Dominique M. Segura-Cox

Assistant Professor
University of Rochester
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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 = 32 — 83 total papers — 3269+ citations — average 39+ citations/paper
- first author papers average 87+ citations/paper (full list of publications available below)
- 8 papers with over 100 citations, including 1 first-author paper
- 46 external talks — 29 invited talks, including 4 reviews and 9 colloquia
- 19 approved PI proposals — 7 facilities — 203 hours total
- 16 total student mentees — 11 undergraduate — 5 graduate — 9 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

Assistant Professor 2024 – Present
University of Rochester, Department of Physics and Astronomy

Visiting Scientist 2021 – Present
Max Planck Institute for Extraterrestrial Physics, Center for Astrochemical Studies

National Science Foundation Astronomy & Astrophysics Postdoctoral Fellow 2021 – 2024
The University of Texas at Austin
Mentor: Assoc. Prof. Stella Offner

Postdoctoral Researcher 2017 – 2021
Max Planck Institute for Extraterrestrial Physics, Center for Astrochemical Studies
Advisor: Prof. Dir. Paola Caselli

Graduate Research Assistant 2011 – 2017
University of Illinois Astronomy Department
Advisor: Prof. Leslie Looney, Mentor: Prof. You-Hua Chu

FUNDING

~$634,473 total — $365,000 as Principal Investigator

National Science Foundation Astronomy & Astrophysics Postdoctoral Fellowship 2021 - 2024
National Science Foundation Fellowship, $310,000, AST–2102405, *Principal Investigator*

Conference: 21st Annual Symposium of the NSF AAPF Fellows 2022
National Science Foundation Grant, $44,473, AST–2236620, *Lead Author*

SOFIA Cycle 4 General Observing Grant 2015
SOFIA Science Mission Operations, $55,000 for Project #04_0170, *Science Principal Investigator*

ALMA NRAO Student Observing Support Fellowship 2015
National Radio Astronomical Observatory, ~$35,000 for one year of graduate stipend

VLA NRAO Student Observing Support Fellowship 2013
National Radio Astronomical Observatory, ~$35,000 for one year of graduate stipend

Illinois Distinguished Fellowship 2011
University of Illinois, ~$155,000 for three years of graduate stipend & tuition

AWARDS

Best Poster Award 2023
Protostars and Planets VII Conference, elected by popular vote from 647 posters

Mr. and Mrs. Hsiang-Pai and Wen-Hua Chu Department of Astronomy Excellence in Research Graduate Student Award 2017
University of Illinois Astronomy Department

Excellence Award in Recognition of Academic Excellence & Good Citizenship 2016 & 2017
University of Illinois

Astronomy Undergraduate Research Award 2011
University of Michigan Department of Astronomy

Astronomy Undergraduate Service Award 2011
University of Michigan Department of Astronomy

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 Primary Source Coordinator 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

46 external talks — 29 invited talks, including 4 reviews and 9 colloquia

(46) University of Toledo Department of Physics and Astronomy, **colloquium** Nov 2024

(45) European Astronomical Society Annual Meeting 2024, **review** Jul 2024
Special Session: *Disks and winds of young stars*

(44) Center for Computational Astrophysics at the Flatiron Institute, **invited** May 2024

(43) Texas Christian University, Department of Physics and Astronomy, **invited** Mar 2024

(42) Rice University, Department of Physics and Astronomy, **invited** Mar 2024

(41) Central Michigan University, Department of Physics, **colloquium** Mar 2024

(40) University of Rochester, Department of Physics and Astronomy, **colloquium** Mar 2024

(39) University of Oklahoma, Department of Physics and Astronomy, **colloquium** Feb 2024

(38) University of Connecticut, Department of Physics, **invited** Feb 2024

(37) Illinois Institute of Technology, Department of Physics, **colloquium** Feb 2024

(36) University of Cincinnati, Department of Physics, **colloquium** Feb 2024

(35) Niels Bohr Institute Starplan Seminar, **invited** Feb 2024

(34) SUL4LIFE Kick-off Meeting, **invited** Jan 2024

(33) 243rd Meeting of the American Astronomical Society Jan 2024
22nd Annual NSF-AST Postdoctoral Fellows Symposium

(32) 243rd Meeting of the American Astronomical Society Jan 2024

(31) Stellar Feedback in the ISM: Celebrating You-Hua Chu Dec 2023

(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** Jan 2023
NRAO/ngVLA Special Session: *Chemical Probes of Astrophysical Systems*

(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** Jun 2021
Special Session: *Streamers: Thinking Outside the Planet-Forming Disk*

