# Curriculum Vitae

## James Wetzel, Ph.D.

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### Address

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### Personal Details

Place of birth: Bettendorf, Iowa, USA
Present Citizenship: US

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### Education

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| 2008 - 2014 | Ph.D. in Physics |
| | The University of Iowa |
| | Thesis: *A Search For A Heavy Majorana Neutrino And A Radiation Damage Simulation For The HF Detector* |
| 2004 - 2008 | B.Sc. Physics |
| | Certificate in Entrepreneurial Management, JPEC |
| | The University of Iowa |

## Professional Working Experience

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|---|---|
| 2021 - Present | Founder<br>Animal Lamps, LLC |
| 2018 - 2020 | Visiting Assistant Professor of Physics<br>Augustana College, Rock Island, IL |
| 2018 - 2018 | Director of Research and Development<br>FarrPro, Inc., Iowa City, Iowa |
| 2017 - Present | Adjunct Assistant Professor of Physics<br>The University of Iowa |
| 2016 - 2018 | NSI Summer School Instructor - Applied Data Analytics<br>Belin-Bank Center, The University of Iowa |
| 2015 - Present | Owner, Corridor Design Company, Inc., Iowa City, Iowa |
| 2015 - Present | Adjunct Assistant Professor of Physics<br>Coe College, Cedar Rapids, Iowa<br>*Developed and teach an introductory level astronomy course with lab component, and teach physics.* |
| 2014 - 2017 | Part-Time Physics Instructor<br>Augustana College, Rock Island, IL |
| 2014 - Present | Research Scientist<br>The University of Iowa, Experimental Particle Physics Group |
| 2014 - 2018 | NSI Summer School Instructor - Classical and Modern Physics<br>Belin-Bank Center, The University of Iowa |
| 2013 - Present | Physics and Astronomy Lab Instructor<br>Coe College, Cedar Rapids, Iowa |
| 2012 - 2020 | President<br>Normandy Court Condominium Association |
| 2011 - 2013 | NSI Summer School Co-Instructor - Classical and Modern Physics<br>Belin-Bank Center, The University of Iowa |
| 2008 - Present | YouTube Partner \| youtube.com/jwwetzel |
| 2008 - 2014 | Research Assistant and Teaching Assistant<br>The University of Iowa Dept. of Physics and Astronomy |

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| 2004 - 2008 | Undergraduate Research Assistant<br>The University of Iowa |
| 2003 - 2003 | Assembled and tested elevator door operators for KONE<br>Harrington Signal, Inc., Moline, IL. |

## Peer-Reviewed Publications

As a senior member of the CMS Experiment, I am listed as a co-author of over 700 CMS collaboration publications. I have performed numerous and varied service work in order to maintain this authorship, from software to hardware projects, to data analysis and running accelerated beam experiments at Fermi National Accelerator Laboratory and CERN.

The following are selected CMS publications to which I directly contributed to:

- 2020 - "Scintillation Timing Characteristics of Common Plastics for Radiation Detection Excited With 120 GeV Protons", Turk J Phys (2020) 44:437-441
- 2018 "Brightness and uniformity measurements of plastic scintillator tiles at the CERN H2 test beam", JINST 13 P01002
- 2016 "Search for heavy Majorana neutrinos in $e^{\pm}e^{\pm}$+jets and $e^{\pm}\mu^{\pm}$+jets events in proton-proton collisions at $\sqrt{s} = 8$ TeV", JHEP 04 (2016) 169
- 2015 "Search for heavy Majorana neutrinos in $\mu^{\pm}\mu^{\pm}$+jets events in proton-proton collisions at $\sqrt{s} = 8$ TeV", Phys. Lett. B 748 (2015) 144
- 2012 "Search for new physics with the dijet angular ratio", CMS-PAS-EXO-11-026

The following are papers I directly contributed to that are related to work independent of the CMS Collaboration:

