Curriculum Vitae
Cora Dvorkin

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EDUCATION

July, 2011:	Doctor of Philosophy in Physics	**University of Chicago**
Dissertation: "*On the Imprints of Inflation in the Cosmic Microwave Background*"		
	Advisor:	Prof. Wayne Hu
September, 2006:	Master of Science in Physics	**University of Chicago**
June, 2005:	Diploma in Physics (M.S. equivalent)	**University of Buenos Aires**

POSITIONS HELD

July, 2023 - present	**Department of Physics, Harvard University** *Professor*
July, 2019 - July, 2023	**Department of Physics, Harvard University** *Associate Professor*
July, 2015 - June, 2019	**Department of Physics, Harvard University** *Assistant Professor*
2014-2015	**ITC - Center for Astrophysics, Harvard University** *NASA Hubble Fellow* and *ITC Fellow*
2011-2014	**Institute for Advanced Study (Princeton), School of Natural Sciences** *Postdoctoral Member*
2006-2011	**University of Chicago, Department of Physics** *Research Assistant* at Kavli Institute for Cosmological Physics (KICP)

RESEARCH INTERESTS

I am a theoretical cosmologist. My areas of interest are: the nature of dark matter, neutrinos and other light relics, and the physics of the early universe. I use observables such as the Cosmic Microwave Background (CMB), the large-scale structure of the universe, and strong gravitational lensing to shed light on these questions.

HONORS AND AWARDS

2022	**Voted "favorite professor" at Harvard University** by the Harvard senior Class of 2023
2019	**DOE Early Career award**
2018-2019	**Radcliffe Institute Fellowship** awarded by the Radcliffe Institute for Advanced Study at Harvard University
2018	**"2018 Scientist of the Year" award** awarded by the Harvard Foundation (with support from Harvard students): *"For Salient Contributions to Physics, Cosmology and STEM Education"*
2018	**Star Family Challenge prize recipient for Promising Scientific Research,** seed funding for high-risk and high-impact research projects at Harvard University

2017	**Visiting Associate Professorship** (during June 2017) awarded by the Physics Department at University of Buenos Aires (Argentina)
2015-2019	**Shutzer Assistant Professorship** awarded by the Radcliffe Institute for Advanced Study at Harvard University
2014	**Kavli Frontiers of Science Fellowship** awarded by the US National Academy of Sciences and the Kavli Foundation
2014-2017	**Hubble Fellowship** awarded by NASA
2014-2017	**ITC - Harvard Fellowship** awarded by Harvard University
2012	**"Martin and Beate Block Award"** awarded to the "best young physicist" Aspen Center for Physics
2011-2014	**IAS Postdoctoral Fellowship** awarded by the Institute for Advanced Study
2009-2010	**"Sidney Bloomenthal Fellowship"** awarded for "outstanding performance in research", from University of Chicago, Department of Physics
2004-2005	**"Stimulus Fellowship"** fellowship for undergraduate research, from University of Buenos Aires

SERVICE AND PROFESSIONAL ACTIVITIES AT HARVARD

- *Member* of the AI and Physics Committee at Harvard University (2023)
- *Member* of the IAIFI Fellowship Committee (2020, 2023)
- *Member* of the Faculty Search Committee at Harvard University, Physics Department (2023/2024)
- Colloquium *Chair* at Harvard University, Physics Department (2023-2024)
- **Harvard Representative at the Institute for Artificial Intelligence and Fundamental Interactions (IAIFI) Board** (2020-2025) This is a joint effort with colleagues at Harvard, MIT, Tufts, and Northeastern. The goal is to solve problems in fundamental physics and astrophysics using AI, while at the same time improving the AI foundations
- IAIFI Colloquia Chair (2022-2023)
- *Member* of the Graduate Admissions Committee at Harvard University, Physics Department (2016, 2017, 2018, 2019, 2020, 2021, 2022, 2023)
- *Founder and Organizer* of a bi-weekly Cosmology Journal Club, together with Prof. Finkbeiner and Prof. Kovac, at the Harvard Physics Department (2016 - present)
- *Member* of the Committee for appointment of Professor in Residence at Harvard University, Physics Department (2021)
- Colloquium Organizer at Harvard University, Physics Department (2016-2018, 2020-2021)
- *Co-Organizer* of a bi-monthly Dark Matter Meeting, jointly with the Center for Astrophysics at Harvard and the Physics Department at MIT (2015-2018)
- *Member* of the Physics Newsletter Committee at Harvard University (2019)
- *Member* of the Inclusion Committee at Harvard University, Physics Department (2018-2019)
- *Co-Organizer* of a weekly Machine Learning seminar series, jointly with the Center for Astrophysics at Harvard (2018)
- *Member* of the Planning Committee for Gravitational Waves Astrophysics and Physics at Harvard (2018)

