Graduate Student Post-Doc Association Synopsis

Below we include the synopsis's for each of three primary activities of the graduate student post-doc association (GSPDA).

Pizza Seminar Synopsis

The Pizza Seminar Series contributes directly to the scientific and intellectual atmosphere of the laboratory and showcases current research being done. These seminars are very well attended by graduate students and postdocs. The seminars provide an opportunity for graduate students and postdocs to learn about research outside of their own projects. The seminars also provide an opportunity for both post docs and graduate students to present their own work in preparation for a thesis defense, conference talk, or an interview. In the summer months, undergraduate students also attend. A list of speakers and topics from previous years is attached.

The Annual Summer Picnic is geared toward the summer students at the lab. This event presents an opportunity for the students to engage in discussions with graduate students and postdocs along with their mentors. This presents an informal atmosphere for students to learn from graduate students and postdocs and to attract students to further their research careers in Jefferson Lab physics.

Computing Workshop Synopsis

Graduate students and postdocs spend a significant amount of time developing software and analyzing data using specific data analysis software. Software development and data analysis require knowledge of high level programming languages and interfacing with new operating systems. Several users have expressed interest in having a formal introduction to the data analysis tools and techniques used at Jefferson Lab to reduce the initial learning time required to develop these skills. In previous years, Software Carpentry was hired to lead workshops on UNIX, Python, and high throughput/parallel computing. In coordination with GSPDA and UGBOD, the JLab Computing Center held a Computing Workshop for graduate students and postdocs in the previous two years. Both workshops have been well attended. The topics covered included: command shell, GitHub, JLab computing, computing on the Open Science Grid, Python, and ROOT.

Journal Club Synopsis

The main activities of the journal club consist of two meetings per month to discuss a scientific article, or review, whose topic is pertinent to the scientific program carried out at JLab. During the calendar year the club meetings will be divided into three blocks each of which are four months. At the beginning of each block, the

advisors of the club, which would consist of two or three senior researchers of the lab, would propose a set of six to ten articles.

The inaugural block meeting will be primarily focused on assessing the relative interest of the selected articles and providing a general description of the clubs purpose as well as the desired format of the sessions. The three articles of primary interest will be selected as the articles which will be reviewed during the block. Three review groups will then be formed whose size will depend on the number of participants. After the groups have been formed, a schedule will be formulated such that there is one article assigned each month within the block.

The bi-monthly sessions of each block will be held consecutively for two weeks so as to maintain the continuity of the discussion, since both sessions will revolve around the same article. Each participating group will be responsible for preparing a two-part presentation that is primarily focused at generating discussion within the journal club setting.

Graduate Student Post-Doc Association Executive Summary

Below we include the executive summaries for each of three primary activities of the graduate student post-doc association (GSPDA).

Pizza Seminar Executive Summary

This request is to continue support for Jefferson Lab's monthly lunchtime pizza seminars that are geared towards graduate students and postdocs.

Computing Workshop Executive Summary

The computing workshop will utilize multiple instructors from Jefferson Lab and nearby Universities in order to provide a three-day comprehensive workshop on computing in UNIX, Python, ROOT, and parallel computing. Food for the workshop is matched at 50% from JLab as per Bob Mckeown.

The first Computing Workshop took place from May 17th – May 19th, 2017. There were 41 students officially registered (48 seats in total available), and we allowed students who were not registered but wanted to attend to sit in on the workshop provided they did not take the seat of someone who did register. The time of year that the workshop was held was beneficial to the many new students just arriving to begin their summer research. The Unix section was most useful to new students. The GitHub section was received well by all. The majority of students were signing up specifically for the Python modules. This was taught well for beginners and a more advanced version is desirable for users who are already familiar with programming in C++ and Java. In the post workshop surveys, students are already expressing a desire for more lectures at a higher level.

Survey results from the computing workshop are available here:
RESULTS PRE-WORKSHOP: https://www.surveymonkey.com/results/SM-RTK6G3VH/
RESULTS POST-WORKSHOP: https://www.surveymonkey.com/results/SM-FDWJB3VH/

The computing program guide can be found here: https://swc-osg-workshop.github.io/2017-05-17-JLAB/

The second Computing Workshop took place from May 21st – May 23rd, 2018. There were 30 participants registered, which was the maximum due to room size restrictions. We believe the time of year this workshop is held is best for students. It is after finals and usually around when new graduate students first report to Jefferson Lab to begin their research. From verbal feedback, the Linux introduction was too basic and would need to be at a higher level. The GitHub and Jupyter notebook tutorials were very well received. There was also an introductory ROOT workshop lead by Ole Hansen. He has offered to also lead an intermediate level workshop.

