

## EDUCATION

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### Physics and Laboratory Automation, Master of Science

May 2011

Appalachian State University

Member of Sigma Pi Sigma - Physics Honors Society

### Physics and Astronomy, Bachelor of Science

May 2008

Appalachian State University

Requirements for Japanese Minor completed after graduation

Dec 2022

Insights on the Binary Asteroid 121 Hermione

Sept 2009

P. Descamps, J. Pollock, J. Green, et.al;

## WORK EXPERIENCE

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### Appalachian State University ITS

Boone, NC

#### Systems Engineer

July 2022 - Current

- Developed and deployed RHEL based HPC cluster with Slurm and Apptainer/Singularity.
- Deployed Rstudio and Posit Connect for research computing on RHEL.
- Adobe Creative Cloud administration, migrated to Azure AD sync.
- JAMF 100 Certification.
- Linux Foundation Kubernetes Administrator training.
- Continued maintaining Debian, Ubuntu and RHEL based servers.

#### Network Specialist

November 2013 - July 2022

- Deployed and maintained Ansible for configuration management.
- Built transparent OpenVPN tunnels for remote campuses using Debian.
- Developed OpenVPN authentication program in Python to integrate with AD and Duo 2FA.
- Maintain Cacti graphing instance on FreeBSD and later Debian.
- Provide tier two support to end users.

#### Operations and Systems Analyst

February 2010 - November 2013

- Performed system administration tasks on Red Hat Enterprise Linux (RHEL) based systems.
- Email administration: MailScanner, Sendmail, Postfix, Dovecot IMAP.
- Setup initial MySQL cluster.
- Deployed and maintained Drupal infrastructure, serving over 350 sites.
- Created a Python program for automatic locking of suspected phished accounts.
- Migrated SMTP servers from Sendmail to Postfix.

#### PC and Mac Tech

August 2003 - January 2010

- Serviced PC and Macintosh hardware and software; provided training and support.
- Developed diagnostic and storage systems running on Linux.
- Received Apple Customer Service Excellence awards.

**Adjunct Astronomy Faculty**

*August 2013 - May 2018*

- Teaching introductory astronomy concepts to students; providing and evaluating hands-on exercises.
- Operated the Rankin GoTo Astronomy Lab consisting of several Celestron SCTs and SBIG imaging cameras.
- Setup the video stream for the 2017 solar eclipse, configured software and hardware.
- Assisted in the management of the laboratory desktop software stack in Linux and Windows 7.

**System Administrator**

*August 2007 - May 2008*

- Deployed and maintained a Mac and Linux classroom server for computational physics.
- Developed a program that allowed students to submit their work for grading.

**Research Intern**

*May 2007 - May 2008*

- Used instrumentation available at Dark Sky Observatory and via SkyNet; reduced and analyzed data for publication.
- Created poster presentation for asteroid research.
- Presented research and UNC Greensboro and Appalachian State.

**Astronomy Lab TA**

*September 2005 - May 2006*

- Instructed students in their lab work including the use of Meade and Celestron SCT telescopes.
- Answered student questions and provided understanding of basic astronomical concepts.

**Apple, Inc**

Durham, NC

**Mac Specialist**

*May 2005 - September 2006*

- Advised and set up customers with Apple products.
- Developed and presented workshops on using and developing software for the Mac platform.

**SKILLS** \_\_\_\_\_

**Languages:** English (Native), Intermediate Japanese

**Operating Systems:** Debian, Ubuntu, Red Hat Enterprise, FreeBSD, Fedora, macOS, Windows

**Digital Photo & Video Software:** darktable, GIMP, Photoshop, Adobe Camera RAW, DaVinci Resolve, Kdenlive, Final Cut

**Photo and Video Systems:** Nikon Digital, Fuji Digital, Mamiya 645, GoPro

**Programming and Scripting:** Python, bash, ksh, R, CSS, C, Intel ASM

**Advanced File Systems:** OpenZFS, BTRFS

**Containers & Virtualization:** Xen, KVM, VMware, Kubernetes, Podman, Apptainer, Singularity

**Project Management:** Jira, Redmine

**Databases & DB Like:** MySQL, PostgreSQL, sqlite, redis

**Document Preparation:**  $\LaTeX$ , Office, Markdown

## **PRESENTATIONS AND PUBLIC SPEAKING**

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Binary Asteroid Light Curves	SNCURS - <i>October 2009</i>
Photography Basics	Catchlight Gallery - <i>Summer 2013</i>
Darktable: Digital Photo Processing on Linux	South East Linux Fest - <i>June 2022</i>
写真術における日本の影響	W2A Conference - <i>October 2022</i>
日本人の彗星の狩り	Appalachian State University - <i>April 2023</i>

## **INVOLVEMENT**

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- Volunteer firefighter with Todd Volunteer Fire Department, assist with technical duties as well.
- Club advisor for the AppState Gaming Club.
- Contribute to testing, bug reports and how-to videos for darktable, an open source RAW photo developer.
- Create presentations for local Linux User Groups on various topics.
- Amateur radio operator, General Class call sign KM4AZD, Watauga Radio Club member.
- Volunteer for ASU Dark Sky Observatory Public public nights and outreach.

## **MEMBERSHIPS AND AWARDS**

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Blue Ridge Photo Fest	Organizer
Electronic Frontier Foundation	Member
National Association for Amateur Radio (ARRL)	Member
Watauga County Beekeeping Association	Member
LaFayette Memorial Scholarship	2003
Wrenn Memorial Scholarship	2003-2005
Sigma Pi Sigma Physics Honors Society	2010
Appalachian Mountain Photography Contest Finalist	2012