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Report on IFMBE Co's Survey about Best Practices for Promoting Young Investigators Activities

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1. Introduction

The objective of IFMBE activities is to encourage research and the application of knowledge, and to disseminate information and promote collaboration within the field of medical, clinical, and biological engineering. In this context, promotion of Young Investigators Activities in the field of medical, clinical, and biological engineering. The Council of Societies conducted Survey about Best Practices for Promoting Young Investigators Activities. Research and educational environments of the member societies are different. All the information in this report is not always effective in specific challenges faced by member societies. I hope that each member society will formulate its own projects to promote young investigators with reference to this report.

2. Method

The survey was conducted by online system:

<https://forms.office.com/r/Sb5BbNZLvE>

The form is shown in the supplement

3. Results

① The number of replies

We have received 10 answers from the following societies:

- (1) Croatian Biomedical Engineering and Medical Physics Society (CROBEMPS)
- (2) Cyprus Association of Medical Physics and Biomedical Engineering
- (3) Danish Society for Biomedical Engineering
- (4) DGBMT(Deutsche Gesellschaft für Biomedizinische Technik)
- (5) ESBMET(Ethiopian Society of Biomedical Engineers and technologists)
- (6) Finnish Society of Medical Physics and Biomedical Engineering
- (7) Japanese Society for Medicine and Biological Engineering
- (8) Spanish Society for Biomedical Engineering (SEIB)
- (9) Taiwanese Society of Biomedical Engineering (TSBME)

Examples are:

<https://embec2017.fi/student-program/>

<http://www.hdbimf.hr/hr/>

② Research related activities

Followings are the examples of activities to inspire research activities:

- A collaboration with Biomedical Engineering Research Centre at local the University. This collaboration will help in local BME society's engagement with young investigators in conducting joint research work in undergraduate diploma projects, master's theses and PhD dissertation work.
- Young investigators take part in research activities under the auspices of the Biomedical Research Foundation.
- Symposium on medical and biological engineering inspiring concurrent submission of peer reviewed papers by young investigators together with their presentation at the symposium.
- Organize one day meeting to activate new members to the society as well as improve research and education collaboration between medical physics and medical engineering professionals and students. In addition to poster competition the meeting includes oral presentations (in English) of activities in fields of medical physics and medical engineering by organizing university as well as company presentations.

Example:

http://www.lfty.fi/lft_paiva/index.php

③ Education related activities

Followings are the examples of activities concerning general education on medical and biological engineering. Educational activities in particular forms will be explained in item ④ and ⑤.

- Collaboration with BME research center at local University c will help in local BME society's engagement with young investigators in conducting joint research work in undergraduate diploma projects, master's theses and PhD dissertation work.
- Biomedical Engineering and Medical Physics lecture series targeted to young investigators.
- Summer school on Medical and Biological Engineering
- The universities have built up very different educations in biomedical

engineering and informatics, which is why it is interesting to share knowledge across.

④ Project Based Learning/Training related activities

Student competition and summer program where design and fabrication of medical devices for specific purpose are conducted. Student competitions are often conducted in conjunction with academic conferences.

Training on different equipment is also conducted for better clinical practice in the field of clinical engineering.

Examples of activities are:

<https://sites.google.com/jsmbe.org/bh2021jsmbeorg/>

<http://bh2019.lelab.jp/>

⑤ Entrepreneurship education related activities

There are activities inspire Entrepreneurship:

- Biomedical Engineering Award aimed at fostering entrepreneurship and innovation among recent graduates and students. Candidates participate as applicants by sharing the topic of their Final Degree Project or Final Master Project. The competition is open to MSc and PhD students, and young professionals working in Biomedical Engineering, who have graduated within the last 3 years.

⑥ Networking activities

Various networking activities providing information about bme researchers and industries for students' carrier development are conducted:

- Collaboration with separate organization for students and young professionals of industries
- Newsletter among its members that includes a section related to student activities/education.
- Society organizes young investigators working group under the board of the society, young investigators organize the special session in the annual conference and nominates best paper award recipients by themselves.
- Through the national meeting, the students can also build a strong network for the industry. Here they can find future jobs, see where the development is heading or find their next project on the program.
- an event called "speed dating" has been established. Here, companies that want

contact with students in relation to internships, future jobs, or project collaboration, get the opportunity to meet the students, where both parties can express their curiosity towards each other.

Example of activities are:

<https://www.vde.com/de/vde-youngnet/ueberuns>

⑦ Awards for young investigators

Awards for young investigators are widely prepared. As a funding source, collaboration with industries is perused in some cases.

- Several young investigator awards at academic conferences and workshops
- Biomedical Engineering Award aimed at fostering entrepreneurship and innovation among recent graduates and students. Candidates participate as applicants by sharing the topic of their Final Degree Project or Final Master Project. The competition is open to MSc and PhD students, and young professionals working in Biomedical Engineering, who have graduated within the last 3 years.
- For annual national meeting, the students who participate have the opportunity to participate in a poster or lecture competition. Here, students from four of the country's universities have the opportunity to present exciting research that they have done on their education. In this way, they can also prepare for international paper presentations.
- The best bachelor's/master's thesis award program

⑧ Benefits for young investigators

To reduce financial burden in participating academic activities, discount of registration fee is widely adopted.

- Very low fees for students at DGBMT conferences and workshops
- Sponsorships for student activities

4. Discussion and Conclusion

This survey revealed that member societies are active in conducting student activities and inspiring students interests in biomedical engineering.

Networking among students and other stakeholders such as industries are important. It is recommended to organize such an event. The IFMBE Asian Pacific Working Group has been organizing Asian Pacific Young Investigators' Networking Fellowship program

where emerging young BME researchers nominated by member societies in Asian Pacific region travel together to the participating countries to share their research and experiences before finally arriving at the World Congress venue. Such an international level networking is considered important.

Summer program and student competition can be effective way to train students' practical ability in developing medical devices.

Awards for young investigators are effective for inspiring motivation of young investigators. They are beneficial for young investigators' future They will provide young researchers with competition among various researchers in other science and technologies in obtaining grants for research.

Promotion of young investigators' activities within the field of medical, clinical, and biological engineering is important to improve medical practice qualities and to maintain research and development quality in medical and biological engineering. The present report classified related activities depending on specific purposes. The CoS hope that member societies will further organize related activities depending on their own requirements referring to this report.

Supplement

A. Survey form

2022/05/08 14:00

IFMBE CoS Survey about Good Practices for Promoting Young Investigators Activities

English (United Kingd... ▼

IFMBE CoS Survey about Good Practices for Promoting Young Investigators Activities

IFMBE Council of Societies (CoS) would like to collect good practices by IFMBE member societies to promote young investigators/graduate students in medical and biological engineering. We ask the representative for CoS from each member society to provide related information.
Please answer the following questions by October 31st, 2021.

Ichiro Sakuma, PhD
IFMBE Regional Representative of the Asia-Pacific region

...

* Required

1. Name of the person answering this survey *

2. Name of the society you represent *

3. Brief description of activities to promote Young Investigators activities in your society *

<https://forms.office.com/pages/responsepage.aspx?id=T6978HAr10eaAgh1yvlMhMJXrUCynHxHp18sOSStCRpUQTRDOERSREIFVIVUU1o5WV...> 1/2

4. If there are related Web sites showing the activities, please input the URLs of the sites.

Enter your answer

5. If you have any electronic documents describing the activities, please give the download site of the files.

Enter your answer

6. Name of Your Country *

Enter your answer

Submit

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