Dominique M. Segura-Cox

Independent Postdoctoral Prize Fellow

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EDUCATION

University of Illinois at Urbana-Champaign, Urbana, Illinois

2011 - 2017

Ph.D. in Astronomy, Illinois Distinguished Fellow

Thesis: "Observations of Disks around the Youngest Protostars: Characterizing Frequency,

Dust Properties, and Magnetic Fields at the Earliest Times"

Advisor: Prof. Leslie Looney

University of Michigan, Ann Arbor, Michigan

2007 - 2011

B.S. in Astrophysics and Astronomy, Michigan Tradition Award

Graduated with High Honors, GPA: 3.544 / 4.000

Advisor: Prof. Sally Oey

Member: Women in Science and Engineering Residential Program (2007 – 2008)

HIGHLIGHTS

- ⇒ ~\$634,473 total in funding \$365,000 as Principal Investigator
- ⇒ h-index = 29 60 total papers 2484+ citations average 42+ citations/paper
- ⇒ first author papers average <u>73+ citations/paper</u> (full list of publications available below)
- ▶ 7 papers with over 100 citations, including 1 first-author paper
- ⇒ 35 external talks 18 invited talks, including 3 reviews and 3 colloquia
- ⇒ 19 approved proposals 7 facilities 203 hours total
- ⇒ 10 total student mentees 7 undergraduate 3 graduate 3 current

ACTIVE RESEARCH AREAS

- Observing properties of young protostellar disks still embedded in their larger-scale natal envelopes
- > Investigating the influence of infalling envelope/streamers on disk structure/evolution and multiplicity
- > Examining substructures in embedded disks to search for the earliest footholds of planet formation

PROFESSIONAL APPOINTMENTS

National Science Foundation Astronomy & Astrophysics Postdoctoral Fellow

2021 - Present

The University of Texas at Austin

Mentor: Assoc. Prof. Stella Offner

Visiting Scientist

2021 - Present

Max Planck Institute for Extraterrestrial Physics, Center for Astrochemical Studies

Postdoctoral Researcher

2017 - 2021

Max Planck Institute for Extraterrestrial Physics, Center for Astrochemical Studies Advisor: Prof. Dir. Paola Caselli

Graduate Research Assistant University of Illinois Astronomy Department Advisor: Prof. Leslie Looney, Mentor: Prof. You-Hua Chu	2011 – 2017
Graduate Student Grader University of Illinois Astronomy Department	2011 – 2015
FUNDING	
~\$634,473 total — \$365,000 as Principal Investigator	
National Science Foundation Astronomy & Astrophysics Postdoctoral Fellowship National Science Foundation Fellowship, <u>\$310,000</u> , AST–2102405, <i>Principal Investiga</i>	2021 - 2024 ator
Conference: 21st Annual Symposium of the NSF AAPF Fellows National Science Foundation Grant, <u>\$44,473</u> , AST–2236620, <i>Lead Author</i>	2022
SOFIA Cycle 4 General Observing Grant SOFIA Science Mission Operations, \$55,000 for Project #04_0170, Science Principal I	2015 Investigator
ALMA NRAO Student Observing Support Fellowship National Radio Astronomical Observatory, ~\$35,000 for one year of graduate stipend	2015
VLA NRAO Student Observing Support Fellowship National Radio Astronomical Observatory, ~\$35,000 for one year of graduate stipend	2013
Illinois Distinguished Fellowship University of Illinois, ~\frac{\$155,000}{} for three years of graduate stipend & tuition	2011
AWARDS	
Best Poster Award Protostars and Planets VII Conference, elected by popular vote from 647 posters	2023
Mr. and Mrs. Hsiang-Pai and Wen-Hua Chu Department of Astronomy Excellence in	Research
Graduate Student Award University of Illinois Astronomy Department	2017
Excellence Award in Recognition of Academic Excellence & Good Citizenship University of Illinois	2016 & 2017
Astronomy Undergraduate Research Award University of Michigan Department of Astronomy	2011
Astronomy Undergraduate Service Award University of Michigan Department of Astronomy	2011
TESTIMONIALS: RECENT WRITTEN EXPRESSIONS OF GRA	ATITUDE
Scientist at an American National Lab	
≫ "[] your nature [sic] paper on planets < 500k years old played a major role in mot	ivating a ~\$5