- *Member* of the Loeb and Lee Lectures Committee at the Physics Department at Harvard (2015-2017)
- *Member* of the Faculty Search Committee at Harvard University, Physics Department (2016)
- Harvard-ITC Postdoctoral Fellowship Selection Committee (2014)

SERVICE AND PROFESSIONAL ACTIVITIES OUTSIDE HARVARD

- **Leader** of the Dark Matter Physics from the CMB-S4 Experiment Snowmass White paper (2022)
- **Leader** of the Light Relics Snowmass White paper (2022)
- **Leader** of the Machine Learning and Cosmology Snowmass White paper (2022)
- **Leader** of the Inflation/Primordial Density Perturbations Analysis group in the CMB-S4 Collaboration (2018-2019)
- *Member* of the Election and Voting Board of the CMB-S4 Collaboration (2018-2020)
- **Leader** of the Dark Matter team in the CMB-S4 Collaboration (2015-2017)
- *Full Member* of the Vera Rubin Observatory's LSST Dark Energy Science Collaboration (DESC)
- *Member* of the Nancy Grace Roman Space Telescope (formerly known as WFIRST) science investigation team
- *Member* of the PIXIE (Primordial Inflation Explorer) mission
- *Member* of the Hubble Space Telescope (HST) Fundamental Physics advising team (2017). As a result of our recommendation, a new category on Fundamental Physics was added to the HST proposal cycles (2018)
- *Member* of the US team of the CORE Space Mission (2016-2017)
- *Member* of the joint BICEP2/Planck collaboration (2014)
- **Leader** of the Neutrino Science White paper for the Decadal Survey (2018)
- Cosmology Seminar Organizer, joint IAS/Princeton University (winter 2013-summer 2014)
- Astrophysics Seminar Organizer at the IAS (2012-2013)
- *Member* of the Inflation Working Group at the CMB Polarization Workshop: Theory and Foregrounds
- *Member* of the Admissions Committee at the University of Chicago, Physics Department (2008)
- Proposal *Reviewer* for the National Science Foundation (NSF), the Department of Energy (DOE), the Hubble Space Telescope (HST), NASA, the Sloan Foundation, the John Templeton Foundation, the Argentine Agency of Physical, Mathematical and Astronomical Sciences (FONCyT)
- *Referee* for Physical Review Letters (PRL), Physical Review D (PRD), The Astrophysical Journal (ApJ), The Monthly Notices of the Royal Astronomical Society (MNRAS), Journal of Cosmology and Astroparticle Physics (JCAP), Physics Letters B (PLB), NeurIPS Machine Learning and Physical Sciences workshop, Europhysics Letters
- Named "Science Ambassador" of the **National Society of Black Physicists**
- *Member* of the **National Society of Black Physicists**
- *Member* of the **American Physical Society**
- *Member* of the **American Astronomical Society**

