the Vela pulsar-wind nebula", <b>\$42K</b> , Dates: 02/01/2013-01/31/2014, <b>NASA/STScI</b>

***Projects funded while at University of Florida (2008-2012):***

Chandra Cycle 12	<b>Principal Investigator</b> , "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 infrared", <b>\$30K</b> , Dates: Closed, <b>NASA/STScI</b>
Chandra Cycle 11	<b>Principal Investigator</b> , "The long tail of PSR J1740+1000", <b>\$43.1K</b> , Dates: Closed, <b>NASA/SAO</b>
XMM-Newton Cycle 8	<b>Principal Investigator</b> , "Searching for PWNe in three center-filled Supernova Remnants", <b>\$40.3K</b> , Dates: Closed, <b>NASA</b>
Suzaku Cycle 4	<b>Principle Investigator</b> , "Crushed plerion HESS J1809-193: TeV to X-ray connection", <b>\$25.2K</b> , Dates: Closed, <b>NASA/SAO</b>
NSF AAG	<b>Principal Investigator</b> , "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	<b>Principal Investigator</b> , "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>

**Summary of Publications (publication list is available at request):**

**218 publications (88 refereed), cited more than 2,310 times** according to NASA Astrophysics Data System (as of 01/05/2021, excluding self-citations; see [https://ui.adsabs.harvard.edu/search/q=author%3A\"Kargaltsev\"](https://ui.adsabs.harvard.edu/search/q=author%3A\) for an up-to-date publication list). These include: first-author article in Science (journal impact factor 31.5), 67 articles in the Astrophysical Journal, 11 articles in other referred journals and publications, and 2 referred book chapters (as a leading author). The latest 37 peer-reviewed articles and two book chapters have been written while at GW. Other popular metrics: *h*-index=34 (Google Scholar); *tori*-index=14.9 (NASA ADS).



Number of citations per year for papers authored or co-authored by Kargaltsev as a function of time. *Source – NASA ADS:*

<https://ui.adsabs.harvard.edu/search/q=%20author%3A%22Kargaltsev%22&sort=date%20desc%2C%20bibcode%20desc/metrics>

### **Awards, nominations, and fellowships:**

2019	CCAS Dean's Research Chair award
2016	GW OVPR Early Career Researcher 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 Zaccheus 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

### **Professional Peer Review Panel Service:**

Natural Sciences and Engineering Research Council of Canada, external reviewer: 2018/12  
 NASA Postdoctoral Fellowship program: 2018/11, 2018/04, 2017/08, 2016/03, 2015/12, 2014/11, 2011/08  
 NASA *Chandra X-ray Observatory* panels: 2018/06, 2014/06, 2010/06  
 NYU Abu Dhabi Research Enhancement Fund, external reviewer: 2016/03  
 European Space Agency *XMM-Newton X-ray Observatory* panel: 2015/11  
 NASA *NuSTAR X-ray Observatory Cycle 1* panel: 2015/02  
 NASA *Hubble Space Telescope Cycle 21* panel: 2013/05 :  
 NASA *Fermi Gamma-ray Observatory* panel: 2010/04  
 NASA Astrophysics Data Analysis panel: 2009/08

### **Journal Refereeing:**

Regular reviewer (5-6 papers per year) for top-ranked international astronomy and astrophysics journals including *Nature*, *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:**

- 2017 – present Member of eXTP collaboration (X-ray timing mission) led by China with NASA contribution
- 2016 – present Member of AMEGO (gamma-ray mission proposed to NASA) team
- 2015 – present Member of Athena X-ray Observatory Science Working Group
- 2014 – present Member of SCORPIO team (developing new instrument for Gemini 8-m telescope)
- 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 scientists)
- 2008 – present Associate Member of the VERITAS collaboration

**Press releases:**

- “A tale of two pulsars' tails”, [the Pennsylvania State University News Release](#), 01/17/2017
- “Observatories combine to crack open the Crab nebula”, [NASA/STScI News Release](#), 05/10/2017
- “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

**Postdoctoral scholars/scientists supervised:**

- Igor Volkov, 2017-current
- Blagoy Rangelov, 2013-2016, now assistant professor (tenure-track) at the Texas State University
- Martin Durant, 2008-2012, now data scientist and software engineer at Continuum Analytics

**Physics Ph.D. Students Directed at GW:**

- Steven Chen, Ph. D. student
- Hui Yang, Ph. D. candidate, expected to defend in 2023
- Jeremy Hare, Ph. D. in 2018, NASA postdoctoral fellow at GSFC
- Noel Klingler, Ph. D. in 2018, postdoc at the Pennsylvania State University
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**Graduate Committee membership outside GW:**

- Louis du Plessis, North-West University, South Africa

**Undergraduate Physics students supervised at GW:**

- Isabella Grimaldi, GW Astronomy major, 2020-current

- Delaney Dunne, McGill University, Canada, summer 2019 project
- Derek Brehm (now graduate student at the John Hopkins University)
- Ali Ajmiri (now Systems Developer at Accenture Federal Services)
- Laura Carpenter (now Manager, Acquisition Marketing at Casper)
- Jacob Mator Aketch (now Research and Teaching Assistant at University of Juba)

