

CLAUDIO ANDREA MANZARI

Institute for Advanced Study | manzari@ias.edu | camanzari.com | [ORCID](https://orcid.org/) | [INSPIRE-HEP](https://inspirehep.net/)

RESEARCH INTERESTS

Fundamental open questions in high energy physics, from the origin of flavor and fermion masses to the strong CP problem, axions and dark matter, together with astrophysical, cosmological, and experimental probes of new fundamental phenomena.

ACADEMIC APPOINTMENTS

Year	Institution	Position
2025–present	Institute for Advanced Study, Princeton	Member
2022–2025	UC Berkeley & Lawrence Berkeley National Laboratory	Postdoctoral Fellow
2021	UC Santa Cruz	Long-term Visitor
2017	Fermilab	Summer Fellow

EDUCATION

Degree	Year	Institution
Ph.D. in Physics	2019–2022	University of Zürich
Master’s Degree in Physics (<i>summa cum laude</i>)	2016–2018	University of Bari
Bachelor’s Degree in Physics (<i>summa cum laude</i>)	2013–2016	University of Bari

AWARDS & FELLOWSHIPS

Year	Award/Fellowship
2025–present	School of Natural Sciences, Institute for Advanced Study Fellowship
2022–2025	UC Berkeley Fellowship
2020	Vito Volterra Prize – Italian Physical Society
2020	LHCP Conference Prize
2013–2018	Performance Prize – University of Bari

SELECTED PUBLICATIONS

Authors are listed alphabetically in accordance with convention in theoretical high-energy physics.

- Nima Arkani-Hamed, Carolina Figueiredo, Lawrence J. Hall, and **Claudio Andrea Manzari**, “The Very Nearly Right Theory of Flavor”, (2026), [\[arXiv\]](#)
- Nima Arkani-Hamed, Carolina Figueiredo, Lawrence J. Hall, and **Claudio Andrea Manzari**, “Generating the fermion mass hierarchy at the TeV scale”, (2026), [\[arXiv\]](#)
- Joshua N. Benabou, Anson Hook, **Claudio Andrea Manzari**, Hitoshi Murayama, and Benjamin R. Safdi, “Clearing up the Strong CP problem”, (2025), [\[arXiv\]](#)
- Lawrence Hall, **Claudio Andrea Manzari**, and Bea Noether, “Strong CP and flavor in multi-Higgs theories”, *Phys. Rev. D* **111**, 115012 (2025) [\[journal\]](#), [\[arXiv\]](#)
- **Claudio Andrea Manzari**, Yujin Park, Benjamin R. Safdi, and Inbar Savoray, “Supernova Axions Convert to Gamma Rays in Magnetic Fields of Progenitor Stars”, *Phys. Rev. Lett.* **133**, 211002 (2024) [\[journal\]](#), [\[arXiv\]](#)
- Quentin Bonnefoy, Lawrence Hall, **Claudio Andrea Manzari**, and Christiane Scherb, “Colorful Mirror Solution to the Strong CP Problem”, *Phys. Rev. Lett.* **131**, 221802 (2023) [\[journal\]](#), [\[arXiv\]](#)

SELECTED INVITED TALKS

2026	Stanford University – <i>Theory Seminar</i>
2026	Cornell University – <i>Theory Seminar</i>
2026	University of Michigan – <i>Theory Seminar</i>
2026	Perimeter Institute – <i>Colloquium</i>
2026	Caltech – <i>Theory Seminar</i>
2026	Asymmetry Webinar Series
2026	Florida State University – <i>Theory Seminar</i>
2026	University of Cincinnati – <i>Theory Seminar</i>
2025	MIT Center for Theoretical Physics – <i>Theory Seminar</i>
2025	University of Maryland – <i>Theory Seminar</i>
2025	Workshop “Beyond BSM 2025,” Monte Verità, Switzerland – <i>Plenary Talk</i>
2025	CERN TH Institute “Evolving Beyond the Standard Model” – <i>Plenary Talk</i>
2025	Workshop “Enabling the Discovery of QCD Axion Dark Matter at the GUT scale” – <i>Plenary Talk</i>
2025	University of Rome “La Sapienza” – <i>Colloquium</i>
2025	Princeton University – <i>Theory Seminar</i>
2025	University of Padova – <i>Theory Seminar</i>
2025	Center for Astrophysics Harvard & Smithsonian – <i>Theory Seminar</i>
2025	University of Michigan – <i>Theory Seminar</i>
2024	Harvard University – <i>Theory Seminar</i>
2024	University of Chicago – <i>Theory Seminar</i>
2024	Fermilab – <i>Theory Seminar</i>
2024	UC Santa Cruz – <i>Theory Seminar</i>
2024	New York University – <i>Theory Seminar</i>
2024	Perimeter Institute – <i>Theory Seminar</i>
2023	CERN – <i>Theory Seminar</i>
2023	Duke University – <i>Theory Seminar</i>
2022	UC Berkeley – <i>Theory Seminar</i>
2022	Korea Institute for Advanced Study – <i>Theory Seminar</i>
2022	Karlsruhe Institute for Theoretical Particle Physics – <i>Theory Seminar</i>
2021	10th International Conference “Large Hadron Collider Physics” – <i>Talk</i>
2021	20th Lomonosov Conference on Elementary Particle Physics – <i>Plenary Talk</i>
2021	Universitat Autònoma de Barcelona – <i>Theory Seminar</i>
2021	Workshop “Anomalies and Precision in the Belle II Era” – <i>Talk</i>

