Kean University Workshop Proposal
SC08 Summer Workshop Series

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Science, Technology, and Mathematics Education

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Computer Science

Workshop topic

The workshop would focus on **parallel and high performance computing, with additional sessions on physics education and high performance computing**. Primary workshop content would draw from the traditional parallel computing curriculum, but additional mini-sessions would be added to address the issue of creating content that demonstrates the use of high performance computing hardware to solve modern day HPC problems, in particular those that deal with multi-physics problems.

In parallel with the Physics sessions will be sessions geared primarily to local faculty on the day-today use of HPC resources, in particular use of shell scripts and queuing systems to simplify job creation and submission.

Proposed dates

May 31 – June 7 (preferred)

Dates between May 14 and June 21 are acceptable if the preferred date is not available, however rooms will need to be reserved locally as soon as possible.

Anticipated Participants

The workshop date has been chosen to maximize participation by local faculty and nearby residents, as New Jersey public universities will have completed the spring semester yet still be on their standard academic year contract at the time of the workshop. There is a vested interest in focusing on parallel computing as the campus has recently been awarded a large (800-core) computing resource that will be available to faculty on campus, and to faculty at nearby school who partner with faculty on campus. This machine will be the fastest machine of any public school in New Jersey, and education is a significant use of the machine. Our faculty, many of whom have limited experience on parallel hardware, will need training on how to use the machine and how to incorporate it into their teaching. We expect the potential for collaboration with local faculty will be a draw for community college faculty in the area.

We will recruit from local community college and state college faculty, and will include dedicated machine time during and after the workshop as part of the acceptance for the workshop.

Based on preliminary polling of faculty, we expect to be able to draw 15 faculty locally, and an additional 10 faculty nationally who are interested in HPC and physics education.

Facilities/Location Description

Residence Halls

8 two bedroom style apartments have been set aside for the conference. This number can be increased if needed based on demand. Each room will accommodate 2 individuals: 1 per bedroom. Amenities that are not included in the room: Air conditioning (average temperature May-June is in the 60s), Iron, Ironing board, toiletries, bed sheets (extra long/ twin), pillows, blankets, towels, alarm clock. *Other possible accommodations will be viewed on a case by case basis (spouse, family, etc.) as such arrangements would need to be approved by the University attorney regarding liability.*

Participants wishing to arrange their own lodging are recommended to contact the airport Hilton (approx. $150.00 per night) or the Kenilworth Inn (approx. $120.00 per night), and will need to provide their own transportation each day.

Classroom/Laboratory Space

Space available for the conference includes (a) 1 smart classroom (location may change, but L-157 has been tentatively reserved) that can accommodate all participants (b) T-117 can accommodate approximately 26 individuals and (c) 3 smaller break out rooms that can accommodate up to 16 individuals per room. Overhead projector available in the smart classroom and in T-117. 1 Portable projector is available through the NJCSTME office. Wireless internet is available throughout most of the campus to accommodate laptops. Computer Lab access will be available to participants (summer hours have yet to be posted).

Dining

All group meals can be catered on campus within the workshop budget, and there are a variety of local restaurants to choose from for hosting the workshop banquet.

Location

Kean University is located in Union, NJ an urban environment in Northern New Jersey close to both Newark, NJ and New York City.

A wide variety of local restaurants are available within walking distance of campus, and the town center is a short drive (2 miles) from campus.

Additionally, there is an NJ Transit train station across the street from campus providing easy access to many points within the Metro area. The average time by train to Penn Station in NYC is 45 minutes from campus.

Banquet Facilities

In addition to campus catering services, there are a variety of local restaurants that could be used to host the workshop banquet.

Access to University facilities

Participants staying in the dorms will have access to university athletic facilities.

Budget

A sample budget is computed assuming 25 participants and instructors, 16 of which require lodging, 20 of whom will participate in morning and evening meals. All costs are given per person, and remain within budget limits even if all participants require lodging and meals.

Dining					
	N Meals	Cost Per Meal	Total Per Person	N Particants	Total
Breakfast	6	6.85	41.1	20	822
Breaks	6	5.45	32.7	25	817.5
Lunch	6	9.75	58.5	25	1462.5
Dinner	4	13.95	55.8	20	1116
Banquet	1	20	20	25	500
Coffee Service	5	1.25	6.25	25	156.25
Water Service	5	1.25	6.25	25	156.25
Subtotal	33		**220.6**		**5030.5**

Residential				
		Cost Per Week	N Participants	
Subtotal		**154**	16	**2464**

Support Staff			
Local Coordinator	Judy April		1000
Student Support	4 students TBA		2000
Supercomputer Support	George Chang	(cost sharing offset)	0
Subtotal			**3000**

Total	**10494.5**

Local Administrative Personnel

The local administration team will consist of Judy April for logistics, George Chang for supercomputing support, and 4 students to be chosen from the computational math and computer science programs at Kean. Additionally, David Joiner will act as both an instructor and as a local host for the workshop. A member of the Office of Computing and Information Services staff will be identified to provide campus networking services where needed.

Co-Sponsoring and Cost-Sharing by your School

The Center for Science, Technology, and Mathematics Education keeps a stock of school promotional items (bags, etc.) for the workshop, and can be provided to participants.

Additionally, the department is willing to support the participation of the two faculty members helping to run the workshop (David Joiner and George Chang) by providing a 1 credit hour teaching contract for Summer Session I ($1050 at current rate) to each of them instead of charging their fees to SC. Letters of support are attached.

Communications and Technology

A student will be identified who will maintain a website for the workshop, which can either be hosted locally or on Shodor/NCSI/SC machines at SC's discretion. All materials used in the workshop will be collected in electronic form and hosted on this website, and metadata will be gathered for entry into the NSDL.

25 laptop computers are available for use in the workshop, and additional laptops/desktops/campus computing labs can be obtained if the need arises.

Kean currently has a 16-node cluster for faculty and student use, and has been awarded and is in the process of purchasing an 800-core system which will be in place in time for the workshop.

2 weeks notice is needed for all software installations, and local accounts will be made available on Kean's clusters for workshop instructional staff for testing and software installation.

Kean's computer clusters will be entirely dedicated to the workshop during the week.

Travel

The closest airport is Newark Liberty International Airport. Newark Liberty is 5 miles from campus, and easily accessible to campus by either taxi or train.

Taxi service is the quickest way to get from the airport to campus, with fares typically under $20.

Additionally, NJ Transit serves both the airport and Kean University, and a train from the airport to campus takes from 20-45 minutes depending on time of day (connection at Newark Penn Station).

Shipping

Materials can be shipped to David Joiner at 534 Central Ave, New Providence, NJ, 07974.