ORGANIZATION OF CONFERENCES AND WORKSHOPS

- "Cosmology on the steep rise" workshop, held in Sesto (Italy), in 2025
- "New Physics from the sky" workshop, held at Galileo Galilei Institute for Theoretical Physics in Florence, in 2021
- Co-organizer of the international BSM PANDEMIC Seminars series, a virtual seminar series, which was created to support the cosmology and particle physics communities - especially its most junior members - through the COVID pandemic (2020-2021)
- Latin American Workshop on Observational Cosmology, held in ICTP-SAIFR, Sao Paulo (taking place virtually due to *COVID19*), on December 2020
- KITP Program: "Probing Effective Theories of Gravity in Strong Fields and Cosmology", at the Kavli Institute for Theoretical Physics at UC Santa Barbara (taking place virtually due to *COVID19*), August -September 2020
- "New England Theoretical Cosmology, Gravity and Fields" Workshop, taking place virtually due to *COVID19*, July 2020
- "Learning the Wider Universe", Radcliffe Exploratory seminar workshop, at the Radcliffe Institute for Advanced Study at Harvard, October 2018
- "Tensions in the ΛCDM Paradigm" workshop, at the Mainz Institute for Theoretical Physics, Germany, May 2018
- CMB-S4 Collaboration workshop, at the Physics Department at Harvard, August 2017

OUTREACH

- Invited public talk at the Physics Department at Universidad Autónoma de Santo Domingo (2023)
- Participated in a pre-orientation program for incoming international undergraduate students at Harvard (2023)
- Participated in a pre-orientation program for first-generation, low-income, and underrepresented incoming undergraduate students at Harvard (2023)
- Invited public talk at the Physics Department at the University of Buenos Aires (2023)
- Participated in an event organized by Harvard Undergraduate Women in Physics (2023)
- Keynote speaker at the National Collegiate Research Conference, a conference organized by the Harvard College Undergraduate Research Association (HCURA) (2023)
- Invited public talk organized by the National Academy of Sciences in Argentina (2022)
- Participated in the Harvard annual Latinx Convocation to welcome the incoming students (2022)
- Participated in a pre-orientation program for first-generation, low-income, and underrepresented incoming undergraduate students at Harvard (2022)
- Participated in a panel discussion about jobs with postdocs at the Physics Department at Harvard University (2022)
- Invited public (virtual) talk "From Cosmological Observations to Fundamental Physics" for students in rural areas of India (2021)
- Invited public lecture "From Cosmological Observations to Fundamental Physics: Past, Present, and Future", presented by the Aspen Center for Physics at the Wheeler Opera House in Aspen, CO (2019)
- Invited public talk at the Radcliffe Institute for Advanced Study at Harvard, "Probing Fundamental Physics with Cosmological Observations" in Cambridge, MA (2019)

- Keynote speaker at the Harvard Science Research Conference for high school students (2018)
- Gave two cosmology lectures for K-3 and Grades 4-6 students in the Boston area at the "Albert Einstein Science Conference: Advancing Minorities and Women in Science, Mathematics, and Engineering" (2018)
- Participated in a panel discussion about jobs ("How to give a job talk") with postdocs at the Physics Department at Harvard University (2017)
- Keynote speaker at the Harvard Science Research Conference for high school students (2017)
- Participated in a public event in Cambridge that aimed to explore the connection between arts and sciences through a discussion on creativity in cosmology and music, and through lectures that I gave followed by music pieces inspired by my work in cosmology (2017)
- Participated in a Women in Science, Technology, Engineering, and Math Mentorship Program Career Panel at Harvard University (2017)
- Talk for 200 high school girls at the eighth annual "SET in the City: A Day of Career Exploration in Science, Engineering, and Technology" event, at Boston University (2017)
- Participated in a panel discussion with postdocs talking about my teaching experience at the Physics Department at Harvard University (2017)
- Participated in a panel discussion about jobs with postdocs at the Physics Department at Harvard University (2016)
- Participated in Science cafes in Cambridge, where I talked about Dark Matter (2016)
- Gave an invited talk at the "Next in Science" event for all public at the Radcliffe Institute for Advanced Study, in Cambridge (2016)
- Gave a cosmology lecture for Grades 5-12 students in the Boston area at the "Albert Einstein Science Conference: Advancing Minorities and Women in Science, Mathematics, and Engineering" (2016)
- Collaborator at the "Cambridge Explores the Universe" event, as part of the Cambridge Science Festival (2015)
- Lecture on Dark Energy at the Evergreen forum (at the Princeton Senior Resource Center) in Princeton (2014)
- Collaborator during the "Physics Week" event for High School students at University of Buenos Aires, 2001-2005

ADVISEES

I dedicate a specific effort to maintain a diverse population of students and postdocs in my group.