The schedule for the 2018 computing workshop can be found here:
https://kevin-vilbig.github.io/2018-05-21-JLAB/

Journal Club Executive Summary

Jefferson Lab is host to a significant number of undergraduate students, graduate students, and post-docs. Its research program in nuclear physics attracts the talent of both domestic and international young scientists. As such, it provides the required environment to learn skills that form the basic toolkit of research in fundamental science. In addition, it is desirable that other primary skills for their career development are nourished.

Regardless of whether their career path leads them to academia or the private sector, communication and presentation skills are some of the most valuable and transferable abilities a young scientist can acquire. We propose organizing a bi-monthly journal club open to the most junior members of the lab. Each session will focus on a single article, selected according to the interest of the club members. The available set of articles will be chosen by senior researchers in order to ensure scientific quality of the topics discussed and to maintain their relevance towards the scientific mission of JLab.

Much attention will be given to the advertising process before the inaugural session which is aimed to be held in late January 2020. A poster will be fabricated to advertise the club around the lab. This advertisement will also be disseminated electronically e.g. the JLab weekly newsletter, collaboration mailing lists, as well as the CUGA mailing list. As a second resource to advertise the journal club, we will provide a more detailed description on the graduate students and post docs association (GSPDA) wiki webpage. The list of articles for review will also be listed on the website well, in advance of the first meeting. In addition, the website will provide examples of the architecture of journal clubs at other institutions, as well as the presentations associated with their meetings.

Graduate Student Post-Doc Evaluation Plan

Below we include the executive summaries for each of three primary activities of the graduate student post-doc association (GSPDA).

Pizza Seminar Proposal Evaluation Plan

Evaluation is primarily done via attendance and verbal feedback from the students and post-docs. The pizza seminars regularly have attendance of 40-50 people. We plan for 50-60 students in the upcoming year in our budget estimate. The GSPDA meetings have an open invitation policy, and graduate students and post docs are encouraged to attend and contribute to the discussions on the effectiveness of the seminars and the selection of speakers and topics.

Computing Workshop Evaluation Plan

Computing Workshop attendees will answer questions about their current skill level and objectives when registering for the workshop. During the workshop, attendees will work through guided, practical exercises so that they will have codes accessible for reference at the end of the workshop that they can use to build on in their own computing. After the workshop, attendees will be asked to fill out a survey to see if they met their expectations and objectives for the workshop and seeking suggestions for improving these software workshops. As we are planning for three workshops, the feedback we obtain from each will be important to the success and planning of future workshops. The evaluations will be maintained by the Graduate Students and Post Docs Association for evaluation and planning purposes.

Journal Club Evaluation Plan

In order to have a quantitative performance evaluation, we will have an assistance list every session. Independent of that, we will invite the advisors to join as often as time permits, but at least twice each block, to provide feedback, and have a form of qualitative and scientific evaluation. Finally, during each block we will have an open space online where members can provide feedback, and that would especially encouraged to be filled at least towards the end of each block.

Graduate Student Post-Doc Budget Justification

Below we include the budget justification for each of three primary activities of the graduate student post-doc association (GSPDA).

Pizza Seminar Budget Justification

A requested amount of $4085 would fund 12 pizza seminars, the annual Summer Picnic, and travel support for invited speakers. Of the $4085, $300 is requested for the travel support to offset the costs of transportation from nearby Universities. An amount of $700 is requested for the annual Summer Picnic. This event serves to provide high school, undergraduate, graduate students and postdocs an informal opportunity to network and discuss research and career opportunities in physics.

Computing Workshop Budget Justification

The computing workshop requires Software Carpentry instructors, and the associated materials, which is $2500. The travel support necessary for the instructors, which includes their stay at the SURA residency facility, amounts to $900. Refreshments for the three days that will be provided to both the participants, volunteers, and participants amounts to $600. Thus, we are requesting an amount of $4000 in order to support the computing workshop.

Journal Club Budget Justification

The budget will be used to provide refreshments and snacks to the participants. Our estimation is to spend $170 in the session where a new article is introduced where pizza will be provided. For the second session for a given article, we would expect to spend $30 where a more frugal refreshment will be provided so that attendance will be encouraged primarily by the discussion of the topic presented in the first session. These numbers assume that we will have an attendance of 20-30 young scientists.