Behavior Informatics: databases, data mining and virtual worlds
Organizer: Ansgar Koene

Outline:
The goal of this workshop is to explore the desirability and possible implementation of a Behavior-Informatics platform for the accumulation and sharing of behavioral data, related analysis tools and computational models. Various Neuroinformatics platforms have in recent years been established to facilitate data sharing and integration for digital atlases of brain structure and anatomy, for fMRI and electrophysiology data, for modeling of spiking neural networks and many more. These Neuroinformatics efforts promise to provide a more coherent picture of the complete brain architecture. Similar efforts in behavioral studies would facilitate a more complete understanding of the relation between behavioral traits at the micro and macro levels and their dependence on environmental conditions. In addition to the pooling and standardization of data from behavioral experiments, another pillar of behavior informatics could be a concerted effort to use virtual environments, like massively multi player games, to gather information on human behaviour in complex dynamic (social) environments with relatively minimal effort.
If computational NeuroEthology aims to study "the interaction between environment, body and nervous system that results in behavior" then clearly an informatics platform for sharing of behavioral data is just as important as platforms for anatomical and functional neural data.

Workshop agenda:
The aim of the one day workshop is to establish a roadmap for the realization of a Behavioral Informatics platform, covering:
1. stages and priorities for Behavior Informatics components
2. strategies for building and maintaining a user/contributor community
3. key individuals and organizations that should be involved from an early stage (including non-academic interest groups and businesses)
4. potential funding sources
5. any further points that get raised by speakers or audience members

Following an introductory overview of the planned Behavior Informatics platform each speaker will present their experiences of working on projects that were similar, in some respects, to one or more components of the planned Behavior Informatics project. After a brief summary this will lead to a plenary discussion to establish a roadmap for the creation of a Behavior Informatics platform.

Confirmed speakers:
Ansgar Koene, RIKEN Brain Science Institute, Japan [organizer]
Karen Adolph, New York University, USA
Rick Gilmore, Penn State, USA
Hasan Jamil, Wayne State University, USA
Travis Ross, Indiana University, USA
Jeff Schank, UC Davis, USA
Erik de Schutter, Okinawa Institute of Science and Technology, Japan

Tentative talks schedule:
9:00 - 9:25 [Ansgar Koene]: Introduction of the Behaviour Informatics concept
9:30 - 10:15 [Erik de Schutter]: Neuroinformatics, what has been achieved and what can
        we learn about data sharing/integration from the existing Neuroinformatics efforts.

[coffee break - 15min]

10:30 - 11:15 [Hasan Jamil]: Data integration/mining for identifying relationships between
        behaviors: accessing of hidden information.
11:20 - 12:05 [Karen Adolph]: Practical issues concerning data sharing and standards in
        behavioral studies. How to make (minimally processed) data accessible and
        understandable to third parties with minimal inconvenience to the data collection.

[Lunch break - 1h30min]

13:00 - 13:45 [Travis Ross]: Empirical methods for studying behavior in virtual worlds: potential
        for producing behaviorally relevant semi-automated databases with large amounts
        machine minable data.
13:50 - 14:35 [Jeff Schank]: Agent-Based models for multi-scale data integration and
        modeling of behavior. Enhancing the impact of behavior models by facilitating code
        sharing and encouraging researchers to apply these models to their data.

[coffee break - 15min]

14:50 - 15:35 [Rick Gilmore, open discussion]: Perspectives from potential project
        contributors: what is needed to motivate researchers to contribute their data, models or
        analysis code to a collaboration platform?
15:40 - 16:00 [Ansgar Koene]: Summary of topics that were covered. Outlining of points for
        plenary discussion.
16:10 - 17:00: Discussion for drawing up Behavior Informatics road-map

*For more information regarding the Behavior Informatics project, see: https://sites.google.com/
site/behaviorinformaticsproject/*