The Roy J. Carver Department of Biochemistry, Biophysics and Molecular Biology (BBMB) currently has 80 graduate students studying for advanced degrees, 49 in the biochemistry and biophysics graduate programs administered by the department and 31 in the interdepartmental graduate programs of Bioinformatics and Computational Biology; Genetics; Immunobiology; Molecular, Cellular and Developmental Biology; and Plant Biology. BBMB would like to propose a GLC, open to its biochemistry and biophysics graduate students that would also interact with interested interdepartmental students that will focus on professional development and career exploration in the biochemistry and biophysics disciplines.

1. Professional development and career exploration challenges faced by graduate students

The perception of most graduate students in our programs is that they have two career options, academia or industry, and that jobs in these areas are highly competitive. The challenge for a graduate student is to figure out which career path to prepare for or to discover other career options that may be of interest to them where their advanced degree is useful.

2. Planned components of the BBMB GLC

The BBMB GLC will be led by the BBMB DOGE, Professor Reuben Peters, and two graduate student peer mentors to be determined. The GLC will meet once a month during the academic year. In addition, at least one career workshop is planned for the first year.

- Prior to the first meeting of the GLC, group members will have completed the Individual Development Plan (IDP) self-assessment tool so they will have considered their skills, values, and interests. The IDP program will continue to be used as a learning tool and resource for professional development and career exploration.
- A presentation on how to use IDP resources and the other professional development and career resources available inside and outside of ISU will be developed by the GLC peer mentors. In addition, a teaching workshop with other STEM departments in which classroom management skills, different teaching styles, and etc. could be shared between interested departments. Other presentations that could be beneficial might include CV and cover letter writing, how to find job offerings, how to present yourself, etc.
- Structured activities will be developed by the DOGE and peer mentors so students will research their personal professional development plan and possible career options and then share their results with the GLC.
- A book about career options for scientists will be selected at the first monthly meeting and read by the GLC members over the course of the year. Potential books include, “At the Helm” by Kathy Barker or “Career Opportunities in Biotechnology and Drug Development” by Toby Freedman. Small groups will each be assigned chapters and then present the information to the group for discussion at the monthly meetings.
- A career workshop will be organized in which professionals in biochemistry or closely related STEM fields will be invited to give presentations and participate in a panel discussion, along with more formal interactions (e.g. during lunch) so students can learn how their background in biochemistry has influenced their career choices and how it contributes to their current occupation. Possible other career options to be explored include the military branches, science
writing, science policy, science and politics, criminal laboratory work, sales and consulting, and working for organizations such as the NIH, NSF, WHO, WWF, EPA, and USGS.

3. GLC partners

BBMB GLC members will partner with:

- The GLC mentor. GLC members will schedule at least one one-on-one meeting with Prof. Peters during the academic year to share their professional development and career exploration progress and he will provide feedback for presentation of a professional development plan to the student’s major professor.
- The BBMB GSO. The GSO was established to facilitate the exchange of ideas between graduate students, inform them of potential career paths, and introduce them to others of like interests through the sponsorship of seminars and symposia but has been inactive the last few years due mainly to a lack of student and faculty leadership. However, new officers will be chosen shortly for the upcoming year, and the GLC will partner with the GSO to share resources to help cover the costs for professional and career exploration seminars and workshops.
- Other GLC’s at ISU. The BBMB GLC will connect with other GLC’s at ISU in the STEM fields to explore how to share information, experiences and resources.

Assessment Plans

<table>
<thead>
<tr>
<th>Intended learning outcome</th>
<th>Specific GLC experiences which promote this outcome</th>
<th>Assessment Plan: Evidence or artifacts to determine whether outcome has been achieved</th>
</tr>
</thead>
<tbody>
<tr>
<td>Develop individual development plan</td>
<td>Take the IDP self-assessment and use results to develop professional development plan and explore career options thorough planned GLC activities</td>
<td>Share personal plan research with GLC; discussions with other group members</td>
</tr>
<tr>
<td>Learn what resources are available for professional development and career exploration</td>
<td>Workshops to learn where resources available through IDP, and inside and outside ISU</td>
<td>Workshop handouts; information with links uploaded to BBMB graduate web pages</td>
</tr>
<tr>
<td>Learn how to explore possible career options</td>
<td>Read selected book on careers</td>
<td>Read a book chapter and present information to the group</td>
</tr>
<tr>
<td>Get to know what professionals in your field are doing</td>
<td>Seminars</td>
<td>GLC members give their feedback following each seminar</td>
</tr>
<tr>
<td>A plan that can be presented to their major professor</td>
<td>Meeting one-on-one with Prof. Peters</td>
<td>Feedback from major professor</td>
</tr>
</tbody>
</table>
Budget

Year 1: $1,000

Part 1 – Initial Start-up costs $75.00

To support two peer mentors (to be determined) at $10.00 per hour for GLC set-up: to develop orientation materials, promote to students, and create short mini-courses or workshops on professional development and career exploration.

Part 2 – Annual ongoing costs $925.00

- Food for meetings, estimate 6 meetings/year @ $100/meeting $600
- Honorarium for invited seminar speaker $100
- Workshop supplies and handouts $25
- Continued support of peer mentors to facilitate meetings $100
- Career book purchase for book group presentation & discussion $100

The Roy J. Carver Charitable Trust gift and commitments to BBMB will provide matching funds in the second year and provide $1,000 annually to the GLC thereafter. In the long-term, BBMB will try to obtain an independent endowment, signifying their commitment to graduate teaching and training.

Contact information for the primary coordinator:

Professor Reuben Peters, BBMB DOGE, 294-8580, rjpeters@iastate.edu