

# Jeffrey M. Knerr

Creative [Level III-IV Linux System Administrator](#) looking to learn and contribute.

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<https://jeffknerr.github.io>

## EXPERIENCE

### Swarthmore College — *Linux System Administrator*

AUG 1998 - PRESENT

Maintain all aspects of the Computer Science Department's infrastructure as they have grown from 2 Professors, 1 server, and 10 lab computers to their present size: 13 Professors, 24 servers, 150+ lab computers, 400-600 active users. Responsibilities include:

User Support: help faculty and students with everyday problems, manage user accounts, create and maintain system documentation, install and configure software as needed for faculty and student teaching and research

Troubleshooting and Maintenance: monitor log files for problems, isolate, debug, and fix hardware and software issues from start to finish, plan system downtimes, apply patches and upgrades

System Security and Monitoring: monitor system and network health and usage, provide 24/7 on-call support, stay current on security threats and best practices, test user environments and system services

Planning and Budgeting: work with faculty to provide hardware and software needed for teaching and research, obtain quotes, manage budgets (\$60-90K per year), purchase, install, and test all servers and lab computers, track assets and recycle old equipment, assess risk of and plan for service failures

Student Supervision: hire, train, and manage group of 2-4 student system administrators. Assign projects, monitor progress, give feedback, provide opportunities for students to learn and gain experience

Current services include: **email** (postfix, dovecot, rspamd), **NFS** (purestorage /x20 flash array), **dns** (bind9), **web** (apache2), **LDAP** (OpenLDAP), **ssh** load distribution (haproxy), network and host **monitoring** (zabbix and grafana), **configuration management** (ansible, git, FAI), **firewall** (pf), **password** (flask app). Most servers run Debian Buster, lab computers run Ubuntu 20.04. Network running on HP Aruba 2930M 48G stacked switches.

### Swarthmore College — *Visiting Assistant Professor*

FALL 1999 - SPRING 2020

Taught 1-2 sections of the Computer Science Department's [Introduction to Computer Science](#) class for 20 semesters, with 34 students per section. Originally taught in C (3 semesters), taught in python since 2008. Prepared lectures, designed weekly lab assignments, mentored students, taught weekly lectures and lab sessions.

1995-1997 **UNC-Greensboro Dept. of Physics — Lecturer**

1993-1995 **NC State University Dept. of Physics — Postdoctoral Research Associate**

## EDUCATION

**University of North Carolina, Chapel Hill — Ph.D., Astrophysics, 1993**

Modeled wind-accelerated clouds using Cray Y-MP supercomputers

**University of North Carolina, Chapel Hill — M.S., Physics, 1989**

**College of William & Mary, Williamsburg, VA — B.S., Physics, 1987**

References and Performance Reviews available upon request.

## Everyday Languages/Tools

python, bash  
Debian, Ubuntu  
OpenBSD, pf  
apache2, nginx  
bind9  
OpenLDAP  
postfix, dovecot, rspamd  
webhooks, flask, gunicorn  
kvm virtual servers  
git, ansible  
fully-automated install (FAI)  
haproxy ssh load distribution  
NFS, rsync snapshots  
iscsi flash array  
zabbix, grafana  
zsh, tmux, vim, mutt  
asciidoctor, markdown, jekyll  
tripwire, swatch, fail2ban  
virtualenv, anaconda

## Prior Experience With

C, perl, FORTRAN  
Solaris 10, jumpstart  
RedHat 8  
nagios  
salt