Introduction to the Invertebrate Brain Platform (IVB-PF)

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Invertebrate brains, in particular those of arthropods are excellent model systems for neuroscience due to their moderate complexity that is, however, sufficient to generate rich behavioral repertoires. In order to promote invertebrate neuroscience and its industrial applications, the Invertebrate Brain Platform (IVB-PF) project organized by the J-Node of the INCF has been initiated. IVB-PF accumulates a large body of information on invertebrate brains ranging from the level of individual neurons to the central nervous system. IVB-PF also provides a variety of images and movies of whole brains of invertebrates and their behaviors. Among the information currently available are: images of brains of 52 species, 474 individual neuron data sets from silkmoth, 34 movies of arthropod behavior, several manuals for physiological and behavioral experiments, and introductions to invertebrate nervous systems and behavior.In addition, we provide a comparative overview over representative invertebrate behaviors, sensory organs, and structure and function of the central nervous system in tabular form. It is highly effective to manage and share research resources by networked facilities in neuroscience. The environment for data analysis in conjunction with databases enhances the collaboration across various fields, including physiology, information science, and engineering and allows the efficient use for educational purposes.