⟪**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** Jun 2019
Special Session: *The Physics and Chemistry of Class I Protostars in the ALMA Era*
⟪**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**⟫ *What Even is Networking?* Dec 2024
Aimed at students in the University of Rochester Department of Physics and Astronomy
⟪**5**⟫ *Applying to Postdocs for the First Time* Oct 2024
Provided overview to students in the University of Rochester Department of Physics and Astronomy
⟪**5**⟫ Co-presenter of *Writing a Successful Observing Proposal* Mar 2023
Coached students in the University of Texas at Austin Department of Astronomy

⟪4⟫ *Perspectives from a First-Generation Wolverine*, **invited** Feb 2023
Discussed challenges first-generation students can face at the University of Michigan Department of Astronomy's Diversity, Equity & Inclusion Seminar Series

⟪3⟫ *How the Student Astronomical Society Changed My Life* Feb 2023
Presented to University of Michigan undergraduates about hidden advantages of peer groups

⟪2⟫ Panelist of *The Magic Leap & UT Austin Women in Natural Science Career Panel* Nov 2021
Spoke with University of Texas at Austin undergraduates about career path and advancement strategies

⟪1⟫ Co-presenter of *Career Webinar for Ph.D. Students: How to Apply for Your First Postdoc* Sep 2020
Presented to graduate students at the Max Planck Institute for Extraterrestrial Physics, the Max Planck Institute for Astrophysics, and the European Southern Observatory

PRESS COVERAGE

Stars and Planets Grow Up as Siblings, Max Planck Society press release 2020
- 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 radio

A Growing Stellar System Directly Fed by the Mother Cloud, Max Planck Society press release 2020

VLA Reveals Dramatic New Evidence about Star and Planet Formation, NRAO press release 2016

APPROVED OBSERVING PROPOSALS AS PRINCIPAL INVESTIGATOR

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* 2022

⟪18⟫ **ALMA**, Project 2022.1.00197.S, Grade A, *Are envelope-to-disk accretion streamers associated with magnetic fields in a young Class 0 protostar?* 2022

⟪17⟫ **ALMA**, Project 2021.1.01707.S, Grade B, *Are envelope-to-disk accretion streamers associated with magnetic fields in a young Class 0 protostar?* 2021

⟪16⟫ **APEX**, Project M9524C_107, Grade A, *Does a planet-forming Class I disk accrete from core scales?* 2021

⟪15⟫ **IRAM 30-meter**, Project 112-20, Grade A, *Does an Accretion Streamer of a Planet-Forming Class I Disk Reach Core Scales?* 2020

⟪14⟫ **NOEMA**, Project W20AG, Grade B, *Envelope to Disk: The Composition of Accretion* 2020

⟪13⟫ **NOEMA**, Project W19AK, Grade B, *Chemically and Kinematically Probing into the Disks of Two Class 0 Protostars* 2019

⟪12⟫ **NOEMA**, Project W19AG, Grade B, *Envelope to Disk: The Composition of Accretion* 2019

⟪11⟫ **NOEMA**, Project W18AS, Grade A, *The Origins of Complex Organic Molecule Emission in Protostars* 2018

⟪10⟫ **NOEMA**, Project W18AN, Grade B, *Linking the Stages of Star Formation: Kinematics and Chemistry of Class I Protostar TMC1A* 2018

⟪9⟫ **ALMA**, Project 2018.1.01634.S, Grade A, *Chemistry Associated with the Protostellar Disk with the Youngest-Known Dust Rings* 2018

⟪8⟫ **ALMA**, Project 2018.1.01348.S, Grade C, *Doubling the Number of Class 0/I Disks Through Line Observations of Perseus Candidates* 2018

⟪7⟫ **ALMA**, Project 2017.1.01078.S, Grade B, *Doubling the Number of Class 0/I Disks Through Line Observations of Perseus Candidates* 2017

⟪6⟫ **SMA**, Project 2017A-S044, B Rating, *First Detection of Disks around Class 0/I Protostars in Cepheus* 2017

⟪5⟫ **ALMA**, Project 2015.1.01512.S, Grade A, *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, Must Observe category, *FIR Polarization of Large-Scale Emission around Young Protostars: The TADPOL+E Survey* 2015

⟪2⟫ **CARMA**, Project c1188, Grade B, *Probing Magnetic Braking with the Disk of Class 0 Source L1527* 2013

⟪1⟫ **CARMA**, Project c1122, Grade C, *The Inner Envelope Kinematics of the Class 0 Source L1527* 2013

ON-SITE OBSERVING EXPERIENCE

CARMA Observing Shifts, 35 days 2013 – 2014

- 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 quality

CARMA Summer School 2012

- 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

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

Instructor of Record, University of Illinois

Introductory Undergraduate Course

- *Introduction to the Milky Way (ASTR 105)* Spring 2025

Studied in TIDES Concentration in Teaching and Mentoring, The University of Texas at Austin

- Covered formal pedagogy, inclusive teaching styles, observations, course design 2022 – 2024

