Workforce issues and plans to address them

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BROOKHAVEN NATIONAL LABORATORY

a passion for discovery

U.S. DEPARTMENT OF ENERGY | Office of Science

Major workforce issues
(in alphabetical order)

- Jun Chen - continuation of funding after FY16
- Kondev - 0.2 FTE missing coverage
- NNDC - maintenance of the current staff

Getting things done

- Retirees
- Contractors
- Postdocs
- Collaboration with university students (e.g., B. Singh at McMaster)
- Summer students
- Case of Said's Atlas
- Leverage - staff supported by other sources (USNDP 12/11, LANL 1/8, LLNL 0.1/2)
- International collaboration (CIELO, WPEC Subgroups, IAEA CRPs, EMPIRE team)
- Calls for proposals, LDRDs, ECA

External collaborators (retirees & contractors)

essential support to the program

Pro

- often excellent qualifications, e.g., retired ENSDF evaluators, EXFOR compilers
- very cost effective (especially if incorporated)
- flexible amount of effort
- possibility of covering particular needs
- maintain and transfer specific know-how

Contra

- continuing availability can not be guaranteed
- job-shoppers increase the effective cost by 50%
- in long term, risk of loosing in-house expertise

Small contracts for Faculty at Teaching Colleges

- Beginning Oct 1st, 2015 NNDC took Gulhan Gurdal under contract for XUNDL compilations

Qualifications:

- Post doc with F. Kondev, A=110 mass chain evaluation completed
- A=70 mass chain evaluation with E. McCutchan (no funding)
- Continued contact with experimental nuclear structure community

Benefits for both sides

- USNDP : very low-cost contributions to XUNDL
- Faculty: even small grant goes a long way at teaching university

Caveat: Will only work with experienced, well qualified individuals. Should be well-designed project targeting basic needs of USNDP.

Postdocs

- Cost about half of the staff
- Term appointment - suitable for temporary funding (e.g., grant, LDRD, …)
- Excellent path to staff position if… such is available
- Require tutoring by experienced staff - an investment that is lost if postdoc is not retained

Students at Universities

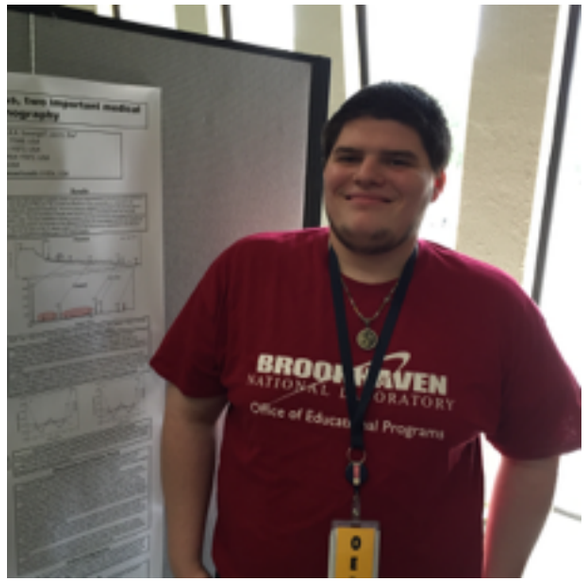
- Can B. Singh success story with XUNDL be replicated?
- NNDC got some positive experience with Lowell
- High expectations at UCB
- NNDC is considering to host RPI's Ph.D. student
- Possibility of student-specific funding

Summer students

- Can be very productive if a student and a task are properly chosen
- The task needs to be well defined, accessible, self-contained and doable in a short period
- Otherwise, may take more time from the staff member than it is worth
- Can't be used for a continuing activity (e.g. compilation)