Graduate students (current):

- Aizhan Akhmetzhanova (Ph.D. candidate)
- Priyesh (Prish) Chakraborty (Ph.D. candidate)
- Chandrika Chandrashekar
- Shu-Fan Chen (Ph.D. candidate)
- Anmol Raina
- Gemma Zhang (Ph.D. candidate)

Graduate students (former):

- Dr. Nick DePorzio (now at Boston University as a Society of Fellows postdoc).
- Dr. Ana Diaz Rivero (now at D. E. Shaw as a Quantitative Researcher).
- Dr. Georges Obied (now at Oxford University as a postdoctoral fellow).

- Dr. A. Çağan Şengül (now at University of Pittsburgh as a Langley postdoctoral fellow).
- Dr. Arthur Tsang (→ "Twig Energy", company on battery optimization and renewable energy in Copenhagen)
- Dr. Weishuang (Linda) Xu (now at UC Berkeley as a postdoctoral fellow).

Postdocs (former):

- Dr. Francis-Yan Cyr-Racine (now at University of New Mexico as an Assistant Professor).
- Dr. Hayden Lee (now at UPenn as an Assistant Professor).
- Dr. Siddharth Mishra-Sharma (now at Boston University as an Assistant Professor).
- Dr. Azadeh Moradinezhad Dizgah (now at CNRS (the French National Center for Scientific Research) as tenure-track faculty).
- Dr. Julian Muñoz (now at UT Austin as an Assistant Professor).
- Dr. Bryan Ostdiek (now at Microsoft as a Data and Applied Scientist).
- Dr. Georgios Valogiannis (now at University of Chicago as a Schmidt postdoctoral fellow).

Undergraduate research supervision:

- Nino Ephremidze (current).
- Maya Burhanpurkar (now at Oxford University as a Rhodes scholar).
- Lucia Gordon (now at Harvard University as a Computer Science Ph.D. student).
- Sebastian Wagner-Carena (now at the Flatiron Institute as a Flatiron Research Fellow).

Academic advisees:

- Undergraduate concentration advisor for: Kirstin Anderson, Leanne Ansari, Bruna Biz, Alycia Cary, Will Dey, Danielle Frostig (→ Ph.D. student at the MIT), Juliana Garcia-Mejia (→ Ph.D. student at Harvard), Kaitlyn Lee (→ Ph.D. student at UC Berkeley), Mike Miccioli (→ Ph.D. student at University of Chicago), Victoria Ono, Sarah Packman, Maya Skarbinski (→ Ph.D. student at Johns Hopkins), and Natalia Villanueva.
- Graduate academic advisor for: Aizhan Akhmetzhanova, Andrew Chael (→ Einstein Fellow at Princeton University), Prish Chakraborty, Chandrika Chandrashekar, Betty Hu, Alexander Johnson, Sruthi Narayanan (→ postdoc at Perimeter Institute), Ethan Silver, and Justina Yang.

I have also worked with students outside my group (and outside Harvard):

- Elisa Chisari: now a (permanent) Assistant Professor at the Department of Physics at Utrecht University
- Tansu Daylan: now an Assistant Professor at the Department of Physics at Washington University in St. Louis
- Simone Ferraro: now a Senior Scientist at Lawrence Berkeley National Laboratory
- Vivian Miranda: now an Assistant Professor at the Department of Physics and Astronomy at Stony Brook University
- Katelin Schutz: now an Assistant Professor at the Department of Physics at McGill
- Andrew Chael → Einstein Fellow at Princeton University
- Rebecca Krall: → Research Data Scientist at Facebook
- Michael 'Misha' Rashkovetskyi: graduate student in Astrophysics at Harvard, working under the supervision of Prof. Daniel Eisenstein