SCIENTIFIC LEADERSHIP & ORGANIZATION

Year	Role/Event
2025–present	Theory Working Group Coordinator, GALAXIS experiment
2027	Organizer, Workshop “Emerging Probes and Enduring Puzzles in Particle Physics,” Aspen Center for Physics
2027	Organizer, Workshop “The coming decade of (searches for) new physics, from the earth to the sky,” Institute for Advanced Study & Princeton University
2026	Organizer, Workshop “Model Building in 2030,” Institute for Advanced Study
2025–present	Organizer, “Phenomenology Lunch and Meet” series, Institute for Advanced Study
2025	Organizer, Workshop “The strong CP problem and its possible solutions,” Pollica Physics Centre
2024	Convener, “LHCb Implication” Workshop, CERN
2023–2024	Organizer, Seminar Series, UC Berkeley & Lawrence Berkeley National Laboratory
2022	Organizer, Workshop on Lepton Flavor (Universality) Violation, University of Zürich

RESEARCH GRANTS & FUNDING

Year	Title	Program	Value
2022	Alumni Grant	University of Zürich	10,000 EUR
2021	Pauli Center Grant	ETH Zürich	15,000 EUR
2021	Graduate Campus Grant	University of Zürich	10,000 EUR
2021	Graduate Campus Travel Grant	University of Zürich	5,000 EUR

TEACHING EXPERIENCE

Year	Institution	Course/Role
2025	UC Berkeley	Quantum Field Theory (graduate) – <i>Guest Lecturer</i>
2024	UC Berkeley	Beyond the Standard Model (graduate) – <i>Guest Lecturer</i>
2023	UC Berkeley	Supersymmetry (graduate) – <i>Lecturer</i>
2020–2022	University of Zürich	Elementary Particle Theory, Classical Mechanics, Algebra II, Introduction to Astrophysics, Analysis II – <i>Teaching Assistant</i>

SUPERVISION & MENTORING OF STUDENTS

- Carolina Figueredo (now Junior Fellow at Harvard University)
- Josh Benabou (now Simons Fellow at New York University)
- Bea Noether (now Ph.D. Student at UC Berkeley)
- Yujin Park (now Postdoctoral Fellow at Rutgers University)
- Garima Prabakar (now Ph.D. student at Rutgers University)
- Jonas Spinner (now Ph.D. student at the University of Heidelberg)
- Giorgia Alessandra Busin

PROFESSIONAL SERVICE

- Project Reviewer, Czech Science Foundation
- Referee for *Physical Review Letters*, *Physical Review D*, *European Physical Journal C*, and *Journal of High Energy Physics*

SELECTED RESEARCH COVERAGE

- “A nearby supernova could end the search for dark matter” – **UC Berkeley News**
- “In una supernova esplode anche la materia oscura” – **Italian National Institute for Astrophysics**

PUBLICATIONS

Authors are listed alphabetically in accordance with convention in theoretical high-energy physics.

