Where is the HPP headed? B/D-HPP perspective

Ileana Cristea and Fernando Corrales

on behalf of all members and liaisons of
the B/D-HPP Executive committee

Identity & Value
Overview

• Role
  • To support the use of state-of-the-art proteomic methods to characterize and quantify proteins for in-depth understanding of the molecular mechanisms of biological processes and disease across life sciences.

• Goals
  • Broaden the impact of proteomics in the broader community based on organ and disease areas.
  • Prioritize protein targets that are highly relevant to a particular field, deliver relevant quantitative assays for these selected targets and to disseminate and make publicly accessible the information and tools.
  • Contribute to the development of scientific sessions of International HUPO

• Organization
  • Fernando Corrales (chair) and Ileana Cristea (co-chair and incoming chair)
  • Jennifer Van Eyk (past-chair), Gil Omenn (Ex officio), Hui Zhang, Eric Deutsch, Pengyuan Yang, Tadashi Yamamoto, Sanjeeva Srivastava, Vera Ignjatovich, Ferdinando Cerciello (ECR representative), Paola Roncada.
  • 19 B/D-HPP initiatives with 4 closely related HPP resource pillars.
Overview

• **Role**
  
  • To support the use of state-of-the-art proteomic methods to characterize and quantify proteins for in-depth understanding of the molecular mechanisms of biological processes and disease across life sciences.

• **Goals**

  • **Broaden** the impact of proteomics in the broader community based on organ and disease areas.
  
  • **Prioritize** protein targets that are highly relevant to a particular field, deliver relevant quantitative assays for these selected targets and to disseminate and make publicly accessible the information and tools.
  
  • **Contribute** to the development of scientific sessions of International HUPO

Visibility
Scientific Deliverables
Participation
Productive and Visible B/D-HPP Community

- 10 B/D-HPP initiatives reported **382** published papers (160 authorships) of which 42 were collaborations.

- Participation in **82** international congressess, 49 in proteomics (14 teams) and 33 focused on other biomedical, clinical (11 teams) disciplines.

- Organisation of **28** educational and dissemination related activities (10 initiatives).
Promoting Visibility & Bridging scientific communities

Journal Special Issues

• “Protein Interactions, Structures & Networks”, JBC (2015)
• “Proteomics in Infectious Disease”, Molecular & Cellular Proteomics (2017)
• “Proteome Organization in Space and Time”, Current Opinion in Chemical Biology (2019)
11. Would your initiative participate in the upcoming HUPO Congress to be held in Adelaide (Australia) in 15-19 Sept 2019? If YES, then address these questions:

- The Annual HUPO World Congress includes six sessions dedicated to the HPP. Would your initiative be willing to participate in the coordination of one of these sessions?
- Would your initiative participate in the HPP precongress workshop (Sunday HPP workshop)?
- Would your initiative participate in the HPP post-congress workshop (Thursday HPP workshop)?

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Active & Interactive Community
Represented in congress participation and activities?

- Promote the participation of the existing members of the initiatives
  - Sun & Thu session format
- Is there a need for new initiatives?
- Match the research directions of our community
- Single-cell
- Combine or make bridges between initiatives
Active & Interactive Community
Represented in congress participation and activities?

- Grow HPP awareness and membership. Who belongs?
  - Identity and value
  - B/D-HPP and C-HPP represent the HUPO community
  - At time of abstract submission – bullet point selection of interest in scientific topics (B/D & C-HPP)
    - Message: “You are a part of this”; All HUPO members belong and are invited; Not an exclusive club
- Current effect of the “HPP” word in the session titles
- Promoting Visibility: Speakers from our proteomics community members + outside scientists (biologists, clinicians)
Active & Interactive Community
Represented in congress participation and activities?

• Increase participation of members of our young community that represents our future
  • Sun/Thu - Lightning talks selected from abstracts
  • Free registration for students and postdocs to Sun/Thu HPP (travel awardees)?
• Increase visibility: Involvement of our young community in HUPOST and other HPP reports
• Every B/D-HPP initiative should have a student/postdoc representative
• Each initiative can also have a duty of education. Provide:
  • Relevant papers (methods) and links to courses

Identity & Value
Value - Deliverables

- Making connections
- Promoting collaborations
- Promoting research directions
- Bringing visibility to proteomics

**Deliverables:**
- Biological and clinical findings
- Reagents
- Sample sharing
- Methods
- Criteria for experimental workflows and data analysis
- Discovery tools
- Journal Special Issues
Deliverables

• Prioritize protein targets that are highly relevant to a particular field, deliver relevant quantitative assays for these selected targets and to disseminate and make publicly accessible the information and tools.

• Targeted mass spectrometry assays

• Peptide atlas
Where is the HPP headed? B/D-HPP perspective

- Increased interactions between the B/D-HPP and C-HPP

Thoughts from 2018:
- Vibrant and diverse scientific community
- The maturity of the technology is now seen in fundamental scientific discoveries made with the help of or driven by proteomics
- Informed collaborations between scientists driven by technological development, biological applications, clinical applications, and development of diagnostic tools
- Science would be significantly poorer without proteomics
- This is something that our community should be proud of and should promote to other scientific fields

HUPO 2019