STUDENTS' AWARDS

- Chandrika Chandrashekar, Anmol Raina, Arthur Tsang, and Gemma Zhang (Ph.D. students) were awarded the "White Prize" for excellence in teaching (2024).
- Aizhan Akhmetzhanova (Ph.D. student) was awarded the LSSTC Data Science Fellowship (2023).
- A. Çağan Şengül (Ph.D. student) received a Langley postdoctoral fellowship offer at Pittsburgh University (2023).
- Nick DePorzio (Ph.D. student) received a postdoctoral fellowship offer from the Society of Fellows at Boston University (2023).
- Maya Burhanpurkar (undergraduate student) was accepted into 4 out of the 4 postgraduate programs she applied for at University of Oxford (2022).
- Georges Obied (Ph.D. student) received postdoctoral fellowship offers from University of Oxford and CERN (2021).
- Maya Burhanpurkar (undergraduate student) was awarded a Rhodes scholarship (2021).
- Shu-Fan Chen (Ph.D. student) was awarded a "Government Scholarship to Study Abroad" by the Ministry of Education of Taiwan (2021).
- Maya Burhanpurkar (undergraduate student) won the Lemelson-MIT Student Prize (2021).
- Ana Diaz Rivero (Ph.D. student) received postdoctoral fellowship offers from KIPAC - Stanford Data Science joint fellowship, Simons Foundation (as a Simons Fellow), and the University of Toronto (CITA) (2021).
- Linda Xu (Ph.D. student) received postdoctoral fellowship offers from UC Berkeley, UC Irvine, the University of Toronto (CITA), and Fermilab (2021).
- Maya Burhanpurkar (undergraduate student) was awarded the Harvard College Research Program award (2020).
- Ana Diaz Rivero (Ph.D. student) was awarded the GSAS Merit Fellowship for "outstanding graduate students" (2020).
- Georges Obied (Ph.D. student) was awarded the Goldhaber Prize to "the most outstanding current Ph.D. students in the Department based on their research accomplishments" (2019).
- Lucia Gordon (undergraduate student) was awarded the PRISE fellowship (2019).
- Nick DePorzio (Ph.D. student) was awarded a National Physical Science Consortium fellowship (2018).

TEACHING EXPERIENCE

At Harvard University

Fall, 2024	Quantum Mechanics (Physics 143a), undergraduate-level course at the Physics Department.
Spring, 2024	Cosmology (Physics 212), graduate-level course at the Physics Department.
Fall, 2023	Introductory Electromagnetism and Statistical Physics (Physics 15b), undergraduate-level course at the Physics Department.
Spring, 2023	Cosmology (Physics 212), graduate-level course at the Physics Department.
Fall, 2022	Introductory Electromagnetism and Statistical Physics (Physics 15b), undergraduate-level course at the Physics Department.
Spring, 2022	Freshman Seminar (51T): "The Universe: Its Origin, Evolution, and Major Puzzles".
Fall, 2021	Introductory Electromagnetism and Statistical Physics (Physics 15b), undergraduate-level course at the Physics Department.
Spring, 2021	New Freshman Seminar (51T): "The Universe: Its Origin, Evolution, and Major Puzzles" This is a new freshman seminar, which I designed and started teaching this semester.
Fall, 2020	Cosmology (Physics 212), graduate-level course at the Physics Department.

Spring, 2020	Introductory Electromagnetism and Statistical Physics (Physics 15b), undergraduate-level course at the Physics Department.
Fall, 2019	Cosmology (Physics 212), graduate-level course at the Physics Department.
Spring, 2018	Wave Phenomena (Physics 15c), undergraduate-level course at the Physics Department.
Fall, 2017	Cosmology (Physics 212), graduate-level course at the Physics Department.
Spring, 2017	Wave Phenomena (Physics 15c), undergraduate-level course at the Physics Department.
Fall, 2016	Cosmology (Physics 212), new graduate-level course at the Physics Department. This is a new course at the Physics Department, which I designed and started teaching this semester.
Spring, 2016	Wave Phenomena (Physics 15c), undergraduate-level course at the Physics Department.
Fall, 2015	Cosmology Module in "Topics in Contemporary Astrophysics" (Astronomy 215hf), graduate-level course at the Astrophysics Department.