- [1] Nima Arkani-Hamed, Carolina Figueredo, Lawrence J. Hall, and **Claudio Andrea Manzari**, “The Very Nearly Right Theory of Flavor”, (2026), [arXiv].
- [2] Kaori Fuyuto, **Claudio Andrea Manzari**, and Hitoshi Murayama, “Searches for GeV-Scale ALPs at RHIC”, (2026), [arXiv].
- [3] Nima Arkani-Hamed, Carolina Figueredo, Lawrence J. Hall, and **Claudio Andrea Manzari**, “Generating the fermion mass hierarchy at the TeV scale”, (2026), [arXiv].
- [4] Joshua N. Benabou, Anson Hook, **Claudio Andrea Manzari**, Hitoshi Murayama, and Benjamin R. Safdi, “Clearing up the Strong CP problem”, (2025), [arXiv].
- [5] **Claudio Andrea Manzari**, Jorge Martin Camalich, Jonas Spinner, and Robert Ziegler, “The SN 1987A Cooling Bound on Dark Matter Absorption in Electron Targets”, (2025), [arXiv].
- [6] David I. Dunskey, **Claudio Andrea Manzari**, Pablo Quílez, Maria Ramos, and Philip Sørensen, “Resonant Landau-Zener conversion in multi-axion systems”, *JHEP* **01**, 077 (2026) [journal], [arXiv].
- [7] Quentin Bonnefoy, Lawrence J. Hall, **Claudio Andrea Manzari**, and Bea Noether, “Two Higgs doublet solutions to the strong CP problem”, *JHEP* **07**, 252 (2026) [journal], [arXiv].
- [8] Joshua N. Benabou, **Claudio Andrea Manzari**, Yujin Park, Garima Prabhakar, Benjamin R. Safdi, and Inbar Savoray, “Time-delayed gamma-ray signatures of heavy axions from core-collapse supernovae”, *Phys. Rev. D* **111**, 095029 (2025) [journal], [arXiv].
- [9] Lawrence Hall, **Claudio Andrea Manzari**, and Bea Noether, “Strong CP and flavor in multi-Higgs theories”, *Phys. Rev. D* **111**, 115012 (2025) [journal], [arXiv].