'[...] your nature [sic] paper on planets < 500k years old played a major role in motivating a ~\$5 million LANL proposal we just wrote to do 3D rad hydro sims of forming giant planets in PPDs (now we have to hope we get funding). Yours is a great result!" April 2023

Postdoctoral Researcher

> "I will always be incredible [sic] thankful to you for teaching me how to write better and communicate better in proposals. If I write better now it is thanks to you. Period. You gave a skill that is so important and I am really so thankful for that." Sep 2023

Graduate Students

Feb 2024

- "Thank you so much, Dom!! You've been so helpful and supportive. I hope I'll get to see you again physically and let me buy you a meal/drink when that happens!" May 2023
- "Your mega comments were useful to set my big goal in nicer words:) thanks a lot for all the help!"
 Oct 2023
- → "Thanks a lot for such a nice message! It will definitely motivate me to continue with these things (and also to apply for postdocs more seriously :D). [...] Also, I should thank you for making streamers cool! [...] Let me know if you will be free to chat sometime." Oct 2023

Undergraduate Student

"This summer has been a blast---looking back we did a lot of work---and while it may have been tedious at times, overall it felt like nothing at the time. Working with you and your high energy yet relaxed attitude made the time fly."
Aug 2023

Teacher

"You hit it 'out of the park' with your OKC Astro Club presentation on March 10th! We've received so many positive compliments. You spoke to the level of most Club members and for that, I'm so grateful. You also spoke eloquently and passionately regarding how to engage others in Astronomy and the need to do so!"
Mar 2023

Layperson

"Thank you for your kind reply. You are so kind and gentle, I am really impressed. I will consider your advice seriously." Nov 2023

LEADERSHIP ON LARGE OBSERVING PROGRAMS

PROtostars & DIsks: Global Evolution (PRODIGE)

NOEMA, MPG-IRAM Observing Program L19MB, 620 hours, observations ongoing 2019 – Present Co-PIs: Paola Caselli & Thomas Henning

- Acting as the Primary Science Coordinator for co-PI Caselli's half of the program (32 Class 0/I targets)
- > Drafted the proposal, defined scientific rationale, set observing strategy, and selected targets
- Developed calibration and imaging procedures
- Authored a 75pg+ data reduction and imaging cookbook for the program, to be released for public use
- Designed and organized Ph.D. and postdoc projects
- > Organized a team meeting (June 2023) that resulted in 15+ new project ideas with in-hand data

Fifty AU STudy of the chemistry in the disk/envelope system of Solar-like protostars (FAUST)

ALMA, Large Program 2018.1.01205.L, 152 hours, observations complete

2018 – Present Co-PIs: Satoshi Yamamoto, Cecilia Ceccarelli, Claire Chandler, Claudio Codella & Nami Sakai

- ➤ Acting as the <u>Primary Source Coordinator</u> for 1 of 13 targets
- Managing advanced data reduction efforts to maximize science exploitation
- ▶ Identified primary science goals for multiple team projects

EXTERNAL RESEARCH TALKS

35 external talks — 18 invited talks, including 3 reviews and 3 colloquia

(35) Rice University Department of Physics and Astronomy Seminar, invited Spring 2024