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

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

16 total students — 11 undergraduate — 5 graduate — 9 current

Primary Advisor to Graduate Students, University of Rochester

- **Akza Sam** 2024 – Present
  Ph.D. student, Department of Physics and Astronomy
- **Tristan Bachmann** 2024 – Present
  Ph.D. student, Department of Physics and Astronomy

Primary Advisor to Undergraduate Students, University of Rochester

- **James McKeown** 2024 – Present
  B.S. candidate, Department of Physics and Astronomy
- **Aarav Ahuja** 2024 – Present
  B.S. candidate, Department of Physics and Astronomy & Computer Science
- **Julia Muñoz** 2024 – Present
  B.S. candidate, Department of Mathematics
- **Erica Sundermeyer** 2024 – Present
  B.S. candidate, Department of Physics and Astronomy
- **Radnaabazar Munkh-Orgil** 2024 – Present
  B.S. candidate, Department of Physics and Astronomy & Mechanical Engineering

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
  Products: Research note in prep., poster presented at the 243rd AAS meeting

Primary Supervisor, TAURUS internship program

- **Cayden Kirkpatrick** 2022 – Present
  B.S. in 2024 from University of Wisconsin-Madison
  Products: Research note in prep., talk delivered at the 242nd AAS meeting

Postdoc Mentor to Graduate Students, Max Planck Institute for Extraterrestrial Physics

Research Mentor, with direct supervision role

- **Maria Teresa Valdivia-Mena** 2020 – 2024
  Ph.D. in 2024 from Max Planck Institute for Extraterrestrial Physics
  Products: Three first-author publications, 5+ external talks
- **Carolina Agurto Gangas** – FONDECYT Postdoc Fellow at U. de Chile 2018 – 2020
  Ph.D. in 2020 from Ludwig-Maximilians-Universität München

Research Mentor

- **Joaquin Zamponi** – Postdoc at Max Planck Institute for Extraterrestrial Physics 2019 – 2023
  Ph.D. in 2023 from Ludwig-Maximilians-Universität München
  Products: One first-author publication, 2 external talks

Graduate Mentor to Undergraduate Students, University of Illinois

Research Mentor

- **John DeVries** – Currently: Electrical Engineer at Ecliptic Enterprises Corp. 2017

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. 2014
  Ph.D. in 2020 from University of Illinois
- **Zhuchang Zhan** – Currently: Data Scientist at Apple 2013
  Ph.D. in 2021 from Massachusetts Institute of Technology

Women in Astronomy Mentor
- **Sushma Adari** – Currently: Data Scientist at SpiderRock Advisors 2014 – 2017
  B.S. in 2018 from University of Illinois

PROFESSIONAL SERVICE

Department Level

Graduate Admissions Committee Member, University of Rochester 2024 – 2025

Organizer of Astronomy Colloquium, University of Rochester 2024 – 2025

Diversity, Equity, and Inclusion Committee Member, University of Rochester 2024 – 2025

Ph.D. Qualification Exam Committee Member
- Hilary Utaegbulam, University of Rochester 2024
- Kristin Ringhand, University of Rochester 2024

Dissertation Advisory Committee Member
- Maria Teresa Valdivia-Mena, Max Planck Institute for Extraterrestrial Physics 2020 – 2024
- Joaquin Zamponi, Max Planck Institute for Extraterrestrial Physics 2019 – 2023

Organizer of the ExoUpdate Discussion Hour, University of Texas at Austin 2023 – 2024

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, Astronomy & Astrophysics 2016 – Present

SELECT OUTREACH ACTIVITIES

Speaker: Astronomy Section, Rochester Academy of Science, Rochester Institute of Technology 2024

Astronomy on Tap: Executive Committee Member, Austin, Texas 2023 – 2024

Astronomy on Tap: News Segment co-Host, Austin, Texas 2023 – 2024
- Co-host short segments between main Astronomy on Tap speakers

AstroCore: Modules for High School Classrooms, The University of Texas at Austin 2022 – 2024
- Developing modules of worksheets, lesson plans, activities, and teachers' notes aimed at bringing astronomy into rural classrooms; modules will be published online for broad use by any teacher
- Astronomy themes are used to convey core math and science concepts required by Texas state education standards for graduation; rural Texas teachers will be contacted to raise program awareness

Guest Speaker, Oklahoma City Astronomy Club, hosted at Science Museum Oklahoma 2023
- Presented *A Journey through the Many Size Scales of Star and Planet Formation*

YouTube Video Discussion: Science in *Stowaway*, Max Planck Society, 2-part video interview 2021
- Commented on the scientific accuracy of concepts portrayed in *Stowaway*, a feature-length film
- Recorded on-set at the Bavaria Filmstadt studio, collaboration between YouTuber Doktor Whatson and the Max Planck Society, German dubbing