### High-school student research at GW:

- Annie Chen, Harrison High, NY, 2021
- Aidan Smith, Basis DC, 2020
- Samantha O’Sullivan, 2017-2018, now undergraduate student at Harvard University
- Amir McGettrick, 2016
- Corinne Hall, 2016-2017

### Teaching:

- “Stars, Planets and Life in the Universe” (ASTR 1001)
- “Origins of Cosmos” (ASTR-1002)
- “Space Astrophysics” (ASTR-3161)
- “Computational Physics” (PHYS-3181)
- “Applied Statistics and Data Analysis in Physics” (PHYS 6810)
- “Special Topics in Astrophysics” (PHYS 8150)
- “Astrophysics II” (PHYS 6370)

Table 1: Courses taught at GW.

Semester	Course	Course Title	Students	Credits	Level
Spring 2021	AST 1002-10	Origins of the Cosmos	60	4	iUG
Fall 2020	–	Teaching release (Dean’s Research Chair award)	–	–	–
Spring 2020	PHYS 6810*	Applied Statistics and Data Analysis in Physics	9	3	G
Spring 2020	ASTR-3161	Space Astrophysics	11	3	aUG
Spring 2020	PHYS 4195	Undergraduate Research in Astrophysics	1	3	aGU
Fall 2019	PHYS-6730	Astrophysics II	4	3	G
Spring 2019	–	sabbatical	–	–	–
Fall 2018	–	sabbatical	–	–	–
Spring 2018	PHYS 6810*	Applied Statistics and Data Analysis in Physics	5	3	G
Spring 2018	PHYS 3181	Computational Physics	6	3	aUG
Fall 2017	ASTR-1001-11	Stars, Planets, and Life in the Universe ( <i>Scale-Up</i> )	64	4	iUG
Spring 2017	PHYS 3181	Computational Physics	5	3	aUG
Fall 2016	ASTR-1001-10	Stars, Planets, and Life in the Universe (Lect.)	102	4	iUG
Fall 2016	ASTR-1001-30	Stars, Planets, and Life in the Universe (Lab)	22	0	iUG
Fall 2016	ASTR-1001-31	Stars, Planets, and Life in the Universe (Lab)	28	0	iUG
Fall 2016	ASTR-1001-32	Stars, Planets, and Life in the Universe (Lab)	24	0	iUG
Fall 2016	ASTR-1001-33	Stars, Planets, and Life in the Universe (Lab)	28	0	iUG
Spring 2016	ASTR-3161	Space Astrophysics	11	3	aUG
Spring 2016	PHYS 6810*	Applied Statistics and Data Analysis in Physics	8	3	G
Fall 2015	–	Mid-tenure teaching release	–	–	–
Spring 2015	AST 1002-11	Origins of the Cosmos ( <i>Scale-Up</i> )	49	4	iUG
Spring 2015	PHYS 4195	Undergraduate Research in Astrophysics	1	3	aGU
Spring 2015	PHYS 8150	Selected Topics in Astrophysics	4	3	G
Fall 2014	AST 1002	Origins of the Cosmos ( <i>Scale-Up</i> )	58	4	iUG
Fall 2014	PHYS 4195	Undergraduate Research in Astrophysics	2	3	aGU
Spring 2014	ASTR-3161 <sup>†</sup>	Space Astrophysics	3	3	aUG
Spring 2014	PHYS-6630 <sup>†</sup>	Astrophysics I	3	3	G
Spring 2014	PHYS 4195	Undergraduate Research in Astrophysics	2	3	aGU
Fall 2013	AST 1002-11	Origins of the Cosmos ( <i>Scale-Up</i> )	36	4	iUG
Fall 2013	PHYS 4195	Undergraduate Research in Astrophysics	1	3	aGU
Spring 2013	ASTR-3161	Space Astrophysics	4	3	aUG
Spring 2013	PHYS 4195	Undergraduate Research in Astrophysics	1	3	aGU
Fall 2012	–	teaching release	–	–	–

Notes: iUG – introductory undergraduate, aUG – advanced undergraduate (3XXX or higher number), G – graduate; \* – taught 1/3 of the course content; <sup>†</sup> – these two courses were cross-listed and taught simultaneously.

**Service appointments at GW:**

- Columbian College of Arts and Sciences Graduate Committee member, 05/2019 – present
- GW OVPR Advisory Council on Research, 09/2019-present
- Graduate Admissions Director for Physics Department, 01/2016-present
- Department of Physics Graduate Committee member, 2016-2018, 2019-present
- Department of Physics Website Committee Chair, 2020-present
- Member of the astrophysics faculty search committee in 2015-2016, 2019-2020
- Physics Department Colloquium Committee, Member, 2012, 2014, 2019
- Chair of the Astronomy Intro Courses teaching team, 2014-2015
- Physics Department Web Committee, Member, 2013-2015, 2019
- Physics Department Equipment committee, Member, 2013