(34) Niels Bohr Institute Starplan Seminar, invited

(33) SUL4LIFE Kick-off Meeting, invited Jan 2024

(32) 243rd Meeting of the American Astronomical Society Jan 2023

22nd Annual NSF-AST Postdoctoral Fellows Symposium

(31) 243rd Meeting of the American Astronomical Society	Jan 2024
(30) Protostars and Planets VII Conference: Best Poster Award Prize Talk, invited	Apr 2023
(29) University of Michigan Department of Astronomy, colloquium	Feb 2023
(28) 241st Meeting of the American Astronomical Society	Jan 2023
(27) 241st Meeting of the American Astronomical Society, invited NRAO/ngVLA Special Session: <i>Chemical Probes of Astrophysical Systems</i>	Jan 2023
(26) From Clouds to Planets II: The Astrochemical Link, review	Oct 2022
(25) University of Michigan Star and Planet Formation Journal Club, invited	Mar 2022
(24) Jodrell Bank Centre for Astrophysics, colloquium	Mar 2022
(23) NSF Astronomy & Astrophysics Postdoctoral Fellows Symposium	Jan 2022
(22) Gaps, Rings, Spirals, and Vortices: Structure Formation in Planet-Forming Disks, review	Oct 2021
(21) Puzzles of Star Formation, invited	Jul 2021
(20) European Astronomical Society Annual Meeting 2021, review Special Session: Streamers: Thinking Outside the Planet-Forming Disk	Jun 2021
(19) From Core to Disk 2	May 2021
(18) University of Illinois Astronomy Department, colloquium	Mar 2021
(17) Five Years after HL Tau: a New Era in Planet Formation	Dec 2020
(16) MPIA Disk Group Seminar, invited	Nov 2020
(15) Harvard-Smithsonian Center for Astrophysics SMA Seminar, invited	Sep 2020
(14) Europlanet Science Congress 2020	Sep 2020
(13) European Astronomical Society Annual Meeting 2020	Jun 2020
(12) Building Blocks of Planets 2020 Workshop, invited	Apr 2020
(11) ALMA2019: Science Results and Cross-Facility Synergies	Oct 2019
(10) European Week of Astronomy and Space Science (EWASS), invited Special Session: <i>The Physics and Chemistry of Class I Protostars in the ALMA Era</i>	Jun 2019
(9) National Radio Astronomical Observatory Lunch Seminar	Jan 2019
(8) Embedded Disk and Planet Formation Workshop: Leiden, invited	Jul 2017
(7) 229th Meeting of the American Astronomical Society	Jan 2017
(6) Harvard-Smithsonian Center for Astrophysics, invited	Dec 2016
(5) Half a Decade of ALMA: Cosmic Dawns Transformed Meeting	Sep 2016
(4) National Radio Astronomical Observatory Lunch Seminar	Feb 2016
(3) Midwest Magnetic Fields Workshop	May 2015
(2) AAS Workshop on Dense Cores: Origin, Evolution, and Collapse	Jul 2014
(1) 69th International Symposium on Molecular Spectroscopy	Jun 2014
RESEARCH POSTERS	
(9) Protostars and Planets VII Conference, Best Poster Award	Apr 2023
(8) Multi-Line Diagnostics of the Interstellar Medium Conference	Apr 2022