Astronomy on Tap: Speaker, Munich, Germany 2020
- Presented *Baby Photos: Star Formation Caught in the Act*, aimed at an audience of the general public

Public Total Eclipse Viewing, University of Illinois 2017
- Aided with advanced planning of logistics for off-campus event, led hands-on demonstrations

Correctional Facility Eclipse Outreach, Harrisburg Juvenile and Vienna Correctional Facilities 2017
- Engaged with incarcerated juvenile and adult individuals in the path of totality of the upcoming eclipse

Girls Explore Astronomy Summer Camp, University of Illinois 2016
- Assisted with organization and presented portions of a week-long astronomy summer science camp for 10-12-year-old girls, coordinated with the Champaign Park District

Role Model Video Series, NRAO, video interview 2016
- Discussed career path and past challenges faced, for NRAO website aimed at the public

The American Astronomical Society Astronomy Ambassadors Program Workshop 2016
- Participated in formal outreach training aimed at early career astronomers

I-RISE Summer Teacher Workshops, University of Illinois 2012 & 2013
- Led, organized, and lectured at two-day workshops aimed at middle and high school math and science teachers to incorporate astronomy throughout their curricula

PUBLICATIONS

also available on ADS

h-index = 32 — 83 total papers published — 3269+ citations — average 39+ citations/paper

FIRST AUTHOR PAPERS — average 87+ citations/paper

⟪4⟫ *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, L. W. Looney, P. Caselli, Z.-Y. Li, L. G. Mundy, W. Kwon, & R. J. Harris
Nature, 586, 228 (2020) | **154+ citations**

⟪3⟫ *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) | **73+ citations**

⟪2⟫ *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) | **58+ citations**

⟪1⟫ *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) | **62+ citations**

CO-AUTHOR PAPERS WITH SIGNIFICANT CONTRIBUTION (★ indicates mentee student-led paper; ♦ indicates mentored papers led by postdocs)

⟪36⟫ *Sites of Planet Formation in Binary Systems. II. Double the Disks in DF Tau*
T. Kutra, L. Prato, B. M. Tofflemire, R. Akeson, G. H. Schaefer, S.-Y. Tang, **D. M. Segura-Cox**, C. M. Johns-Krull, A. Kraus, S. Andrews, & E. L. N. Jensen
arXiv:2411.05203 (2024)

⟪♦35⟫ *PRODIGE -- envelope to disk with NOEMA. IV. An infalling gas bridge surrounding two Class 0/I systems in L1448N*
C. Gieser, J. E. Pineda, **D. M. Segura-Cox**, P. Caselli, M. T. Valdivia-Mena, M. J. Maureira, T. H. Hsieh, L. A. Busch, L. Bouscasse, A. Lopez-Sepulcre (+6 co-authors)
arXiv:2410.18941 (2024)

⟪34⟫ *The ALMA Legacy Survey of Class 0/I Disks in Corona australis, Aquila, chaMaeleon, oPhiuchus north, Ophiuchus, Serpens (CAMPOS). I. Evolution of Protostellar Disk Radii*
C.-H. Hsieh, H. G. Arce, M. J. Maureira, J. E. Pineda, **D. M. Segura-Cox**, D. Mardones, M. M. Dunham, & A. Arun
ApJ, 973, 138 (2024)

⟪33⟫ *Probing the physics of star formation (ProPStar): III. No evidence of dissipation of turbulence down to 20 mpc (4000 au) scale*
J. E. Pineda, J. D. Soler, S. Offner, E. W. Koch, **D. M. Segura-Cox**, R. Neri, M. Kuffmeier, A. V. Ivlev, M. T. Valdivia-Mena, O. Sipilä (+7 co-authors)
A&A, 690, 5 (2024)

⟪**32**⟫ *Constraints on the primordial misalignment of star-disk systems*
M. Kuffmeier, J. E. Pineda, **D. M. Segura-Cox**, & T. Haugbølle
A&A, 688, 22 (2024)

⟪♦**31**⟫ *FAUST: XVIII. Evidence of annular substructure in a very young Class 0 disk*
M. J. Maureira, J. E. Pineda, H. B.Liu, L. Testi, **D. M. Segura-Cox**, C. Chandler, D. Johnstone, P. Caselli, G. Sabatini, Y. Aikawa (+10 co-authors)
A&A, 689, 5 (2024)

⟪**30**⟫ *FAUST. XVII. Super deuteration in the planet-forming system IRS 63 where the streamer strikes the disk*
L. Podio, C. Ceccarelli, C. Codella, G. Sabatini, **D. M. Segura-Cox**, N. Balucani, A. Rimola, P. Ugliengo, C. J. Chandler, N. Sakai (+48 co-authors)
A&A, 688, 22 (2024)

