CHAD FLORES

xadflores@gmail.com ⋄ (916) · 207 · 4058
linkedin.com/in/chad-flores ⋄ github.com/xadflores

Ph.D. candidate in Experimental High Energy Nuclear Physics with a focus on statistical analysis of large collider data, in particular, the study of Υ mesons via the di-muon decay channel at CMS.

EDUCATION

PhD Physics, University of California, Davis — Expected June 2017
Dissertation: Υ(nS) production and suppression in 5.02 TeV PbPb collisions at the LHC with CMS

MS Physics, University of California, Davis — December 2012

BS Physics, University of California, Davis — June 2011
with Honors

AS Natural Science, Sierra Community College — May 2008
with Honors

AA Liberal Arts, Sierra Community College — May 2008
with Honors

TECHNICAL STRENGTHS

Computing Linux/UNIX, C++, ROOT, bash, python, LabView, HTML, LaTeX, SQL, SVN, git, Matlab

Equipment Analog Electronics, Oscilloscopes, NI-DAQ, nano-fabrication

RESEARCH EXPERIENCE

Graduate Student Researcher — December 2012 - Present
University of California, Davis — Adviser: Manuel Calderón de la Barca Sánchez

- Studying properties of a new nuclear state of matter, such as temperature, at the **Large Hadron Collider** (LHC) as a member of the **Compact Muon Solenoid** (CMS) experiment.
- **Team lead/contact** for the study on "Strong Suppression of Υ excited states in PbPb collisions at $\sqrt{s_{NN}} = 5.02$ TeV," CMS PAS HIN-16-008.
- **Statistical analysis** of nuclear collisions of order billions of events and analysis of **Monte Carlo (MC)** simulations produced on a distributed submission framework at CMS for constraining data. This included determining signal and background fit models, calculating muon and dimuon efficiencies for both MC and data-driven studies, estimating systematic uncertainties that arise from these studies and extracting confidence intervals for highly suppressed states.
- **Mentor/Senior lead** for other CMS graduate students and undergraduates to guide them to become productive researchers in the collaboration.
- **International collaborator** with members from USA, Switzerland, France, Korea, and India.
- Cathode Strip Chamber Detector On-call Expert – carried phone in 24/7 shifts and was responsible for urgent intervention/maintenance during data taking. I Also monitored this system offline for Data Quality.

Undergraduate Researcher — April 2010 - September 2011
University of California, Davis — Adviser: Kai Liu

- Developed live monitoring system for etching irradiated polycarbonate membrane films.

· Experience in thin film preparation and producing magnetic/metallic nanowires using electrochemical deposition.

WORK/TEACHING EXPERIENCE

Graduate Teaching Assistant September 2011 - June 2014
University of California, Davis

· Directed advanced physics lab course on the use of electronics and computers for experimentation including debugging and data acquisition.
· Led various introductory physics labs and discussions for both life science and physical science.

Sound and Vibration Control Technician March 2007-August 2007
j.c. brennan & associates, Inc.

· Field studies for noise and vibration measurements and analysis of data collected.

HVAC Mechanical Equipment Estimator March 2006 - March 2007
Air Tech Sales

· Analyzed mechanical portion of building blue prints for HVAC equipment specifications and produced quotes.

HONORS AND AWARDS

2015 GAANN Fellow, UC Davis Physics.
2014 Chateaubriand Fellow, École Polytechnique and CERN (France).
2011 Cal Aggie Alumni Outstanding Senior Award, Physics
Phi Kappa Phi, Undergraduate Honor Society Member - UC Davis
Phi Theta Kappa, Undergraduate Honor Society Member - Sierra Community College

OUTREACH

2010-12, Mentor for PUENTE Program, Sierra Community College
2009-12, K-12 Physics Club visits in Sacramento Area, UC Davis Physics
2011, Physics Show at Picnic Day, UC Davis Physics

2011, Meet an Undergrad Video, UC Davis Physics
`http://physics.ucdavis.edu/academics/undergraduate-program/meet-some-our-students`

SELECTED PUBLICATIONS

1. CMS Collaboration, "Measurement of Nuclear Modification Factors of Υ(nS) mesons in PbPb collisions at $\sqrt{s_{NN}} = 5.02$ TeV," CMS Physics Analysis Summary, HIN-16-023. `http://cds.cern.ch/record/2244680?ln=en`
2. V. Khachatryan *et al.* [CMS Collaboration], "Suppression of Υ(1S), Υ(2S) and Υ(3S) production in PbPb collisions at $\sqrt{s_{NN}} = 2.76$ TeV," *Submitted to PLB* arXiv:1611.01510 [nucl-ex]
3. V. Khachatryan *et al.* [CMS Collaboration], "Suppression and azimuthal anisotropy of prompt and nonprompt J/ψ production in PbPb collisions at $\sqrt{s_{NN}} = 2.76$ TeV," *Submitted to: Eur.Phys.J.C* arXiv:1610.00613 [nucl-ex].
4. CMS Collaboration, "Strong Suppression of Υ excited states in PbPb collisions at $\sqrt{s_{NN}} = 5.02$ TeV," CMS Physics Analysis Summary, HIN-16-008. `https://cds.cern.ch/record/2217909/files/HIN-16-008-pas.pdf`

Full list of publications at: `http://inspirehep.net/author/profile/C.Flores.2`

INVITED TALKS

C. Flores [CMS Collaboration], "Bottomonia results from LHC Run 1 and 2 with CMS," Talk at Quark Matter 2017. https://indico.cern.ch/event/433345/contributions/2358628/

C. Flores [CMS Collaboration], "Bottomonium production in pp and PbPb collisions with the CMS experiment," Talk at Strangeness in Quark Matter 2016. https://indico.cern.ch/event/403913/contributions/1849310/

CONTRIBUTED TALKS - UNDERGRAD

E. Burks, C. Flores, D. Gilbert, K. Liu, T. Felter, S. Charnvanichborikarn, S. Kucheyev, J. Colvin, "Synthesis of Low Density Metallic Nanowire Network", In APS Meeting Abstracts, 2013.

J. Colvin, S. Charnvanichborikarn, T. Felter, C. Flores, K. Fournier, D. Gilbert, S. Kucheyev, K. Liu, "On Optimizing K-Shell X-ray Conversion Efficiencies with New Nano-structured Laser Targets", In APS Meeting Abstracts, 2011.