(7) Circumplanetary Disks and Satellite Formation II Conference	Mar 2021
(6) The Wonders of Star Formation Conference	Sep 2018
(5) 227th Meeting of the American Astronomical Society	Jan 2016
(4) Circumstellar Disks & Planet Formation Conference	Oct 2014
(3) 223rd Meeting of the American Astronomical Society	Jan 2014
(2) CARMA Science Symposium	Jul 2013
(1) 217th Meeting of the American Astronomical Society	Jan 2011
INCLUSIVITY OR CAREER-FOCUSED TALKS AND PANELS	
(5) Co-presenter of <i>Writing a Successful Observing Proposal</i> Coached students in the University of Texas at Austin Department of Astronomy	Mar 2023
(4) Perspectives from a First-Generation Wolverine, invited Discussed challenges first-generation students can face at the University of Michigan Department Astronomy's Diversity, Equity & Inclusion Seminar Series	Feb 2023 ment of
(3) How the Student Astronomical Society Changed My Life Presented to University of Michigan undergraduates about hidden advantages of peer groups	Feb 2023
(2) Panelist of <i>The Magic Leap & UT Austin Women in Natural Science Career Panel</i> Spoke with University of Texas at Austin undergraduates about career path and advancement	Nov 2021 strategies
(1) Co-presenter of <i>Career Webinar for Ph.D. Students: How to Apply for Your First Postdoc</i> Presented to graduate students at the Max Planck Institute for Extraterrestrial Physics, the Ma Institute for Astrophysics, and the European Southern Observatory	Sep 2020 x Planck
institute for Astrophysics, and the European Southern Coservatory	
PRESS COVERAGE	
	2020 I radio
PRESS COVERAGE Stars and Planets Grow Up as Siblings, Max Planck Society press release ▶ Picked up by news sites worldwide and covered in 15+ languages	I radio
PRESS COVERAGE Stars and Planets Grow Up as Siblings, Max Planck Society press release Picked up by news sites worldwide and covered in 15+ languages Highlighted in a 20-minute interview on the John Bachelor Show, aired on syndicated AM	I radio ase 2020
PRESS COVERAGE Stars and Planets Grow Up as Siblings, Max Planck Society press release Picked up by news sites worldwide and covered in 15+ languages Highlighted in a 20-minute interview on the John Bachelor Show, aired on syndicated AM A Growing Stellar System Directly Fed by the Mother Cloud, Max Planck Society press release	I radio ase 2020 se 2016
PRESS COVERAGE Stars and Planets Grow Up as Siblings, Max Planck Society press release ⇒ Picked up by news sites worldwide and covered in 15+ languages ⇒ Highlighted in a 20-minute interview on the John Bachelor Show, aired on syndicated AM A Growing Stellar System Directly Fed by the Mother Cloud, Max Planck Society press release VLA Reveals Dramatic New Evidence about Star and Planet Formation, NRAO press release	I radio ase 2020 se 2016
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PRESS COVERAGE Stars and Planets Grow Up as Siblings, Max Planck Society press release Picked up by news sites worldwide and covered in 15+ languages Highlighted in a 20-minute interview on the John Bachelor Show, aired on syndicated AM A Growing Stellar System Directly Fed by the Mother Cloud, Max Planck Society press release VLA Reveals Dramatic New Evidence about Star and Planet Formation, NRAO press release APPROVED OBSERVING PROPOSALS AS PRINCIPAL INVESTIGE 19 approved proposals — 7 facilities — 203 hours total [19] ALMA, Project 2022.1.01259.S, Grade A, Are streamers common? An unbiased survey of protostellar envelopes in a star-forming region [18] ALMA, Project 2022.1.00197.S, Grade A, Are envelope-to-disk accretion streamers associated in the star of the streamers associated in the star of the star	ase 2020 se 2016 ATOR 2022 ated with 2022
PRESS COVERAGE Stars and Planets Grow Up as Siblings, Max Planck Society press release Picked up by news sites worldwide and covered in 15+ languages Highlighted in a 20-minute interview on the John Bachelor Show, aired on syndicated AM A Growing Stellar System Directly Fed by the Mother Cloud, Max Planck Society press release VLA Reveals Dramatic New Evidence about Star and Planet Formation, NRAO press release APPROVED OBSERVING PROPOSALS AS PRINCIPAL INVESTIGE 19 approved proposals — 7 facilities — 203 hours total [19] ALMA, Project 2022.1.01259.S, Grade A, Are streamers common? An unbiased survey of protostellar envelopes in a star-forming region [18] ALMA, Project 2022.1.00197.S, Grade A, Are envelope-to-disk accretion streamers associate magnetic fields in a young Class 0 protostar? [17] ALMA, Project 2021.1.01707.S, Grade B, Are envelope-to-disk accretion streamers associated to the protostage of the prot	ase 2020 Se 2016 ATOR 2022 ated with 2022 ated with 2021
PRESS COVERAGE Stars and Planets Grow Up as Siblings, Max Planck Society press release ⇒ Picked up by news sites worldwide and covered in 15+ languages ⇒ Highlighted in a 20-minute interview on the John Bachelor Show, aired on syndicated AM A Growing Stellar System Directly Fed by the Mother Cloud, Max Planck Society press release VLA Reveals Dramatic New Evidence about Star and Planet Formation, NRAO press release APPROVED OBSERVING PROPOSALS AS PRINCIPAL INVESTIGE 19 approved proposals — 7 facilities — 203 hours total [19] ALMA, Project 2022.1.01259.S, Grade A, Are streamers common? An unbiased survey of protostellar envelopes in a star-forming region [18] ALMA, Project 2022.1.00197.S, Grade A, Are envelope-to-disk accretion streamers associate magnetic fields in a young Class 0 protostar? [17] ALMA, Project 2021.1.01707.S, Grade B, Are envelope-to-disk accretion streamers associate magnetic fields in a young Class 0 protostar? [16] APEX, Project M9524C_107, Grade A, Does a planet-forming Class I disk accrete from continuous contents.]	ase 2020 se 2016 ATOR 2022 ated with 2022 ated with 2021 are 2021