⟪★**29**⟫ *Probing the physics of star formation (ProPStar). II. The first systematic search for streamers toward protostars*
M. T. Valdivia-Mena, J. E. Pineda, P. Caselli, **D. M. Segura-Cox**, A. Schmiedeke, S. Spezzano, S. Offner, A. V. Ivlev, M. Kuffmeier, N. Cunningham (+2 co-authors)
A&A, 687, 71 (2024)

⟪♦**28**⟫ *PRODIGE - envelope to disk with NOEMA. III. The origin of complex organic molecule emission in SVS13A*
T.-H. Hsieh, J. E. Pineda, **D. M. Segura-Cox**, P. Caselli, M. T. Valdivia-Mena, C. Gieser, M. J. Maureira, A. Lopez-Sepulcre, L. Bouscasse, R. Neri (+11 co-authors)
A&A, 686, 289 (2024)

⟪**27**⟫ *Probing the physics of star formation (ProPStar). I. First resolved maps of the electron fraction and cosmic-ray ionization rate in NGC 1333*
J. E. Pineda, O. Sipilä, **D. M. Segura-Cox,** M. T. Valdivia-Mena, R. Neri, M. Kuffmeier, A. V. Ivlev, S. S. R. Offner, M. J. Maureira, P. Caselli (+4 co-authors)
A&A, 686, 162 (2024)

⟪**26**⟫ *Sites of Planet Formation in Binary Systems. I. Evidence for Disk-Orbit Alignment in the Close Binary FO Tau*
B. M. Tofflemire, L. Prato, A. L. Kraus, **D. M. Segura-Cox**, G. H. Schaefer, R. Akeson, S. Andrews, E. L. N. Jensen, C. M. Johns-Krull, J. J. Zanazzi, M. Simon
AJ, 167, 232 (2024)

⟪**25**⟫ *PRODIGE - planet-forming disks in Taurus with NOEMA. I. Overview and first results for 12CO, 13CO, and C18O*
D. Semenov, Th. Henning, S. Guilloteau, G. Smirnov-Pinchukov, A. Dutrey, E. Chapillon, V. Piétu, R. Franceschi, K. Schwarz, S. van Terwisga (+14 co-authors including **D. M. Segura-Cox**)
A&A, 685, 126 (2024)

⟪**24**⟫ *The Reservoir of the Per-emb-2 Streamer*
K. Taniguchi, J. E. Pineda, P. Caselli, T. Shimoikura, R. K. Friesen, **D. M. Segura-Cox**, & A. Schmiedeke
ApJ, 965, 162 (2024)

⟪**23**⟫ *Cloudlet capture model for the accretion streamer onto the disc of DG Tau*
T. Hanawa, A. Garufi, L. Podio, C. Codella, & **D. M. Segura-Cox**
MNRAS, 528, 658 (2024)

⟪**22**⟫ *A dusty streamer infalling onto the disk of a class I protostar. ALMA dual-band constraints on grain properties and mass infall rate*
L. Cacciapuoti, E. Macias, A. Gupta, L. Testi, A, Miotello, C. Espaillat, M. Kuffmeier, S. van Terwisga, J. Tobin, S. Grant (+8 co-authors including **D. M. Segura-Cox**)
A&A, 683, 61 (2024)

⟪★**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
A&A, 683, 56 (2024)

⟪★**20**⟫ *Flow of gas detected from beyond the filaments to protostellar scales in Barnard 5*
M. T. Valdivia-Mena, J. E. Pineda, **D. M. Segura-Cox**, P. Caselli, A. Schmiedeke, S. Choudhury, S. S. R. Offner, R. Neri, A. Goodman, & G. A. Fuller
A&A, 677, 97 (2023)

⟪♦**19**⟫ *PRODIGE - Envelope to Disk with NOEMA II. Small-scale temperature structure and a streamer feeding the SVS13A protobinary using CH3CN and DCN*
T.-H. Hsieh, **D. M. Segura-Cox**, J. E. Pineda, P. Caselli, L. Bouscasse, R. Neri, A. López-Sepulcre, M. T. Valdivia-Mena, M. J. Maureira, T. Henning (+11 co-authors)
A&A, 669, 137 (2023)

⟪**18**⟫ *Dust Hot Spots at 10 au Scales around the Class 0 Binary IRAS 16293-2422 A: A Departure from the Passive Irradiation Model*
M. J. Maureira, M. Gong, J. E. Pineda, H. B. Liu, K. Silsbee, P. Caselli, J. Zamponi, **D. M. Segura-Cox**, & A. Schmiedeke
ApJL, 941, 2 (2022)

