ISCB Strategic Map 2018-2021

Approved by the ISCB Board of Directors July 6, 2018

Introduction

The International Society for Computational Biology (ISCB) Strategic Map sets the vision for the Society for the next three years. This Strategic Map is a living document. Over the course of the next three years, the Board of Directors will assess the goals, as well as the strategies and tactics set forth to achieve those goals. The Board of Directors may from time to time adjust the Strategic Map to address changes in the environment to ensure the success and sustainability of ISCB.

MISSION
The International Society for Computational Biology (ISCB) is a scholarly society for advancing understanding of living systems through computation and for communicating scientific advances worldwide.

WHO WE ARE
Society membership reflects commitment toward the advancement of computational biology. The ISCB is an international non-profit organization whose members come from the global bioinformatics and computational biology communities. The ISCB serves its global membership by providing high-quality meetings, publications, and reports on methods and tools; by disseminating key information about bioinformatics resources and relevant news from related fields; and by actively facilitating training, education, employment, career development, and networking. We advocate and provide leadership for resources and policies in support of scientific endeavors and to benefit society at large.

VALUES
The Society promotes the following values:

Quality:
- of the highest level in scientific publications, training and conferences
- through collaborative interaction

Ethics:
- through scientific integrity and the highest level of professionalism
- by supporting collaborative science
- through open sharing of data and resources
- by acting responsibly and avoiding conflicts of interest

Diversity:
- by striving toward greater global diversity of our membership and leadership
- with awareness and respect of differences in culture, geographic origin, affiliation, gender, age, level of expertise and area of scientific research

Service:
- to our members, staff, scientific community and public at large
- through human relationships
- with efficient and effective use of resources
- with a commitment to the application of computational biology for the benefit of humankind

Communication:
- with transparency and honesty
- with respect for one another
- through active listening
- by seeking and using feedback for self-evaluation and decision-making
- with openness to change

Last updated July 27, 2016.

CORE COMPETENCIES

ISCB promotes the following core values and strives to incorporate them at all levels.

Communities
Stimulate, cultivate and promote interactions and collaborations within and between the diverse scientific and technical fields that collectively embody the discipline of computational biology and bioinformatics.

Education
Deliver high-quality computational biology education and training to interested communities across the world, and help drive the inclusion of computation and data sciences into all life science-related educational programs.

Meetings
Provide a forum to foster fresh dialogues and perspectives, to communicate scientific advances, and to learn about and shape the future of the discipline.

Membership
Strengthen ISCB's role as the natural home and professional society for all individuals with an interest in computational biology research and its essentiality in the life sciences.

Profession
Advance computational biology as a profession, promote its ability to accelerate research, to advocate and provide resources, and to influence policies and extend the frontiers of computational science for the benefit of society at large.

The established core competencies are the cornerstones of the strategic map. The following outlines the success visions and implementable strategies for achieving the core competencies goals. ISCB will actively engage its members and the community at large as it forges the path to achieve the established goals.

Core Competency: Communities

Goal: Stimulate, cultivate and promote interactions and collaborations within and between the diverse scientific and technical fields that collectively embody the discipline of computational biology and bioinformatics

3-year Success Vision: Nurture our current established communities, grow missing communities, create an environment that cultivates synergies, interactions and collaborations within our diverse scientific and technical fields

Priority Milestones:

1.(ORGANIZATION) Develop a document that details the interaction of Communities of Special Interest (COSIs) with ISCB, general guidelines, processes, resources, and best practices for COSIs that will enable the groups to thrive. This document will include guidelines for developing frameworks that support interactive communities, ensuring that they become a greater part of ISCB. Such frameworks can include:
   a. Websites providing information on tools, resources for the community
   b. Support mechanisms for organizing regional conferences by their theme
   c. Support mechanisms for organizing regional and local meet-ups
   d. Information on their websites on how people can get involved in the COSI

   Implementation Strategy
   - Develop COSI Guidelines for Board Approval
   - Set up task forces within the COSI Committee to determine and recommend the appropriate mechanism to organizing regional theme conference and regional and local meet-ups
   - Set up a task force to determine what information would be most useful for COSIs on a resource site and the ability to share best practices

2.(ASSESS COSI LANDSCAPE AND LIFE CYCLES) Establish a plan to formally assess the lifecycle of COSI groups. The plan should allow for continuity of established and successful COSIs, encouraging/approving new COSIs, merging groups where appropriate, and sunsetting of groups. This plan should also propose mechanisms for identify missing or underrepresented research areas (topics) that may or may not become COSIs in the future.

   Implementation Strategy
   - Charge the COSI Committee with establishing a task force to develop strategies to achieve this goal

3. (COSI-ISMB INTERACTION) Establish a plan for ensuring the smooth running of COSI meetings at the ISMB conference. For example, analyze the current scientific submission process (proceedings, abstracts, posters) for ISMB and make recommendations to improve efficiencies, communications, and ease of programming between the groups. Ensure the ISMB web app is easy to navigate by COSIs. The COSI plan should also ensure that computational biology research areas not represented by COSIs have the opportunity to present at ISMB, e.g., through special sessions and general thematic tracks.