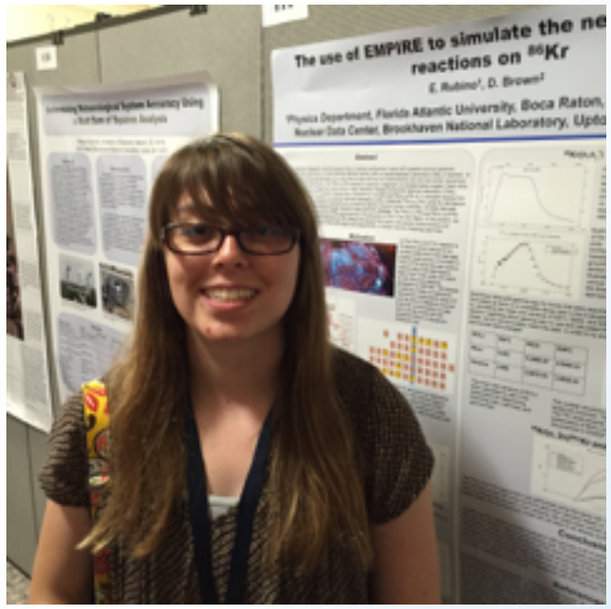
NNDC Summer Students, 2015

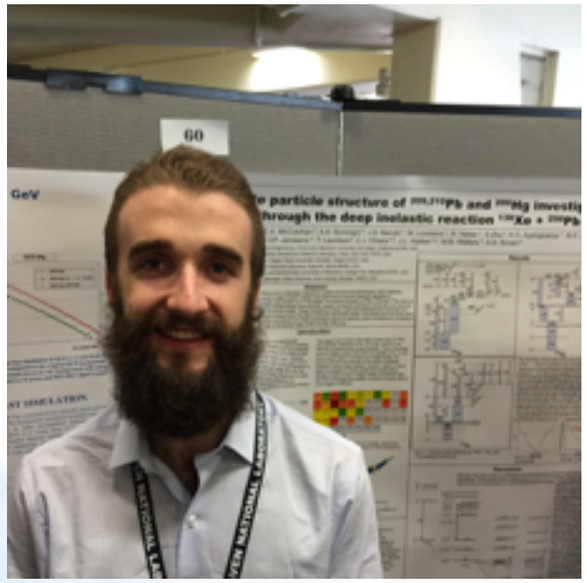
- Very successful 2015 summer projects covering many aspects of NNDC program
- Students are fully funded through DOE
- Plan to expand to additional students for summer 2016



Michael Nino
Hofstra University
Physics
Class of 2017
"High precision gamma-ray spectroscopy of medical isotopes"

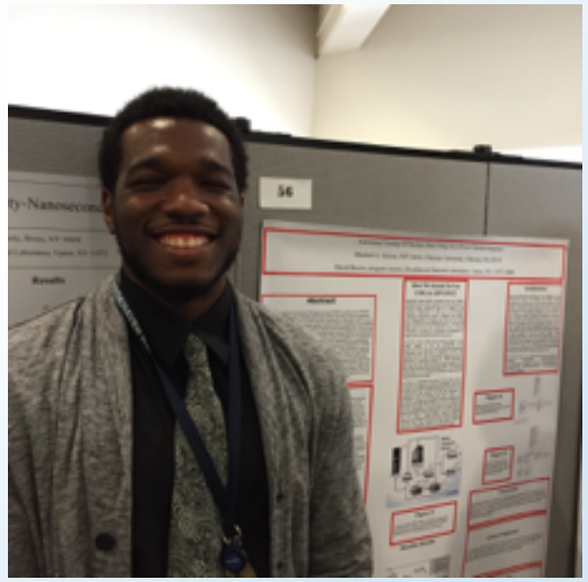
Elizabeth Rubino
Florida Atlantic University
Physics
Graduated Spring 2015
"The use of EMPIRE to simulate the neutron induced reactions on ^{86}Kr"
Now graduate student at FSU





Clayton Hamill
Point Loma University
Physics
Class of 2016
"Single particle structure of $^{209,210}Pb$ and ^{206}Hg"

Mecheal Greene
Cheney University
Computer Science
Class of 2016
"Automated testing of nuclear data using zero-power nuclear reactors"



- Two students received full funding via CEU to attend APS DNP meeting
- One student has paper submitted to PRC (as first author)

Other DOE funded programs

- Additional DOE funded programs which NNDC plans to utilize to increase workforce contribution to USNDP with no cost to USNDP

Visiting Faculty Program (VFP)

- Faculty at non-research oriented university funded for 10 weeks at BNL
- Two candidates applying for 2016 summer participation (1 structure, 1 reactions)
- This could generate a pipeline for small contracts to universities

Science Graduate Student Research Program (SGSRP)

- Funding for graduate students to work directly at national lab for 3 – 12 months
- Two candidates applying for Fall 2016 participation (1 structure, 1 reactions).