



EPA Chemical Prioritization Community of Practice

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This work does not necessarily reflect official Agency policy.

EPA Chemical Prioritization Community of Practice

TOPICS

- Computational chemistry
- High-throughput screening (HTS)
- Toxicogenomics

PURPOSE

- Advance pursuit of prioritization of environmental chemicals

ToxCast

- Primary purpose of CPCP is to foster scientific discussions and interactions helpful to ToxCast
- The CPCP has been a useful forum for ideas and joint projects
- Once ToxCast contracts are in place, contractors can join the CPCP forum

Present CPCP Membership

Currently there are 58 people on the emailing list.

- EPA
 - ORD:
NCCT, NCEA, NERL, NHEERL, NHSRC, NRMRL
 - OPPTS, OW, OAR, OEI
- NIEHS/NTP
- NIH/MLI, NCGC
- ACC, CAAT, CropLife, Environmental Defense, Dow
- ECVAM, NIHS Japan
- Pfizer

Activities to Date: Dec05 – Jun06

- 4 semi-monthly EPA CPCP meetings
- 3 semi-monthly joint EPA CPCP-NTP HTS meetings, including ChemGenomics 101
- Fostering “chemical prioritization” collaborations both within/without EPA

Toxicoinformatics Collaboration with EPA/OPP

- Capturing toxicology data from pesticide registrations into relational database
(see Martin et al. poster on RefToxDB)
- Working closely with OPP scientists
- Striving for normalized data dictionary consistent with public ToxML
- NCCT purpose is for applications to ToxCast and toxicogenomics

Collaborative OECD Proposal: Molecular Screening for Characterizing Individual Chemicals and Chemical Categories

- Prepared with EPA/OPPTS in dec2006, and approved by OECD/IPCS Advisory Group on Toxicogenomics
- CPCP has been a useful portal to OPPTS and OECD participants on relevant scientific topics
- As this project develops, expect that CPCP will play important and efficient communications role between OECD and ToxCast projects

In Vitro DNT Collaboration

- Led by NHEERL/NTD investigators, with CAAT, Dow, P&G
- CPCP affords discussion of common interests with ToxCast in toxicoinformatics, assay development, data generation and interpretation

Collaboration with the NTP HTS Initiative

<http://ntp.niehs.nih.gov/ntpweb/index.cfm?objectid=05F80E15-F1F6-975E-77DDEDEBDF3B941CD>

- Participation in the NTP High Throughput Screening Assay Workshop, Dec 14-15, 2005
- Joint collaboration with NCGC, 1408 chemicals into qHTS system (data coming out on PubChem-search NTPHTS)
- Joint workgroups: Toxicity Targets and Bioactivity Assays; Chemical Selection; Informatics
- Proposed joint NTP-EPA SOT2007 symposium on HTS and Chemical Genomics in Toxicity Screening

Collaboration with NIEHS/NTP WormTox

- Jon Freedman's research program at NIEHS/NTP
- EPA's ToxCast chemicals going into the worm plates

Collaboration with the NIH Chemical Genomics Center

Discovering the Pathway Between Chemistry and Biology



NIH CHEMICAL GENOMICS CENTER

- NCGC lab operational Feb 2005
- CPCP serves as communication hub between NCCT, NCGC and NTP
- Joint effort introducing environmental chemicals into the MLI pipeline, assay development, informatics...
- Joint EPA-NCGC-NTP session at SBS2007: "Toxicity Profiling using High-Throughput and High-Content Technologies"



<http://www.ncgc.nih.gov/>

RESEARCH & DEVELOPMENT

Building a scientific foundation for sound environmental decisions

CPCP Future Priorities

- Toxicoinformatics, initially DevTox, ReproTox, Chronic, Sub-Chronic, DNT and IMT for pesticides
- Assay development with contractors, NCGC, NTP
- Chemical selections for ToxCast proof-of-concept