

CDER - Center for Parallel and Distributed Computing Curriculum Development and Educational Resources

What should every Computer Science and Computer Engineering Student know about Parallel and Distributed Computing (PDC)?

NSF/IEEE-TCPP Curriculum Initiative on Parallel and Distributed Computing - Core Topics for Undergraduates

Areas

Programming, Architecture, & Algorithms
Version 1 – 2012
- Informed 2013 ACM/IEEE CS Curricula
- 200+ early adopters or instructor trainees

New Aspects

Big Data, Energy, Distributed Computing,
Pervasive topics
Version 2_B – 2020

Current Activities

CS1/CS2 Exemplars NSF Project
Computer Engg.-oriented TCPP Curriculum

Edu* Workshops – Upcoming

EduPar'25 @ IPDPS, **June 4, Milan**
EduHPC'25 @ SC, **Nov, St. Luis**
EduHiPC'25 @ HiPC, **Dec, India**

JPDC Special Issues

Keeping up with Technology: Teaching Parallel,
Distributed and High-Performance Computing
(2017, 2019, 2021, **2025**)

CDER RESOURCES

Call for Applications – NSF/CDER Instructor Training Workshop

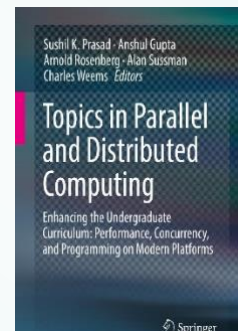
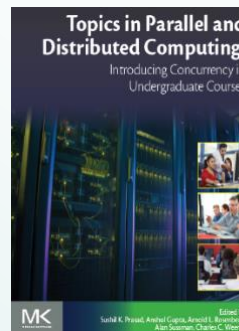
\$3K Stipend/trainee
See back page for details

Application deadline
March 31, 2025

July 14 - 18, 2025 @ UMass

CDER Book series

Free 50K+ chapter downloads



Upcoming - CDER Book 3rd Volume
On experience of Adopters - Exemplars
+ Resources on courses and topics

CDER Courseware Website

Search & Upload Course Material



Public Feedback on TCPP Curriculum & Contact
sushil.prasad@gmail.com





Call for Applications



NSF/CDER Instructor Training Workshop

MODERNIZING THE EARLY CS COURSES WITH PARALLEL AND DISTRIBUTED COMPUTING

July 14 - 18, 2025 hosted by UMass, Amherst (NSF Award # [2017590](#))

Why Should a Faculty Member Participate?

An NSF-sponsored summer program to help faculty incorporate Parallel and Distributed Computing (PDC) into courses for students in their first two years of undergraduate study. By adopting the material in this and related NSF projects, your will

- Be a Trailblazer
- Be able to Contribute Resources
- Enhance Your Expertise through Further Collaboration
- Be a CDER Center Affiliate

Workshop Agenda:

- PDC Unplugged & Plugged Activities
- Educational Evaluation Methodology
- Previews of modern exemplar first year courses
- Integrating PDC Topics in CS1, CS2, Data Structures and Algorithms, Systems/Comp Org

Application Deadline

March 31, 2025

\$3000

Stipend/trainee

[Apply now!](#)



CDER Events at SIGCSE'25

CDER Booth #120

Thu-Sat Feb 27-March 1, 2025

Special Sessions Thursday and Friday 1:45 pm – 3:00 pm

Presentations on

Unplugged activities

CS1/2 Exemplars

Related projects

TCPP Curriculum Feedback Survey

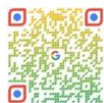
Architecture Area



Programming Area



Algorithms Area



Aspects of Big Data, Energy and Distributed



Slots available
Register now!

**Tutorial on
Modernizing CS
Intro Courses (#302)**

**Fri Feb 28, 2025
7:00 pm - 10:00 pm**

at

Meeting Room 310

NSF Stipend:
\$400/trainee