- 2017 J. Wetzel et al. "Using LEDs to Stimulate the Recovery of Radiation Damage to Plastic Scintillators", NIM B 2017.01.081
- 2016 M. Amouzegar et al. "Liquid Scintillator Tiles for Calorimetry", JINST 11 P11018
- 2016 J. Wetzel et al. "Radiation Damage and Recovery Properties of Common Plastics PEN and PET Using a 137Cs Gamma Ray Source Up To 1.4 MRad and 14 MRad", JINST 11 P08023
- 2016 E. Tiras et al. "Characterization of photomultiplier tubes in a novel secondary ionization mode for Secondary Emission Ionization Calorimetry", JINST 11 P10004
- 2012 U. Akgun et al. "Quartz plate calorimeter prototype with wavelength shifting fibers", JINST 7 (2012) P07004
- 2010 U. Akgun et al. "CMS hadronic endcap calorimeter upgrade studies for SLHC 'p-terphenyl deposited quartz plate calorimeter prototype'", IEEE Trans.Nucl.Sci. 57 (2010) 754-759 (2010-02-18)

## Peer-reviewed Proceedings & Reports

- E. Tiras, J. Wetzel, B. Bilki, D. Winn, Y. Onel 'Development of Radiation Hard Scintillators', PoS 38th ICHEPJ2016, 2017
- B. Bilki, Y. Onel, E. Tiras, J. Wetzel and D. Winn, 'Radiation Damage Studies of New Intrinsically Radiation Hard Scintillators', IEEE Xplore, 2016 IEEE NSS/MIC.
- B. Bilki, Y. Onel, E. Tiras, J. Wetzel and D. Winn, 'New Radiation Hard Wavelength Shifting Fibers', IEEE Xplore, 2016 IEEE NSS/MIC.
- U. Akgun, et al. 'P-Terphenyl deposited quartz plate calorimeter prototype', Proceedings, 2008 IEEE Nuclear Science Symposium

## Grants and Awards

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|---|---|
| 2017 | Visiting Science Scholar - Bettendorf High School |
| 2014 | US CMS Education and Outreach - Fermilab |
| 2014 | Graduate College Summer Fellowship - UIowa |
| 2012 | LPC Short Term Program - Fermilab |
| 2006 | Van Allen Summer Research Grant - UIowa |
| 2005 | Van Allen Summer Research Grant - UIowa |

## Advanced Skills

**Operating Systems:** Windows 3.1 to 10, OS X, Ubuntu, Debian, Linux, SUSE, Redhat, Scientific Linux, etc.

**Programming:** C++, Python, Swift, iOS, MySQL, PHP, HTML, CSS, BASH scripting

**Productivity Software:** Excel, Word, Powerpoint, Pages, Keynote, Numbers, LaTeX, iBooks Author, Xero

**Scientific Software:** ROOT, MatLab, SpectraSuite, Mathematica, Xcode, Git, SVN, FLUKA, GEANT4, MaxIm DL, Stellarium, Starry Night

**Design Software:** OnShape, SolidWorks, Autodesk Inventor, SketchUp

**Editing Software:** FinalCut Pro, Logic, GarageBand, iMovie, Aperature, Light Room, Photoshop

**Musical Instruments:** Percussion/Drums, Guitar, Bass, Piano, Violin

## Writings

Fermi News: "Guillermo Moroni wins URA Tollestrup Award"
https://news.fnal.gov/2019/07/guillermo-moroni-wins-ura-tollestrup-award/

Fermi News: "Laura Fields receives URA Early Career Award"
https://news.fnal.gov/2019/06/laura-fields-receives-ura-early-career-award/

## References

These persons are familiar with my professional qualifications and my character:

**Prof. Ugur Akgun**
138 Peterson Hall
Coe College Physics Department
Cedar Rapids, IA 52402
The United States of America
Phone: +1-319-399-8597
Email: uakgun@coe.edu

**Dr. Burak Bilki**
203 Van Allen Hall
Iowa City, IA
The United States of America
Phone: +1-319-512-9750
Email: burak-bilki@uiowa.edu

## Continuing Education

- Analyzing the Universe by Rutgers the State University of New Jersey on Coursera. https://www.coursera.org/account/accomplishments/certificate/69LCEQL2G2A3

Iowa City, Iowa, July 9, 2021