(13) NOEMA, Project W19AK, <u>Grade B</u> , Chemically and Kinematically Probing into the Disks of Class 0 Protostars	Two 2019
(12) NOEMA, Project W19AG, Grade B, Envelope to Disk: The Composition of Accretion	2019
(11) NOEMA , Project W18AS, <u>Grade A</u> , <i>The Origins of Complex Organic Molecule Emission in Protostars</i>	2018
(10) NOEMA , Project W18AN, <u>Grade B</u> , Linking the Stages of Star Formation: Kinematics and Chemistry of Class I Protostar TMC1A	2018
(9) ALMA, Project 2018.1.01634.S, <u>Grade A</u> , <u>Chemistry Associated with the Protostellar Disk with Youngest-Known Dust Rings</u>	h the 2018
(8) ALMA , Project 2018.1.01348.S, <u>Grade C</u> , <u>Doubling the Number of Class 0/I Disks Through Lin</u> Observations of Perseus Candidates	ne 2018
(7) ALMA, Project 2017.1.01078.S, <u>Grade B</u> , Doubling the Number of Class 0/I Disks Through Lin Observations of Perseus Candidates	ne 2017
(6) SMA , Project 2017A-S044, <u>B Rating</u> , First Detection of Disks around Class 0/I Protostars in Cepheus	2017
(5) ALMA, Project 2015.1.01512.S, <u>Grade A</u> , Has Planet Formation Already Begun in the Class I Protostellar Phase?	2015
(4) ALMA, Project 2015.1.01053.S, Grade C, Confirming the First Class 0 Circumbinary Disk	2015
(3) SOFIA , Project #04_0170, <u>Must Observe category</u> , FIR Polarization of Large-Scale Emission of Young Protostars: The TADPOL+E Survey	around 2015
(2) CARMA, Project c1188, Grade B, Probing Magnetic Braking with the Disk of Class 0 Source I	2013
(1) CARMA, Project c1122, Grade C, The Inner Envelope Kinematics of the Class 0 Source L1527	,
ON-SITE OBSERVING EXPERIENCE	2013
CARMA Observing Shifts, 35 days Solution Completed five week-long, 24 hours-a-day shifts which included controlling the telescope array, checking weather conditions, cooperatively taking data for other scientists, and assessing data quantum conditions.	
CARMA Summer School Learned to operate the CARMA telescope array, designed and carried out first millimeter-wave observing project, received training in interferometric data reduction and analysis techniques	2012

TECHNICAL SKILLS

Facilities: Extensive experience with ALMA, NOEMA, VLA, SMA, CARMA, IRAM-30m, APEX, SOFIA, *Spitzer*