- [10] **Claudio Andrea Manzari**, Yujin Park, Benjamin R. Safdi, and Inbar Savoray, “Supernova Axions Convert to Gamma Rays in Magnetic Fields of Progenitor Stars”, *Phys. Rev. Lett.* **133**, 211002 (2024) [journal], [arXiv].
- [11] **Claudio Andrea Manzari** and Dean J. Robinson, “On-shell recursion and holomorphic HQET for heavy quark hadronic resonances”, *JHEP* **05**, 239 (2025) [journal], [arXiv].
- [12] Quentin Bonnefoy, Lawrence Hall, **Claudio Andrea Manzari**, Amara McCune, and Christiane Scherb, “Dark matter in a mirror solution to the strong CP problem”, *Phys. Rev. D* **109**, 055045 (2024) [journal], [arXiv].
- [13] **Claudio Andrea Manzari**, Jorge Martin Camalich, Jonas Spinner, and Robert Ziegler, “Supernova limits on muonic dark forces”, *Phys. Rev. D* **108**, 103020 (2023) [journal], [arXiv].
- [14] Quentin Bonnefoy, Lawrence Hall, **Claudio Andrea Manzari**, and Christiane Scherb, “Colorful Mirror Solution to the Strong CP Problem”, *Phys. Rev. Lett.* **131**, 221802 (2023) [journal], [arXiv].
- [15] Andreas Crivellin, **Claudio Andrea Manzari**, Bruce Mellado, and Salah-Eddine Dahbi, “Consistency and interpretation of the LHC dijet excesses”, *Phys. Rev. D* **107**, 054045 (2023) [journal], [arXiv].
- [16] Andreas Crivellin, Fiona Kirk, and **Claudio Andrea Manzari**, “Comprehensive analysis of charged lepton flavour violation in the symmetry protected type-I seesaw”, *JHEP* **12**, 031 (2022) [journal], [arXiv].
- [17] **Claudio Andrea Manzari** and Stefano Profumo, “Flavor inspired model for dark matter”, *Phys. Rev. D* **106**, 075025 (2022) [journal], [arXiv].
- [18] Andreas Crivellin, **Claudio Andrea Manzari**, Wolfgang Altmannshofer, Gianluca Inguglia, Paul Feichtinger, and Jorge Martin Camalich, “Toward excluding a light Z' explanation of $b \rightarrow s\ell^+\ell^-$ ”, *Phys. Rev. D* **106**, L031703 (2022) [journal], [arXiv].
- [19] Marcel Algueró, Joaquim Matias, Andreas Crivellin, and **Claudio Andrea Manzari**, “Unified explanation of the anomalies in semileptonic B decays and the W mass”, *Phys. Rev. D* **106**, 033005 (2022) [journal], [arXiv].
- [20] **Claudio Andrea Manzari**, “Lepton flavour universality violation and Cabibbo angle anomaly”, PhD thesis (Zurich U., 2022).
- [21] **Claudio Andrea Manzari**, “Explaining the Cabibbo Angle Anomaly”, *PoS EPS-HEP2021*, 526 (2022) [journal], [arXiv].
- [22] Angelo Esposito, **Claudio Andrea Manzari**, Alessandro Pilloni, and Antonio Davide Polosa, “Hunting for tetraquarks in ultraperipheral heavy ion collisions”, *Phys. Rev. D* **104**, 114029 (2021) [journal], [arXiv].
- [23] Andreas Crivellin, Martin Hoferichter, Matthew Kirk, **Claudio Andrea Manzari**, and Luc Schnell, “First-generation new physics in simplified models: from low-energy parity violation to the LHC”, *JHEP* **10**, 221 (2021) [journal], [arXiv].
- [24] **Claudio Andrea Manzari**, “Vector-Like Leptons in Light of the Cabibbo-Angle Anomaly”, in *Beyond Standard Model: From Theory to Experiment* (2021), [arXiv].
- [25] Andrzej J. Buras, Andreas Crivellin, Fiona Kirk, **Claudio Andrea Manzari**, and Marc Montull, “Global analysis of leptophilic Z' bosons”, *JHEP* **06**, 068 (2021) [journal], [arXiv].
- [26] Andreas Crivellin, **Claudio Andrea Manzari**, and Marc Montull, “Correlating nonresonant di-electron searches at the LHC to the Cabibbo-angle anomaly and lepton flavor universality violation”, *Phys. Rev. D* **104**, 115016 (2021) [journal], [arXiv].
- [27] Andreas Crivellin, Martin Hoferichter, and **Claudio Andrea Manzari**, “Fermi Constant from Muon Decay Versus Electroweak Fits and Cabibbo-Kobayashi-Maskawa Unitarity”, *Phys. Rev. Lett.* **127**, 071801 (2021) [journal], [arXiv].
- [28] **C. A. Manzari**, “Flavour and collider signals from a singly charged scalar”, *Nuovo Cim. C* **44**, 183 (2021) [journal].
- [29] Andreas Crivellin, Fiona Kirk, **Claudio Andrea Manzari**, and Luca Panizzi, “Searching for lepton flavor universality violation and collider signals from a singly charged scalar singlet”, *Phys. Rev. D* **103**, 073002 (2021) [journal], [arXiv].
- [30] Andreas Crivellin, **Claudio Andrea Manzari**, Marcel Alguero, and Joaquim Matias, “Combined Explanation of the $Z \rightarrow b\bar{b}$ Forward-Backward Asymmetry, the Cabibbo Angle Anomaly, and $\tau \rightarrow \mu\nu\nu$ and $b \rightarrow s\ell^+\ell^-$ Data”, *Phys. Rev. Lett.* **127**, 011801 (2021) [journal], [arXiv].
- [31] **Claudio Andrea Manzari**, Antonio M. Coutinho, and Andreas Crivellin, “Modified lepton couplings and the Cabibbo-angle anomaly”, *PoS LHCP2020*, edited by B. Mansoulie, G. Marchiori, R. Salern, and T. Bos, 242 (2021) [journal], [arXiv].
- [32] Andreas Crivellin, Fiona Kirk, **Claudio Andrea Manzari**, and Marc Montull, “Global Electroweak Fit and Vector-Like Leptons in Light of the Cabibbo Angle Anomaly”, *JHEP* **12**, 166 (2020) [journal], [arXiv].
- [33] Bernat Capdevila, Andreas Crivellin, **Claudio Andrea Manzari**, and Marc Montull, “Explaining $b \rightarrow s\ell^+\ell^-$ and the Cabibbo angle anomaly with a vector triplet”, *Phys. Rev. D* **103**, 015032 (2021) [journal], [arXiv].
- [34] Andreas Crivellin, Martin Hoferichter, **Claudio Andrea Manzari**, and Marc Montull, “Hadronic Vacuum Polarization: $(g - 2)_\mu$ versus Global Electroweak Fits”, *Phys. Rev. Lett.* **125**, 091801 (2020) [journal], [arXiv].
- [35] Antonio M. Coutinho, Andreas Crivellin, and **Claudio Andrea Manzari**, “Global Fit to Modified Neutrino Couplings and the Cabibbo-Angle Anomaly”, *Phys. Rev. Lett.* **125**, 071802 (2020) [journal], [arXiv].
- [36] Lorenzo Calibbi, Andreas Crivellin, Fiona Kirk, **Claudio Andrea Manzari**, and Leonardo Vernazza, “ Z' models with less-minimal flavour violation”, *Phys. Rev. D* **101**, 095003 (2020) [journal], [arXiv].