Implementation Strategy (to be done annually)
- Discuss this annually at the face to face meeting at ISMB and prepare a recommendations document for the ISMB Steering Committee to follow
- Meet with COSI Track Chairs early in the conference planning process to discuss the submission procedures

Core Competency: Education

Goal: Deliver high-quality computational biology education and training to interested communities across the world, and help drive the inclusion of computation and data sciences into all life science-related educational programs.

3-year Success Vision: Develop a comprehensive education portal that supports, provides and enhances the society's current educational resources for undergraduate and postgraduate education as well as training of professionals.

Priority Milestones:

1. (INCLUSION) Promote and develop the Education COSI by increasing the number of participants who organize education activities at ISMB and throughout the year.

Implementation Strategy
- Offer a 1-day to 2-day Education COSI track at ISMB
- Promote the additional activities of the Education COSI on the COSI's wiki page, assign an admin from the COSI

2. (TRAINING) Support ISCB communities in their development of training certification, including meeting minimum standards for bioinformatics training.

> Implementation Strategy
> - Assign a task force to evaluate the feasibility of developing a training and workshop certification program where ISCB endorses training or education programs based on a predetermined set of guidelines -- ISCB Endorsed
> - Develop a proposal for a mechanism to certify degree and certificate programs and training workshops
> - Develop certification guidelines and offer workshops for training champions in other COSIs

3. (PROMOTE) Capitalize on the ISCB Curriculum & Competency Guidelines task force outcomes and findings.

> Implementation Strategy
> - Post ISCB Curriculum & Competency Guidelines on the ISCB website
> - Distribute a bioinformatics curriculum summary to the listed university programs on the ISCB website and through ISCB contacts
> - Put in place a consultation mechanism for those who want to develop training and education programs
>   - Consider collaborating with GOBLET, EMBnet, or other scientific groups
> - Develop and offer a training kit (exemplar) for those who want to develop and update bioinformatics education and training programs, assign a task force of COSI and Education Committee members

4. (ADVOCATE/RESOURCES) Expand bioinformatics awareness to other biology-based societies by hosting joint sessions, in collaboration with the Profession working group. Specific milestone: Hold at least one joint workshop in 2018 at a conference such as ASHG, IGES, ASM, FASEB, Protein Society, Plant Biology Society or ISMB.

> Implementation Strategy
> - Education Committee and COSI Committee form a task force to identify 3-5 biology-based societies that would be the best fit
> - Develop a proposal for a workshop/symposium/special session at their conference
> - Engage staff to open dialogue with Societies of interest leaders

Core Competency: Meetings

Goal: Provide a forum to foster fresh dialogues and perspectives, to communicate scientific advances, and to learn about and shape the future of the discipline.

3-Year Success Vision: Ensure that the scientific reputation of ISCB conferences is maintained and grown. Evaluate the priorities within our conferences portfolio to ensure (1) a general and domain-specific selection of scientifically excellent meetings and (2) support and expansion of regional communities.

Priority Milestones:
1. (SCIENTIFIC EXCELLENCE) Establish mechanisms to ensure scientific excellence of all ISCB conferences.

    Implementation Strategy
    - Establish two task forces, one for ISMB and another for ISCB Regional/ Topical Conferences
    - Assess all aspects of the meeting, including ways to market the meeting better, and to attract top-notch submissions
    - Establish common guidelines to ensure scientific excellence and to ensure that the community's needs to disseminate research and provide a forum for dialogue are provided

2. (GROWTH & STABILITY) Create organizationally and financially sustainable conference models for both regional and topical conferences aiming to grow the ISCB portfolio of conferences.

> Implementation Strategy
> - Form a task force of COSI Committee and Conference Advisory Council members to assess emerging scientific areas that have growth potential and that could lead to new conferences that serve the mission of the Society
> - Assess the growth potential for regional meetings
> - Proactively reach out to potential affiliated conferences to create a mechanism to encourage the growth of affiliated conferences (guidance to be provided by the Conference Advisory Council)
>   - Start by identifying existing conferences, workshops, etc. that would be a good fit
>   - Reach out to the leadership of affiliated groups as well as national organizations to promote the affiliated conference program
> - Consider ways to reduce the registration costs of meetings, engaging the Finance Committee to make recommendations
> - Evaluate the sponsorship models used for conferences to ensure financial success of the meeting.
>   - Create a focus group of current and previous sponsors of ISCB conferences to do this.
> - Consider new models that may better serve the Society. Form a small working group to brainstorm ideas, survey membership. etc.

3. (DELIVERING CONTENT) Work with the Education Committee to develop a proposal for a training series that can be offered worldwide (potential collaborators GOBLET, EMBnet, COSIs), making ISCB the central place to go for resources and training.