Observational techniques: Skilled with advanced interferometric calibration and analysis including self-calibration of long-baseline data, handling polarization observations, and modeling in the *uv*-plane

Astronomical software: Proficient with CASA, GILDAS, MIRIAD, SAOImage DS9, IRAF, SMART, IMAGER

Programming languages: Comfortable with Python, C, IDL, shell-scripting, R, HTML

TEACHING EXPERIENCE

Enrolled in TIDES Concentration in Teaching and Mentoring. The University of Texas at Austin

> Covers formal pedagogy, inclusive teaching styles, observations, course design 2022 – Present

Informal Instructor of Advanced Interferometric Techniques, various institutions

Ongoing

- ➤ One-on-one or group instruction, available on an as-needed basis
- Assisted at least 4 graduate students and at least 8 postdocs in the past and at present

Guest Instructor, The University of Texas at Austin

Undergraduate Course for Science Majors

▶ Introductory Astronomy, instructed 2 lectures

Fall 2022

Graduate Student Grader*, University of Illinois, *responsibilities included office hours **Graduate Course**

➣ Theoretical Stellar Physics

Spring 2015

Upper-Level Undergraduate Courses for Astronomy Majors

▶ Astronomical Techniques

Spring 2012, Fall 2014

⋄ Solar System & Interstellar Medium

Spring 2013

⋄ Stellar Astrophysics

Fall 2011, Fall 2012

MENTORING EXPERIENCE

10 total students — 7 undergraduate — 3 graduate — 3 current

Postdoc Mentor to Undergraduate Summer Students, The University of Texas at Austin

Primary Supervisor, REU internship program

Andrew Milne

2023 – Present

B.S. candidate at University of Iowa **Primary Supervisor, TAURUS internship program**

⋄ Cayden Kirkpatrick

2022 – Present

B.S. candidate at University of Wisconsin-Madison

Postdoc Mentor to Graduate Students, Max Planck Institute for Extraterrestrial Physics **Research Mentor, with direct supervision role**

Maria Teresa Valdivia-Mena

2020 - Present

- Ph.D. candidate at Max Planck Institute for Extraterrestrial Physics
- Th.D. candidate at Max Flatick histitute for Extratoricstrial Flysics

▶ Carolina Agurto Gangas – FONDECYT Postdoc Fellow at U. de Chile Ph.D. in 2020 from Ludwig-Maximilians-Universität München
2018 – 2020

Research Mentor

▶ Joaquin Zamponi – Postdoc at Max Planck Institute for Extraterrestrial Physics 2019 – 2023 Ph.D. in 2023 from Ludwig-Maximilians-Universität München

Graduate Mentor to Undergraduate Students, University of Illinois

Research Mentor

John DeVries – Currently: Electrical Engineer at Ecliptic Enterprises Corp.
 M.S. in 2019 from California State University, Los Angeles

▶ Jiayin Dong – Currently: Simons Foundation Flatiron Institute Research Fellow 2015 – 2016 Ph.D. in 2022 from Pennsylvania State University

Andrew Nadolski – Currently: Process Engineer at Intel Corp.
 Ph.D. in 2020 from University of Illinois

Zhuchang Zhan - Currently: Data Scientist at Apple
 Ph.D. in 2021 from Massachusetts Institute of Technology

Women in Astronomy Mentor

Sushma Adari – Currently: Data Scientist at SpiderRock Advisors
 B.S. in 2018 from University of Illinois

2014 - 2017

PROFESSIONAL SERVICE

Department Level

Member of Dissertation Advisory Committees

Maria Teresa Valdivia-Mena, Max Planck Institute for Extraterrestrial Physics

2020 - Present2019 - 2023

▶ Joaquin Zamponi, Max Planck Institute for Extraterrestrial Physics
 Organizer of the ExoUpdate Discussion Hour, University of Texas at Austin

