

UMUT C. OKTEM

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EDUCATION

UC Santa Barbara
B.S. Physics, GPA: 3.95
College of Creative Studies

September 2016- June 2020

UC Davis
PhD Physics, GPA: 3.87

September 2020- June 2025 (expected graduation)

SUMMARY

I am a theoretical high energy physicist interested in Quantum Field Theory and its applications to fundamental physics.

PUBLICATIONS

A list of my published work can be found at <https://inspirehep.net/authors/1847269>

7. Uniqueness of MHV Amplitudes in $\mathcal{N} = 8$ Supergravity (2024), ArXiv No: 2412.08713 (with J. Koefer, S. Paranjape, J. Trnka, B. Zacovic)
6. Hidden Amplitude Zeros From Double Copy (2024), Arxiv No: 2403.10594 (with C. Bartsch, T. V. Brown, K. Kampf, S. Paranjape, and J. Trnka)
5. Loops of Loops Expansion in the Amplituhedron (2023), Arxiv No: 2312.17736, (with T. Brown, S. Paranjape, and J. Trnka)
4. Scalar Bern-Carrasco-Johansson Bootstrap, Phys. Rev. D 108 (2023), no. 10 105008 (with T. V. Brown, K. Kampf, S. Paranjape, and J. Trnka)
3. Poles at Infinity in On-shell Diagrams JHEP 02, 003 (2023). (with T. Brown, J. Trnka)
2. The Muon Smashers Guide, Rept.Prog.Phys. 85 (2022) 8, 084201, (with Hind Al Ali (UC, Santa Barbara), Nima Arkani-Hamed (Princeton, Inst. Advanced Study), Ian Banta (UC, Santa Barbara), Sean Benevedes (UC, Santa Barbara), Dario Buttazzo (INFN, Pisa) et al.)
1. Searching for Exotic Production of Higgs Boson + X to Map out New Physics, Phys.Rev.D 104 (2021) 3, 035033 (with Seth Koren)

TECHNICAL SKILLS

Programming	Python, C++, Matlab, Mathematica
Particle Physics Modeling and Analysis	FeynRules, MadGraph, MadAnalysis, Pythia, ROOT

RELEVANT COURSEWORK

Completed coursework in Quantum Field Theory, String Theory, General Relativity, Complex Analysis, Advanced Mechanics, Linear Algebra, Statistical Mechanics, Analog Electronics, Electromagnetism, and Abstract Algebra

TEACHING EXPERIENCE

UCSB Department of Physics
Tutor

2018-2019

- I was a tutor for the UCSB Department of Physics. I waited in the Department's physics study room and helped students with their questions, ranging from beginner level mechanics to more advanced topics, such as complex analysis and quantum mechanics.

UCSB Department of Physics

2018-2019

Learning Assistant

- I was a learning assistant for Quantum Mechanics (three times) and General Relativity courses. My duties included helping the TA's run the sections, answering the students' questions regarding the material, helping the students outside of the section hours before exams, and discussing helpful learning strategies with the Professor.

UC Davis Department of Physics and Astronomy

2020-

Graduate Student Teaching Assistant

Worked as a Teaching Assistant for Physics for Biology Majors (Phys 7), Physics for Engineering (Phys 9A, 9B, 9C), upper division courses in Mathematical Methods in Physics (Phys 104), Electromagnetism (Phys 110B), Statistical Mechanics (Phys 112A), Quantum Mechanics (115A and 115B) and Graduate Quantum Mechanics (Phys 215A)

HONORS AND AWARDS

UC Davis Dean's Graduate Summer Support Award - 2024

UC Davis Graduate Spring Travel Award - 2024

UCSB Worster Undergraduate Research Fellowship - 2019

UCSB Summer Undergraduate Research Fellowship (SURF) - 2018

UCSB Regents Scholarship - (2016-2020)

TALKS GIVEN

UC Davis QMAP Graduate Student Journal Club - October 2024

ICHEP Prague 2024, Formal Theory Session - July 2024

Amplitudes 2024 Conference at Institute of Advanced Study, Gong Show - June 2024

Graduate Colloquium UC Davis Department of Physics - June 2024

California Amplitudes Meeting 2024 at UC Davis Gong Show - May 2024

Institute of Advanced Study Particle Theory Journal Club - November 2023

Max Planck Institute for Physics Particle Theory Journal Club - August 2023

Amplitudes 2023 Summer School in CERN, Gong Show - August 2023

UCLA Department of Physics Journal Club - 2023

California Amplitudes Meeting at UCSD - 2023

UC Davis Department of Mathematics Student Journal Club - 2023

KITP Undergraduate Research Symposium - 2019

UCSB Worster Symposium - 2019

UCSB CCS Raca Con Research Symposium - 2018

CONFERENCES AND WORKSHOPS ATTENDED

Attended Conference, MEGA 2024: Max Planck Institute For Mathematics in the Sciences - August 2024

Attended Conference, ICHEP Prague 2024 - July 2024

Attended Conference, Princeton IAS Amplitudes 2024 Conference - June 2024

Attended Workshop, Harvard CMSA: Amplituhedra, Cluster Algebras, and Positive Geometry - May 2024

Co-organized Workshop, California Amplitudes Meeting 2024 at UC Davis - May 2024

Attended Seminar, Bay Area Particle Theory Seminar - March 2024

Attended Workshop, Simons Center for Geometry and Physics: Mathematical Aspects of $N=4$ Super-Yang-Mills Theory - February 2024

Attended Program, Simons Center for Geometry and Physics: Solving $N=4$ Super-Yang-Mills - January 2024

Attended Conference, CERN Amplitudes 2023 Conference - August 2023

Attended Summer School, CERN Amplitudes 2023 Summer School - August 2023

Co-organized Workshop, California Amplitudes Meeting at UC Davis - March 2022

Attended Conference, QCD Meets Gravity at Bhaumik Institute UCLA - December 2021

VOLUNTEERING

APS CUWIP 2019 at UCSB (set-up volunteer)

California Raptor Center 2022-current

UC Davis Graduate Mentorship program 2022-current

LANGUAGES

Turkish - Native proficiency

English - Native proficiency

Spanish - Limited working proficiency