> Implementation Strategy
> - Create a task force of Education Committee, Conference Advisory Council, GOBLET, EMBnet, COSI Committee members to assess feasibility

Core Competency: Membership

Goal: Strengthen ISCB's role as the natural home and professional society for all individuals with an interest in computational biology research and its essentiality in the life sciences.

3-Year Success Vision: Show steady membership growth over the next 3 years and beyond. Provide customized solutions for membership services.

Priority Milestones (employable tactics and strategies):
1. (RECRUITMENT) Create stronger membership marketing/branding outreach materials that better articulate why you need to be an ISCB member with customized approaches for
   a. Primary society
   b. Secondary society
   c. Traditional bench biologists

   Implementation Strategy
   - Form a small working group (diverse in membership type and geographical area) that will advise staff on the proper language and messaging to use
   - Create a tool box resource for members to access to help promote membership

2. (RECRUITMENT) Assess the feasibility of partnering with other like-societies on a membership exchange agreement, e.g., IEEE, Systems Biology, Biophysical, ACM, AMIA, IFIP

   Implementation Strategy
   - Form a small working group to assess which organizations would be the best fit.
     - Members of the group should include someone from the Finance Committee.

3. (RETENTION) Analyze the current membership structure and benefits and assess if new models should be considered
   a. Student/postdoc membership model, especially to help transition Regional Student Group members to ISCB membership
   b. Lab/group membership
   c. Multi-year discounts on conferences if you are a member in good standing for x consecutive years

   Implementation Strategy
   - EC will work on this element and make a recommendation to the Board

4. (MEMBER SERVICES) Appoint an ongoing, concentrated membership task force that will specifically address the evaluation of benefits, the growth of benefits, and strategies to grow membership in regions where ISCB does not have a strong presence

> Implementation Strategy
> - Form the task force to assess this annually. Assessment should include ways to balance open access vs financial needs of the Society to operate.
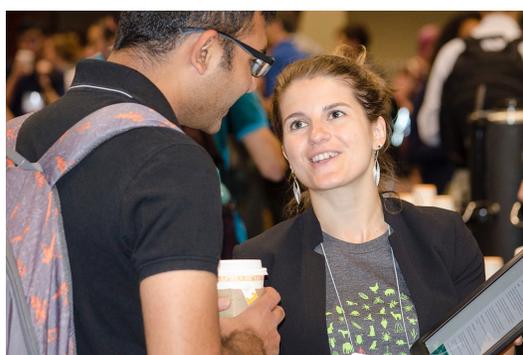
Core Competency: Profession

Goal: Advance computational biology as a profession, promote its ability to accelerate research, to advocate and provide resources, and to influence policies and extend the frontiers of computational science for the benefit of society at large.

3-year success vision: Develop a resource portal, which promotes the profession profiles and career paths within our field allowing ISCB to develop, nurture, and cater to our community

Priority Milestones:
1. (EDUCATING) Create white papers/templates for universities, companies, and current and future researchers that clearly identify what computational biology/bioinformatics is as a discipline

> Implementation Strategy
> - Work with the Education Committee/COSI to assess in the review of information that already exists
> - Develop a more robust web platform to disseminate the information
> - Create a brochure as a quick guide resource

2. (RESOURCES) Provide resources to extend the frontiers of bioinformatics science
   a. Produce a guide to establishing a bioinformatics workplace, including the benefits of having a dedicated bioinformatics resource onsite. Guide to include strategies on:
      1. Cloud-based platforms vs. internally hosted
      2. Financial considerations such as costs/salary costs
   b. Provide guidance on understanding various career paths within the field
      i. Explain the vast diversity of existing graduate level programs and certifications
      ii. Profile scientists from different careers
         1. Biocurator
         2. Principal Investigator, Academia
         3. Engineer
         4. Data scientist
   c. Bringing ideas to market - the start-up story (success and failure)

   d. How to work with collaborators, identifying the computational contribution to research, and recognizing contributions in a publishing environment (assignment of authorship)
      1. Advocate for recognizing contributions of co-authors
      2. Advocacy to funding bodies
      3. Co-senior authors recognition
      4. Recognition of lead junior and senior computational authors

   Implementation Strategy
   - Engage the ISCB Fellows
   - Board to identify best person to lead each white paper area
   - Engage science writer to assist in the scientific profiling

3. (ADVOCATING) Increasing the visibility of our science, promote to the next generation of researchers, and support those who seek equity and inclusion in our field.

   Implementation Strategy
   - Work with the ISCB Public Affairs and Policy Committee for policy advocacy
   - Establish a working group that can better understand the needs of the next generation of research and how ISCB as a professional society is perceived within this group
   - Establish a committee within the Society focused on Equity, Diversity and Inclusion
     - Task the committee with assisting in the development of programs that will support equity for all in the field
   - Identify biology-based Societies that may fit well and use their member communications to promote the use of computational tools and resources