2023 – Present

Co-author of Disks Chapter of Scientific Report for Institute Advisory Board, Max Planck Institute for Extraterrestrial Physics 2019

Graduate Student Representative to the Faculty

2016 - 2017

▶ University of Illinois Astronomy Department, elected by peers

Treasurer of Women in Astronomy, University of Illinois Astronomy Department

2014 - 2017

University Level

Co-organizer of the Star and Planet Formation Seminar Series

2018 - 2021

> Joint seminar series coordinated between the Max Planck Institute for Extraterrestrial Physics, the Ludwig-Maximilians-Universität München, and the European Southern Observatory

University of Illinois Fellowship Board Executive Committee

2014

> Served as a student panelist to select campus-wide graduate fellowship recipients

National Level

Lead Conference Organizer: 21st Annual Symposium of the NSF AAPF Fellows

2022 - 2023

▶ Splinter Session at the 241st Meeting of the American Astronomical Society

Chambliss Award Poster Judge, 241st Meeting of the American Astronomical Society

2023

Grant Panel Reviewer

▶ NSF Astronomy and Astrophysics Grant Program

2022

▶ NASA Research Opportunities in Space and Earth Sciences

2022

International Level

Scientific Organizing Committee Member

2023 – Present

Multiplicity in Young Stars Conference, Niels Bohr Institute, Copenhagen, Denmark

Scientific Organizing Committee Member

2023 – Present

Spatio-spectral modeling of ALMA data cubes: Insights and Challenges for ALMA-2030, Charlottesville, VA, USA

Journal Reviewer: Nature, The Astrophysical Journal, The Astrophysical Journal Letters 2016 – Present

SELECT OUTREACH ACTIVITIES

AstroHardCore: Streamed Monthly Astronomy Webinars

Coming 2025

- Structuring a twitch.tv (a streaming site commonly associated with videogames) variety outreach program to bring astronomy to the screens of the general public, on a familiar & interactive platform
- > Currently building a network of academic and academic-adjacent astronomers passionate about outreach and willing to participate as guest stars on the program

Nature, 586, 228 (2020) | **104+ citations**

Astronomy on Tap: Executive Committee Member, Austin, Texas	2023 – Present
Astronomy on Tap: News Segment co-Host, Austin, Texas ⇒ Co-host short segments between main Astronomy on Tap speakers	2023 – Present
 AstroCore: Modules for High School Classrooms, The University of Texas at Austin Developing modules of worksheets, lesson plans, activities, and teachers' notes aimed astronomy into rural classrooms; modules will be published online for broad use by ar Astronomy themes are used to convey core math and science concepts required by Texa education standards for graduation; rural Texas teachers will be contacted to raise programment. 	ny teacher xas state
Guest Speaker, Oklahoma City Astronomy Club, hosted at Science Museum Oklahoma → Presented A Journey through the Many Size Scales of Star and Planet Formation	2023
 YouTube Video Discussion: Science in Stowaway, Max Planck Society, 2-part video int Commented on the scientific accuracy of concepts portrayed in Stowaway, a feature-l Recorded on-set at the Bavaria Filmstadt studio, collaboration between YouTuber Do and the Max Planck Society, German dubbing 	length film
Astronomy on Tap: Speaker, Munich, Germany Presented Baby Photos: Star Formation Caught in the Act, aimed at an audience of the	2020 e general public
 Public Total Eclipse Viewing, University of Illinois ➢ Aided with advanced planning of logistics for off-campus event, led hands-on demonstrates 	2017 strations
Correctional Facility Eclipse Outreach, Harrisburg Juvenile and Vienna Correctional F Engaged with incarcerated juvenile and adult individuals in the path of totality of the u	
Girls Explore Astronomy Summer Camp, University of Illinois → Assisted with organization and presented portions of a week-long astronomy summer 10-12-year-old girls, coordinated with the Champaign Park District	2016 science camp for
 Role Model Video Series, NRAO, video interview Discussed career path and past challenges faced, for NRAO website aimed at the publ 	2016
The American Astronomical Society Astronomy Ambassadors Program Workshop Participated in formal outreach training aimed at early career astronomers	2016
 I-RISE Summer Teacher Workshops, University of Illinois Led, organized, and lectured at two-day workshops aimed at middle and high school n teachers to incorporate astronomy throughout their curricula 	2012 & 2013 math and science
INTERESTS	
Effective leadership and mentoring, watercolor painting, wine, artistic films, video edigames (including the Legend of Zelda, Mario Kart, and Pokémon)	ting, video
PUBLICATIONS also a	vailable on ADS
h-index = 29 — 60 total papers published — 2484+ citations — average 42+ citat	tions/paper
FIRST AUTHOR PAPERS — average 73+ citations/paper	
 Four annular structures in a protostellar disk with an age <500,000 years D. M. Segura-Cox, A. Schmiedeke, J. E. Pineda, I. W. Stephens, M. Fernández-López P. Caselli, ZY. Li, L. G. Mundy, W. Kwon, & R. J. Harris 	z, L. W. Looney,

