HUPO HPP Report 2019 - Pathology Pillar

Chairs: Daniel W. Chan, Edouard Nice and Stephen Pennington
HUPO HPP – Pathology Pillar

Major Goals

1. Identify opportunities for clinical unmet needs: Focus on precision medicine, work with HUPO HPP initiative/project leaders.

2. Translate proteomic discoveries into clinical use: FDA clearance or approval, intended use, CLIA certification, analytical and clinical validation/trial etc.

3. Assist HPP projects with pathology expertise: Clinical specimens, bio-banking, SOPs, QC, QA, guidelines, pathology atlas etc.

4. Liaise with international clinical/pathological organizations for proteomic outreaches: IFCC, AACC, AACB, CAP, RCPA, ESP, NIH etc.
Interfacing Pathology into the HPP

Future knowledge on proteins: structured

Present knowledge on proteins: segmented

Disease or Biology driven projects

"Adopt-a-chromosome" groups

2015

2010

Pathology

MS

KR

Abs
2019 HUPO HPP pathology report #1

Build the HPP Pathology team and work with other HPP Projects

- Joint program developed with cancer HPP. HUPO2019 HPP4: Pathology and the Cancer Proteome: Towards Precision Medicine.

Chairs: Daniel W. Chan & Hui Zhang. 2 Invited speakers, both were 2018 HPP Clinical Scientist Travel Grant (CSTG) awardee and 2 speakers are 2019 CSTG awardees:

- Proteome-Based Diagnostics: The Next Revolution in Medicine and Pathology - Michael H. Roehrl
- Enabling Precision Medicine for Alzheimer’s Disease through Biofluid-Based Biomarkers - Danni Li
- Heterogeneity study of pancreatic tumor tissue: Proteomic characterization of tumor cells obtained by laser micro-dissection (LMD), coring, and bulk sampling techniques. - Qing Kay Li
- Oxygen-sensitive interactions between glycolytic enzymes and a cancer-testis antigen established signaling scaffold are regulated by lysine acetylation - Soren Naaby Hansen

- Plan HPP pathology workshop at HUPO2019: Sept 17 to include the 2019 HUPO CSTG awardees.
Outreach to the pathology community: RCPA (Royal College of Pathologists of Australasia) 2019 annual meeting (Feb 2019), Melbourne, Australia.

1. David Rothfield Memorial Oration. The success of Precision Pathology: Multi-Omics Building Blocks Prof Daniel W Chan

2. HUPO Symposium - Clinical Proteomics: development of a pathology partnership. Chair: Daniel W Chan

Clinical proteomic biomarker discovery and translation for pathology - Prof Ed Nice

Evidence-based evaluation of proteomic biomarkers: from unmet medical needs to clinical application - Prof Rita Horvath

Challenges of developing protein biomarker assays for clinical use - method validation and quality issues - Dr Steven Ramsay

Barriers to adoption of Proteomics in clinical diagnosis - A/Prof Peter Stewart
2019 HUPO HPP pathology report (#3)

Outreach to the pathology community: ACLPS, NCI CPTAC & EDRN (USA) and others.

1. NCI CPTAC

2019 HUPO HPP Pathology session speaker - Qing Kay Li: Heterogeneity study of pancreatic tumor tissue: Proteomic characterization of tumor cells obtained by laser micro-dissection (LMD), coring, and bulk sampling techniques.

2019 CPTAC workshop – Daniel Chan, Hui Zhang etc.

2019 ICPC – Mark Baker, Ed Nice etc.

2. NCI EDRN 2019

2019 HUPO HPP Pathology session speaker - Jacob Kagan: Proteomic Tissue Biomarkers for Early Prediction of Prostate Cancer Progression -.

Development of the Pathology Directory. Ed Nice started using the template developed by Mark Baker.

Identify unmet clinical needs. On going with Steve Pennington and Peter Stewart

Link with the Human Protein Atlas. Ed Nice started discussions with Jochen and Cecilia about formally aligning with the pillar.
2019 HUPO Pathology HPP – workshop agenda

- 1. Identify opportunities for clinical unmet needs.
- 2. Translate proteomic discoveries into clinical use.
- 3. Assist HPP projects with pathology expertise.
- 4. Liaise with international clinical/pathological organizations for proteomic outreaches.