⟪★**17**⟫ *PRODIGE - envelope to disk with NOEMA. I. A 3000 au streamer feeding a Class I protostar*
M. T. Valdivia-Mena, J. E. Pineda, **D. M. Segura-Cox**, P. Caselli, R. Neri, A. López-Sepulcre, N. Cunningham, L. Bouscasse, D. Semenov, T. Henning (+12 co-authors)
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A. Garufi, L. Podio, C. Codella, **D. M. Segura-Cox**, M. Vander Donckt, S. Mercimek, F. Bacciotti, D. Fedele, M. Kasper, J. E. Pineda (+2 co-authors)
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⟪**15**⟫ *A protostellar system fed by a streamer of 10,500 au length*
J. E. Pineda, **D. M. Segura-Cox**, P. Caselli, N. Cunningham, B. Zhao, A. Schmiedeke, M. J. Maureira, & R. Neri
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⟪**14**⟫ *Dust masses of young disks: constraining the initial solid reservoir for planet formation*
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M. J. Maureira, J. E. Pineda, **D. M. Segura-Cox**, P. Caselli, L. Testi, G. Lodato, L. Loinard, & A. Hernandez-Gomez
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⟪12⟫ *The GRAVITY Young Stellar Object survey I. Probing the disks of Herbig Ae/Be stars at terrestrial orbits*
K. Perraut, L. Labadie, B. Lazareff, L. Klarmann, **D. M. Segura-Cox**, M. Benisty, J. Bouvier, W. Brandner, A. Caratti o Garatti, P. Caselli (+70 co-authors)
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⟪♦11⟫ *Gas flow and accretion via spiral streamers and circumstellar disks in a young binary protostar*
F. O. Alves, P. Caselli, J. M. Girart, **D. M. Segura-Cox**, G. A. P. Franco, A. Schmiedeke, & B. Zhao
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⟪10⟫ *The specific angular momentum radial profile in dense cores: improved initial conditions for disk formation*
J. E. Pineda, B. Zhao, A. Schmiedeke, **D. M. Segura-Cox**, P. Caselli, P. C. Myers, J. Tobin, & M. Dunham
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⟪9⟫ *The Mass Evolution of Protostellar Disks and Envelopes in the Perseus Molecular Cloud*
B. C. Andersen, I. W. Stephens, M. M. Dunham, R. Pokhrel, J. K. Jorgensen, S. Frimann, **D. M. Segura-Cox**, P. C. Myers, T. L. Bourke, J. J. Tobin, & L. Tychoniec
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⟪8⟫ *The VLA Nascent Disk and Multiplicity Survey of Perseus Protostars (VANDAM). IV. Free-Free Emission from Protostars: Links to Infrared Properties, Outflow Tracers, and Protostellar Disk Masses*
L. Tychoniec, J. J. Tobin, A. Karska, C. Chandler, M. M. Dunham, R. J. Harris, K. M. Kratter, Z.-Y. Li, L. W. Looney, C. Melis (+4 co-authors including **D. M. Segura-Cox**)
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E. G. Cox, R. J. Harris, L. W. Looney, **D. M. Segura-Cox**, J. J. Tobin, Z.-Y. Li, L. Tychoniec, C. J. Chandler, M. M. Dunham, K. Kratter (+3 co-authors)
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B. Huang, J. M. Girart, I. W. Stephens, M. Fernandez-Lopez, J. J. Tobin, P. Cortes, N. M. Murillo, P. C. Myers, S. Sadavoy, Q. Zhang (+10 co-authors including **D. M. Segura-Cox**)
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R. Franceschi, Th. Henning, G. V. Smirnov-Pinchukov, D. A. Semenov, K. Schwarz, A. Dutrey, E. Chapillon, U. Gorti, S. Guilloteau, V. Piétu (+10 co-authors including **D. M. Segura-Cox**)
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L. Chahine, C. Ceccarelli, M. De Simone, C. J. Chandler, C. Codella, L. Podio, A. López-Sepulcre, N. Sakai, L. Loinard, M. Bouvier (+47 co-authors including **D. M. Segura-Cox**)
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⟪40⟫ *FAUST. XV. A disc wind mapped by CH3OH and SiO in the inner 300 au of the NGC 1333 IRAS 4A2 protostar*
M. De Simone, L. Podio, L. Chahine, C. Codella, C. J. Chandler, C. Ceccarelli, A. López-Sepulcre, L. Loinard, B. Svoboda, N. Sakai (+46 co-authors including **D. M. Segura-Cox**)
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⟪39⟫ *FAUST. XIII. Dusty cavity and molecular shock driven by IRS7B in the Corona Australis cluster*
G. Sabatini, L. Podio, C. Codella, Y. Watanabe, M. De Simone, E. Bianchi, C. Ceccarelli, C. J. Chandler, N. Sakai, B. Svoboda (+47 co-authors including **D. M. Segura-Cox**)