- *⇒ The VLA Nascent Disk and Multiplicity Survey of Perseus Protostars (VANDAM). V. 18 Candidate Disks around Class 0 and I Protostars in the Perseus Molecular Cloud*
 - D. M. Segura-Cox, L. W. Looney, J. J. Tobin, Z.-Y. Li, R. J. Harris, S. Sadavoy, M. M. Dunham, C. Chandler, K. Kratter, L. Perez, & C. Melis
 ApJ, 866, 161 (2018) | 64+ citations
- > The VLA Nascent Disk and Multiplicity Survey: First Look at Resolved Candidate Disks around Class 0 and I Protostars in the Perseus Molecular Cloud
 - **D. M. Segura-Cox**, R. J. Harris, J. J. Tobin, L. W. Looney, Z.-Y. Li, C. Chandler, K. Kratter, M. M. Dunham, S. Sadavoy, L. Perez, & C. Melis ApJ, 817, 14 (2016) | 55+ citations
- ▶ The Magnetic Field in the Class 0 Protostellar Disk of L1527
 - D. M. Segura-Cox, L. W. Looney, I. W. Stephens, M. Fernández-López, W. Kwon, J. J. Tobin, Z.-Y. Li, & R. Crutcher
 ApJL, 798, 2 (2015) | 61+ citations
- ▶ A Streamer Impacts a Ringed Class I Protostellar Disk: a Molecular Journey at Disk Scales
 D. M. Segura-Cox, J. E. Pineda, P. Caselli, M. T. Valdivia-Mena, M. J. Maureira, A. Schmiedeke, I.
- W. Stephens, L. W. Looney, & M. Fernández-López in preparation, expected submission spring 2024
- PRODIGE Envelope to Disk with NOEMA V. Twin Streamers Feed a Class 0 Protostellar Disk
 D. M. Segura-Cox & the PRODIGE collaboration
 in preparation, expected submission summer 2024
- ▶ An Observational and Statistical Test of Infall-Driven Gravitational Instabilities
 D. M. Segura-Cox, S. S. R. Offner, K. M. Kratter
 - in preparation, expected submission winter 2024
- CO-AUTHOR PAPERS WITH SIGNIFICANT CONTRIBUTION (★ indicates mentee student-led paper; ♦ indicates mentored papers led by other postdocs)
- $(\star 21)$ Exploring the dust grain size and polarization mechanism in the hot and massive Class 0 disk IRAS 16293-2422 B
 - J. Zamponi, J. M. Maureira, H. B. Liu, B. Zhao, **D. M. Segura-Cox**, C.-H. Ko, & P. Caselli arXiv:2311.02521
- (★20) Flow of gas detected from beyond the filaments to protostellar scales in Barnard 5
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