Guest Lectures at Harvard University

Fall, 2023	Guest lecture for the course "Topics in Current Research" (Physics 95), at the Physics Department at Harvard.
Spring, 2023	Guest lecture for the course "Creativity" (Gen Ed 1067), at Harvard University.
Fall, 2022	Guest lecture for the course "Topics in Current Research" (Physics 95), at the Physics Department at Harvard.
Fall, 2021	Guest lecture for the course "Topics in Current Research" (Physics 95), at the Physics Department at Harvard.
Fall, 2020	Guest lecture for the Freshman Seminar 23Y, "All of Physics in 13 Days", at the Physics Department at Harvard.
Fall, 2019	Guest lecture for the course "Topics in Current Research" (Physics 95), at the Physics Department at Harvard.
Fall, 2018	Guest lecture for the course "Topics in Current Research" (Physics 95), at the Physics Department at Harvard.
Fall, 2018	Guest lecture for the course "Topics in Astrostatistics" (Stat 310), at the Statistics Department at Harvard.
Fall, 2017	Guest lecture for the course "Topics in Current Research" (Physics 95), at the Physics Department at Harvard.
Fall, 2017	Guest lecture for the course "Research Tutorial in Astrophysics", at the Astrophysics Department at Harvard.
Spring, 2017	Guest lecture for the course "Physics and Big Questions", at the Physics Department at Harvard.
Fall, 2016	Guest lecture for the course "Topics in Current Research" (Physics 95), at the Physics Department at Harvard.
Fall, 2016	Guest lecture for the course "Research Tutorial in Astrophysics", at the Astrophysics Department at Harvard.
Spring, 2016	Guest lecture for the course "Inverse Problems in Science and Engineering", at the School of Engineering and Applied Sciences at Harvard.
Fall, 2015	Guest lecture for the course "Topics in Current Research" (Physics 95), at the Physics Department at Harvard.
Fall, 2015	Guest lecture for the course "Elementary Particle Physics", at the Physics Department at Harvard.
Fall, 2015	Guest lecture for the course "Physics and Big Questions", at the Physics Department at Harvard.

Guest Courses outside Harvard

November 2023	Invited course at the Inaugural Nigerian School on High Energy, Cosmology, and Astroparticle Physics, "Statistical Methods in Cosmology".
July 2023	Invited course at the ICTP/University of Buenos Aires, Giambiagi Cosmology Winter School: "Statistical Methods in Cosmology". (Class 1, Class 2, Class 3, Class 4).
July 2019	Invited course at the ICTP-SAIFR International School on Observational Cosmology: "Introduction to CMB Theory" (Class 1, Class 2).
August 2018	Invited course at the XXIII Special Courses at the National Observatory of Brazil (Rio de Janeiro, Brazil): "Physical Cosmology" (Physics of the Early Universe, Evidence for Dark Matter, Accelerated Expansion of the Universe).
July 2018	Invited course as a visiting Professor, at Shenzhen University (Shenzhen, China): "Fundamental Physics".
June 2017	Invited course as a visiting Professor, at the Department of Physics at the University of Buenos Aires (Argentina): "Large-Scale Structure of the Universe: Connecting Theory with Observations".
April 2016	Course on Inflation at "Cosmology after Planck: what is next?", Les Houches, France.

University of Chicago, Physics Department

Spring, 2006	*Teaching Assistant* for the course "Waves, optics and Introduction to modern physics".
Winter, 2006	*Teaching Assistant* for the course "Electricity and Magnetism".
Fall, 2005	*Teaching Assistant* for the course "Classical Mechanics".
Fall 2005-Winter 2006	*Lab Instructor* in classical mechanics, electromagnetism, waves and optics.

