Department of Physics

# Computational Studies of Complex Systems

The focus of my research is to study the properties of complex systems by physical modeling, statistical analysis, and computational investigation. Currently, we are studying the classification and evolution of proteins, coronaviruses, cancers, and novels. We are interested in developing machine learning algorithms, interactive databases and physical models for understanding these complex systems.

Techniques used in study
Machine learning and Statistics.

GPCR Network | **Interactive Graph Database**
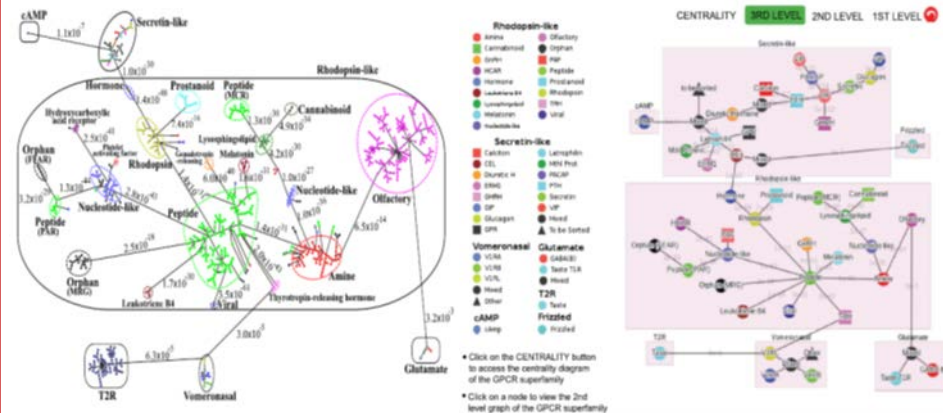
Chi-Ming Chen, Professor
Department of Physics
cchen@ntnu.edu.tw

Background:
PhD in Physics, University of Michigan, USA

Funding:
Ministry of Science and Technology

Publications

- G.-M. Hu, M. K. Secario, and C.-M. Chen*, 2019, "SeQuery: An Interactive Graph Database for Visualizing the GPCR Superfamily" Database, 2019, baz073.
- G.-M. Hu, T.-L. Mai and C.-M. Chen*, 2017, "Visualizing the GPCR Network: Classification and Evolution" Scientific Reports, 7: 15495.
- R.H.-G. Chen, C.-C. Chen and C.-M. Chen*, 2019, "Unsupervised cluster analyses of character networks in fiction: Community structure and centrality", Knowledge-Based Systems, 163: 800.