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⟪38⟫ *FAUST XII. Accretion streamers and jets in the VLA 1623-2417 protocluster*
C. Codella, L. Podio, M. De Simone, C. Ceccarelli, S. Ohashi, C. J. Chandler, N. Sakai, J. E. Pineda, **D. M. Segura-Cox**, E. Bianchi (+16 co-authors)
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B. Huang, J. M. Girart, I. W. Stephens, M. Fernández López, H. G. Arce, J. M. Carpenter, P. Cortes, E. G. Cox, R. Friesen, V. J. M. Le Gouellec (+16 co-authors including **D. M. Segura-Cox**)
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⟪36⟫ *The Disk Orientations of Perseus Protostellar Multiples at 8 au Resolution*
N. K. Reynolds, J. J. Tobin, P. D. Sheehan, S. I. Sadavoy, L. W. Looney, K. M. Kratter, Z.-Y. Li, **D. M. Segura-Cox**, & N. A. Kaib
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(35) *Panchromatic (Sub)millimeter Polarization Observations of HL Tau Unveil Aligned Scattering Grains*
Z.-Y. D. Lin, Z.-Y. Li, I. W. Stephens, M. Fernández-López, Carlos Carrasco-González, C. J. Chandler, A. Pasetto, L. W. Looney, H. Yang, R. E. Harrison (+7 co-authors including **D. M. Segura-Cox**)
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(34) *Finding Substructures in Protostellar Disks in Ophiuchus*
A. Michel, S. I. Sadavoy, P. D. Sheehan, L. W. Looney, E. G. Cox, J. J. Tobin, N. van der Marel & **D. M. Segura-Cox**
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(33) *FAUST. V. Hot methanol in the [BHB2007] 11 protobinary system; hot corino versus shock origin*
C. Vastel, F. Alves, C. Ceccarelli, M. Bouvier, I. Jimenez-Serra, T. Sakai, P. Caselli, L. Evans, F. Fontani, R. Le Gal (+56 co-authors including **D. M. Segura-Cox**)
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(32) *Chemical and Physical Characterization of the Isolated Protostellar Source CB68: FAUST IV*
M. Imai, Y. Oya, B. Svoboda, H. Liu, B. Lefloch, S. Viti, Y. Zhang, C. Ceccarelli, C. Codella, C. J. Chandler (+63 co-authors including **D. M. Segura-Cox**)
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(31) *An Interferometric View of H-MM1. I. Direct Observation of NH_3 Depletion*
J. E. Pineda, J. Harju, P. Caselli, O. Sipilä, M. Juvela, C. Vastel, E. Rosolowsky, A. Burkert, R. K. Friesen, Y. Shirley (+7 co-authors including **D. M. Segura-Cox**)
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(30) *SOLIS. XVI. Mass ejection and time variability in protostellar outflows: Cep E*
A. de A. Schutzer, P. R. Rivera-Ortiz, B. Lefloch, A. Gusdorf, C. Favre, **D. M Segura-Cox**, A. López-Sepulcre, R. Neri, J. Ospina-Zamudio, M. De Simone (+30 co-authors)
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(29) *SOLIS. XV. CH_3CN deuteration in the SVS13-A Class I hot corino*
E. Bianchi, C. Ceccarelli, C. Codella, A. López-Sepulcre, S. Yamamoto, N. Balucani, P. Caselli, L. Podio, R. Neri, R. Bachiller (+5 co-authors including **D. M. Segura-Cox**)
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(28) *Misaligned Rotations of the Envelope, Outflow, and Disks in the Multiple Protostellar System of VLA 1623-2417: FAUST. III*
S. Ohashi, C. Codella, N. Sakai, C. J. Chandler, C. Ceccarelli, F. Alves, D. Fedele, T. Hanawa, A. Durán, C. Favre (+72 co-authors including **D. M. Segura-Cox**)
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(27) *The VLA/ALMA Nascent Disk and Multiplicity (VANDAM) Survey of Orion Protostars V. A Characterization of Protostellar Multiplicity*
J. J. Tobin, S. R. Offner, K. M. Kratter, S. T. Megeath, P. D. Sheehan, L. W. Looney, A. K. Diaz-Rodriguez, M. Osorio, G. Anglada, S. I. Sadavoy (+9 co-authors including **D. M. Segura-Cox**)
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(26) *VLA and NOEMA view of the Bok Globule CB 17: the starless nature of a proposed FHSC candidate*
S. Spear, M. J. Maureira, H. Arce, J. E. Pineda, M. Dunham, P. Caselli, & **D. M. Segura-Cox**
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(25) *The GRAVITY Young Stellar Object Survey. VI. Mapping the variable inner disk of HD 163296 at sub-au scales*