University of Buenos Aires, Physics Department

Winter 2003-Summer 2005	*Teaching Assistant* for courses on quantum and modern physics, electromagnetism, waves, optics, and thermodynamics.
Spring 2003	Conducted and taught the admission Physics course to University of Buenos Aires for physics and engineering students.

INVITED TALKS

You can find my past talks in my website.

PUBLICATIONS

- A. Tsang, A. C. Sengul, and **C. Dvorkin**, "Substructure Detection in Realistic Strong Lensing Systems with Machine Learning" [arXiv:2401.16624] (2024)
- S.-F. Chen, P. Chakraborty, and **C. Dvorkin**, "Analysis of BOSS Galaxy Data with Weighted Skew-Spectra", accepted to JCAP (2024) [arXiv: 2401.13036]
- G. Obied, **C. Dvorkin**, E. Gonzalo, and V. Vafa, "Dark Dimension and Decaying Dark Matter Gravitons", Phys. Rev. D 109, 063540 (2024) [arXiv:2311.05318]
- G. Valogiannis, S. Yuan, and **C. Dvorkin**, "Precise Cosmological Constraints from BOSS Galaxy Clustering with a Simulation-Based Emulator of the Wavelet Scattering Transform", accepted to Phys. Rev. D (2024) [arXiv:2310.16116]
- A. Akhmetzhanova, S. Mishra-Sharma, and **C. Dvorkin**, "Data Compression and Inference in Cosmology with Self-Supervised Machine Learning", MNRAS, Vol. 527, Issue 3 (2024) [arXiv:2308.09751]

- G. Zhang, A. C. Sengul, and **C. Dvorkin**, "Subhalo effective density slope measurements from HST strong lensing data with neural likelihood-ratio estimation", MNRAS, Vol. 527, Issue 2 (2024) [arXiv:2308.09739]
- A. C. Sengul, S. Birrer, P. Natarajan, and **C. Dvorkin**, "Detecting Low-Mass Perturbers in Cluster Lenses using Curved Arc Bases", MNRAS, Vol. 526, Issue 2 (2023) [arXiv:2303.14786]
- G. Zhang, S. Mishra-Sharma, and **C. Dvorkin**, "Inferring subhalo effective density slopes from strong lensing observations with neural likelihood-ratio estimation", MNRAS, Vol. 517, Issue 3 (2022) [arXiv:2208.13796]
- S. Adhikari et al. (including **C. Dvorkin**), "Astrophysical Tests of Dark Matter Self-Interactions" (2022) [arXiv:2207.10638]
- A. C. Sengul and **C. Dvorkin**, "Probing Dark Matter with Strong Gravitational Lensing through an Effective Density Slope", MNRAS, Vol. 516, Issue 1 (2022) [arXiv:2206.10635]
- G. Valogiannis and **C. Dvorkin**, "Going Beyond the Galaxy Power Spectrum: an Analysis of BOSS Data with Wavelet Scattering Transforms", Phys. Rev. D 106, 103509 (2022) [arXiv:2204.13717]
- P. Chakraborty, S.-F. Chen, and **C. Dvorkin**, "Skewing the CMBxLSS: a Fast Method for Bispectrum Analysis", JCAP07(2022)038 (2022) [arXiv:2202.11724]
- D. Munshi, H. Lee, **C. Dvorkin**, and J. McEwen, "Weak Lensing Trispectrum and Kurt-Spectra", JCAP11(2022)020 (2022) [arXiv:2112.05155]
- A. C. Sengul, **C. Dvorkin**, B. Ostdiek, and A. Tsang, "Substructure Detection Reanalyzed: Dark Perturber shown to be a Line-of-Sight Halo", MNRAS, Vol. 515, Issue 3 (2022) [arXiv:2112.00749]
- K. Rogers, **C. Dvorkin**, and H. Peiris, "New limits on light dark matter - proton cross section from the cosmic large-scale structure", Phys. Rev. Lett. 128, 171301 (2022) [arXiv:2111.10386]
- G. Valogiannis and **C. Dvorkin**, "Towards an Optimal Estimation of Cosmological Parameters with the Wavelet Scattering Transform", Phys. Rev. D 105, 103534 (2022) [arXiv:2108.07821]
- M. Rashkovetskyi, J. Muñoz, D. Eisenstein, and **C. Dvorkin**, "Small-scale Clumping at Recombination and the Hubble Tension", Phys. Rev. D 104, 103517 (2021) [arXiv:2108.02747]
- W. L. Xu, J. Muñoz, and **C. Dvorkin**, "Cosmological Constraints on Light (but Massive) Relics", Phys. Rev. D 105, 095029 (2022) [arXiv:2107.09664]
- S.-F. Chen, H. Lee, and **C. Dvorkin**, "Precise and Accurate Cosmology with CMBxLSS Power Spectra and Bispectra", JCAP05(2021)030 (2021) [arXiv:2103.01229]
- **C. Dvorkin**, T. Lin, and K. Schutz, "The cosmology of sub-MeV dark matter freeze-in", Phys. Rev. Lett. 127, 111301 (2021) [arXiv:2011.08186]
- B. Ostdiek, A. Diaz Rivero, and **C. Dvorkin**, "Extracting the Subhalo Mass Function from Strong Lens Images with Image Segmentation", ApJ 927 83 (2022) [arXiv:2009.06639]
- B. Ostdiek, A. Diaz Rivero, and **C. Dvorkin**, "Image segmentation for analyzing galaxy-galaxy strong lensing systems", A&A 657, Letters 14 (2022) [arXiv:2009.06663]
- K. Abazajian et al. (including **C. Dvorkin**), "CMB-S4: Forecasting Constraints on Primordial Gravitational Waves", ApJ 926 54 (2022) [arXiv:2008.12619]
- A. Diaz Rivero and **C. Dvorkin**, "Flow-Based Likelihoods for Non-Gaussian Inference", Phys. Rev. D 102, 103507 (2020) [arXiv:2007.05535]
- N. DePorzio, W. L. Xu, J. Muñoz, and **C. Dvorkin**, "Finding eV-scale Light Relics with Cosmological Observables", Phys. Rev. D 103, 023504 (2021) [arXiv:2006.09380]
- W. L. Xu, N. DePorzio, J. Muñoz, and **C. Dvorkin**, "Accurately Weighing Neutrinos with Cosmological Surveys", Phys. Rev. D 103, 023503 (2021) [arXiv:2006.09395]

