“You Choose” Award Application for the Sciences and Engineering

Application For Funds to Run a Team Science Seminar Series

Submitted by

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Abstract
The objective of this award application is to host a 4-part Team Science seminar series over one semester at UM, with two internal speakers and two external speakers. The resources needed are a room to host the seminars and funds to sustain them and bring in two outside speakers. The speakers will need to be provided with an honorarium and overnight accommodation. Internal mechanisms for increasing participation will be used, such as university-wide listserves, departmental communication channels, and E-Veritas. Three groups will benefit from these talks, including senior and junior faculty, and graduate students from the sciences and engineering.

Activity Goals
The goal of this seminar series is to introduce the Science of Team Science (SciTS) to the University of Miami (UM) community with the aim of using it as a tool to facilitate and increase cross-disciplinary collaborations here.

SciTS grew in 2008 when business analysts and social scientists turned their attentions to the biomedical sciences, and realized that scientists working in teams publish more, and publish higher impact papers, than researchers working individually. The incidence of medium- to large-scale scientific teams is on the increase, and SciTS publications highlighted that scientific discovery today is undertaken for the most part by teams working together in a cross-disciplinary setting.

Further afield and wider interactions are being encouraged by funding agencies and university administration, but the faculty academics and graduate students who are expected to work in these disparate teams are often ill equipped to cope with the dynamics of setting up cross-disciplinary teams and of making them successful. In the biomedical sciences for example, many teams include molecular biologists or biochemists working together with computer scientists or engineers. Traditional boundary lines between these disciplines are becoming blurred, and there are several new disciplines that have emerged along that continuum, such as bioinformatics. However, for many academics, it remains a struggle to reach out and collaborate with someone from another discipline. Engineers and biologists have distinct academic cultures, use different language and idiom, and each group has its own publication practices. Awareness of these differences will allow the similarities to become more apparent, and this in turn will unleash synergies that would lead to better collaborations.

The proposed Team Science Seminar Series will have four talks over the space of one semester, two by internal and two by external speakers, which will be structured as below. The names in parenthesis are examples of potential speakers and have not been contacted.

Talk 1. SciTS theory and practice in computational science (myself and/or Dr. S. Wuchty)

Talk 2. Outside speaker, possibly on funding team science or on online tools for Team Science (Dr. K. Hall or Dr. A. Vogel from the National Cancer Institute)

Talk 3. Team science in practice at the University of Miami (Dr. V. Lemmon, Miami Project to Cure Paralysis, or Dr. A. Pollack, Sylvester Comprehensive Cancer Center, or Dr. A. Pugliese from the Diabetes Research Institute)
Talk 4.  Outside speaker, possibly on team science in education (Dr. S. Fiore from the University of Central Florida)

Bringing SciTS experts to UM will improve our academic environment by helping us better understand the dynamics of scientific teams, and how they work. With this knowledge we would be better equipped to facilitate interactions and collaborations across different disciplines. Three audiences at UM could potentially benefit from this seminar series:

1. Those of us who already work in cross-disciplinary settings will enjoy interacting with other colleagues, and exchanging expertise and ideas with them.

2. Colleagues who are nervous about cross-disciplinary collaborations would be encouraged by a deeper understanding of the issues and how to resolve them. They will leave at best knowing where to start when approaching someone from a different discipline, and at least knowing who to call upon to come and facilitate such an approach.

3. Graduate students can learn about what awaits them once they graduate. They will have the advantage of appreciating the joys and woes of cross-disciplinary collaborations before they embark on such a track in their own careers.

Personal Goals
The main objective for me to host a seminar series on Team Science is to use it as a tool for encouraging cross-disciplinary collaboration among researchers in diverse fields at the University of Miami. My position as Assistant Research Professor at the Department of Computer Science is, for the most part, dependent on collaborative research in the field of computational biology and bioinformatics, and my role as Director of Engagement at the Center for Computational Science includes the responsibility to foster cross-disciplinary collaborations in computational science at the University of Miami. This You Choose Award would therefore further this duality of my career by opening the doors for more collaborations across the three campuses of the University of Miami, and allowing me to play an active role in the facilitation of cross-disciplinary collaborations at the University of Miami.

Budget and Budget Justification
The seminar series is structured so that the first and third seminars are by speakers at UM, and the second and fourth seminars are by outside speakers. The budget is mostly based on bringing the two invited speakers in (Table 1). The only budget item that concerns the internal speakers is the Meeting Sustenance item, which will be used to provide refreshments either before or after each talk. No honorarium is requested for the internal speakers.

It is expected that the non-UM speakers would fly in either the morning of the talk, or the evening before, and stay overnight in Miami. The host will take them out to dinner with up to two other colleagues the night they are staying.
Table 1. Budget requested to bring in two external speakers

<table>
<thead>
<tr>
<th>Budget Item</th>
<th>Per speaker</th>
<th>Per two invited speakers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hotel (Holiday Inn)</td>
<td>$150.00</td>
<td>$300.00</td>
</tr>
<tr>
<td>Travel (average)</td>
<td>$500.00</td>
<td>$1,000.00</td>
</tr>
<tr>
<td>Per diem meals</td>
<td>$65.00</td>
<td>$130.00</td>
</tr>
<tr>
<td>Honorarium</td>
<td>$300.00</td>
<td>$600.00</td>
</tr>
<tr>
<td>Meeting sustenance</td>
<td>$235.00</td>
<td>$470.00</td>
</tr>
</tbody>
</table>

$2,500.00

The cost of the hotel is based on the cost of an overnight stay at the Holiday Inn, University. The cost of travel is based on an average figure of round trip American Airlines flights from Chicago, Boston and Orlando, the homes of the likely speakers. Traditionally, guest speakers are provided with a $50 per diem for meals, and I added $15 for breakfast during their overnight stay. The honorarium figure may be slightly low to attract the best speakers in the field, but we will try to obtain the best that this budget can afford. Meeting sustenance is to provide entertainment for the speaker, the host, and up to two colleagues from the University of Miami the evening of arrival or after their talk, and includes a small budget for refreshments before or after each talk.

The budget requested does not include salary support nor a budget to reserve a room for the talk. It is expected that we will be able to find a room for the seminars that does not require a fee.