J. Sanchez-Bermudez, A. Caratti o Garatti, R. Garcia Lopez, K. Perraut, L. Labadie, M. Benisty, W. Brandner, C. Dougados, P. J. V. Garcia, T. Henning (+46 co-authors including **D. M. Segura-Cox**)
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(24) *HAWC+/SOFIA Polarimetry in L1688: Relative Orientation of Magnetic Field and Elongated Cloud Structure*
D. Lee, M. Berthoud, C.-Y. Chen, E. G. Cox, J. A. Davidson, F. J. Encalada, L. M. Fissel, R. Harrison, W. Kwon, D. Li (+7 co-authors including **D. M. Segura-Cox**)
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(23) *870 μm Dust Continuum of the Youngest Protostars in Ophiuchus*
F. J. Encalada, L. W. Looney, J. J. Tobin, S. I. Sadavoy, **D. M. Segura-Cox**, E. Cox, Z.-Y. Li, & G. Novak
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(22) *FAUST. II. Discovery of a Secondary Outflow in IRAS 15398-3359: Variability in Outflow Direction during the Earliest Stage of Star Formation?*
Y. Okoda, Y. Oya, F. Logan, D. Johnstone, S. Inutsuka, C. Ceccarelli, C. Codella, C. Chandler, N. Sakai, Y. Aikawa (+59 co-authors including **D. M. Segura-Cox**)
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A. Schmiedeke, J. E. Pineda, P. Caselli, H. G. Arce, G. A. Fuller, A. A. Goodman, M. J. Maureira, S. S. R. Offner, **D. M. Segura-Cox**, & D. Seifried
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(20) *Kinematic Analysis of a Protostellar Multiple System: Measuring the Protostar Masses and Assessing Gravitational Instability in the Disks of L1448 IRS3B and L1448 IRS3A*
N. K. Reynolds, J. J. Tobin, P. D. Sheehan, S. I. Sadavoy, K. M. Kratter, Z.-Y. Li, C. J. Chandler, **D. M. Segura-Cox**, L. W. Looney, & M. M. Dunham
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E. Bianchi, C. J. Chandler, C. Ceccarelli, C. Codella, N. Sakai, A. López-Sepulcre, L. T. Maud, G. Moellenbrock, B. Svoboda, Y. Watanabe (+56 co-authors including **D. M. Segura-Cox**)
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V. Taquet, C. Codella, M. De Simone, A. López-Sepulcre, J. E. Pineda, **D. M. Segura-Cox**, C. Ceccarelli, P. Caselli, A. Gusdorf, M. V. Persson (+36 co-authors)
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C. Favre, C. Vastel, I. Jimenez-Serra, D. Quénard, P. Caselli, C. Ceccarelli, A. Chacón-Tanarro, F. Fontani, J. Holdship, Y. Oya (+33 co-authors including **D. M. Segura-Cox**)
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J. J. Tobin, P. D. Sheehan, S. T. Megeath, A. K. Díaz-Rodríguez, S. S. R. Offner, N. M. Murillo, M. L. R. van 't Hoff, E. F. van Dishoeck, M. Osorio, G. Anglada (+26 co-authors including **D. M. Segura-Cox**)
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J. J. Tobin, T. S. Megeath, M. van 't Hoff, A. K. Diaz-Rodriguez, N. Reynolds, M. Osorio, G. Anglada, E. Furlan, N. Karnath, S. Offner (+23 co-authors including **D. M. Segura-Cox**)
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S. I. Sadavoy, I. W. Stephens, P. C. Myers, L. W. Looney, J. J. Tobin, W. Kwon, B. Commercon, **D. M. Segura-Cox**, T. Henning, & P. Hennebelle
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R. J. Harris, E. G. Cox, L. W. Looney, Z.-Y. Li, H. Yang, M. Fernández-López, W. Kwon, S. Sadavoy, **D. M. Segura-Cox**, I. Stephens, & J. Tobin
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S. I. Sadavoy, P. C. Myers, I. W. Stephens, J. Tobin, B. Commercon, T. Henning, L. Looney, W. Kwon, **D. M. Segura-Cox**, & R. Harris
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I. W. Stephens, H. Yang, Z.-Y. Li, L. W. Looney, A. Kataoka, W. Kwon, M. Fernández-López, C. L. H. Hull, M. Hughes, **D. M. Segura-Cox** (+3 co-authors)
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M. Fernández-López, I. W. Stephens, J. M. Girart, L. W. Looney, S. Curiel, **D. M. Segura-Cox**, C. Eswaraiah, & S.-P. Lai
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J. J. Tobin, K. M. Kratter, M. V. Persson, L. W. Looney, M. M. Dunham, **D. M. Segura-Cox**, Z.-Y. Li, C. J. Chandler, S. I. Sadavoy, R. J. Harris, C. Melis, & L. Perez
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H. Yang, Z.-Y. Li, L. W. Looney, E. G. Cox, J. J. Tobin, I. W. Stephens, **D. M. Segura-Cox**, & R. J. Harris
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