- A. C. Sengul, A. Tsang, A. Diaz Rivero, **C. Dvorkin** (Harvard), H.-M. Zhu, U. Seljak (Berkeley), "Quantifying the Line-of-Sight Halo Contribution to the Dark Matter Convergence Power Spectrum from Strong Gravitational Lenses", Phys. Rev. D 102, 063502 (2020) [arXiv:2006.07383]
- H. Lee and **C. Dvorkin**, "Cosmological Angular Trispectra and Non-Gaussian Covariance", JCAP05(2020)044 (2020) [arXiv:2001.00584]
- J. Muñoz, **C. Dvorkin**, and F.Y. Cyr-Racine, "Probing the Small-Scale Matter Power Spectrum with Large-Scale 21-cm Data", Phys. Rev. D 101, 063526 (2020) [arXiv:1911.11144]
- A. Moradinezhad Dizgah, H. Lee, M. Schmittfull, and **C. Dvorkin**, "Capturing Non-Gaussianity of the Large-Scale Structure with Weighted Skew-Spectra", JCAP04(2020)011 (2020) [arXiv:1911.05763]
- S. Wagner-Carena, M. Hopkins, A. Diaz Rivero, and **C. Dvorkin**, "A Novel CMB Component Separation Method: Hierarchical Generalized Morphological Component Analysis", MNRAS, Vol. 494, Issue 1 (2020) [arXiv:1910.08077]
- A. Diaz Rivero and **C. Dvorkin**, "Direct Detection of Dark Matter Substructure in Strong Lens Images with Convolutional Neural Networks", Phys. Rev. D 101, 023515 (2020) [arXiv:1910.00015]
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