

Functional Genomics Tutorials

Tuesday September 19, 2000

- 10:00–11:00 **Terry Speed** (University of California at Berkeley)
Overview of Computational Biology for Mathematical Scientists: Molecular biology databases: The blueprint of life
- 11:00–11:15 *Break*
- 11:15–12:15 **Terry Speed** (University of California at Berkeley)
Overview of Computational Biology for Mathematical Scientists: Molecular biology databases
- 12:15–1:30 *Lunch (on your own)*
- 1:30–2:30 **Terry Speed** (University of California at Berkeley)
Overview of Computational Biology for Mathematical Scientists: Sequence analysis of nucleic acids and proteins I: Similarity searches

Wednesday September 20, 2000

- 10:00–11:00 **Terry Speed** (University of California at Berkeley)
Overview of Computational Biology for Mathematical Scientists: Sequence Analysis of nucleic acids and proteins II: Prediction of structure and function
- 11:00–11:15 *Break*
- 11:15–12:15 **Terry Speed** (University of California at Berkeley)
Network analysis of molecular interactions
- 12:15–1:30 *Lunch (on your own)*
- 1:30–2:30 **Terry Speed** (University of California at Berkeley)
Overview of Computational Biology for Mathematical Scientists: Some molecular biology

Thursday September 21, 2000

- 10:00–11:00 **Timothy Triche** (USC / CHLA)
Gene Expression Profiling as Indices of Biologic and Clinical Behavior in Cancer: Comparison of Clustering Methods and Correlating Biological Indicators: Technology & Gene Target ID
- 11:00–11:15 *Break*

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- 11:15–12:15 **Timothy Triche** (USC / CHLA)
Gene Expression Profiling as Indices of Biologic and Clinical Behavior in Cancer: Comparison of Clustering Methods and Correlating Biological Indicators: Diagnostic Applications in Cancer
- 12:15–1:30 *Lunch (on your own)*
- 1:30–2:30 **Terry Speed** (University of California at Berkeley)
Overview of Computational Biology for Mathematical Scientists: cDNA microarrays on glass slides

Friday September 22, 2000

- 9:00–10:00 **Timothy Triche** (USC / CHLA)
Gene Expression Profiling as Indices of Biologic and Clinical Behavior in Cancer: Comparison of Clustering Methods and Correlating Biological Indicators: Childhood Sarcoma Classification by Gene Expression Profiles
- 10:00–11:15 *Break*
- 11:15–12:15 **Terry Speed** (University of California at Berkeley)
Overview of Computational Biology for Mathematical Scientists: Image analysis of cDNA microarrays
- 12:15–1:30 *Lunch (on your own)*
- 1:30–2:30 **Terry Speed** (University of California at Berkeley)
Overview of Computational Biology for Mathematical Scientists: Basic statistical analysis of cDNA microarray data I

Saturday September 23, 2000

- 10:00–11:30 **Gary Churchill** (Jackson Laboratory)
Experimental Design and Data Analysis for Gene Expression Microarrays: Experimental Design
- 11:30–1:00 *Lunch (on your own)*
- 1:30–2:30 **Gary Churchill** (Jackson Laboratory)
Experimental Design and Data Analysis for Gene Expression Microarrays: ANOVA

Monday September 25, 2000

- 10:00–11:00 **Christopher Lee** (UCLA)
Whole Genome Analysis of Sequence Variation—Graph Models of Evidence: Biology of sequence variation - polymorphism among individuals, ribotypes among cells
- 11:00–11:15 *Break*

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- 11:15–12:15 **Christopher Lee** (UCLA)
Whole Genome Analysis of Sequence Variation–Graph Models of Evidence: Biology of sequence variation - polymorphism among individuals, ribotypes among cells
- 12:15–1:30 *Lunch (on your own)*
- 1:30–2:30 **Terry Speed** (University of California at Berkeley)
Overview of Computational Biology for Mathematical Scientists: Basic statistical analysis of cDNA microarray data II

Tuesday September 26, 2000

- 10:00–11:00 **Christopher Lee** (UCLA)
Whole Genome Analysis of Sequence Variation–Graph Models of Evidence: Role of probability in prediction and in computing confidence levels, graphs as a technique for calculating evidence
- 11:00–11:15 *Break*
- 11:15–12:15 **Christopher Lee** (UCLA)
Whole Genome Analysis of Sequence Variation–Graph Models of Evidence: Role of probability in prediction and in computing confidence levels, graphs as a technique for calculating evidence
- 12:15–1:30 *Lunch (on your own)*
- 1:30–2:30 **Roger Brent** (Molecular Sciences Institute)
Why Biologists Need Mathematicians I: Themes from Biological Systems

Wednesday September 27, 2000

- 10:00–11:00 **Roger Brent** (Molecular Sciences Institute)
Why Biologists Need Mathematicians II: Types of data - how biological information is gathered.
- 11:00–11:15 *Break*
- 11:15–12:15 **Roger Brent** (Molecular Sciences Institute)
Why Biologists Need Mathematicians III: Possible Issues for Mathematicians
- 12:15–1:30 *Lunch (on your own)*
- 1:30–2:30 **Terry Speed** (University of California at Berkeley)
Overview of Computational Biology for Mathematical Scientists: Classification and discrimination of cell lines using cDNA microarray data