



**The Second BioTechnology and
BioInformatics Symposium:
A Community and Academic Forum**

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AGENDA – Thursday, October 20, 2005

- 3:00 – 6:00 pm Preparation of K-12 School Science Students for Advanced Study in Biotechnology and Bioinformatics

Panel 1

Panelist	Organization	Position	Topic
Gene Abrams, PhD	UCCS	Prof. Math.	Math Partnerships: HS, MS & UCCS
Jerry Phillips, PhD	BSCS	Science Educator and Project Director	History & Mission of Biological Sciences Curriculum Study
Mark Bloom, PhD	BSCS	Science Educator and Project Director	<i>The Keys to Science</i> Biotechnology Workshop Program
Ben Busby	North MS	Student	Science Fair Poster

Panel 2

Panelist	Organization	Position	Topic
Carolyn Derr	D11	IB Coordinator	International Baccalaureate curriculum & Biotechnology and Bioinformatics
Greg Busby	D11	MS/IB teacher	
David Anderson, PhD	UCCS	Assoc. Prof. Chemistry	Chemistry Partnerships: HS, MS & UCCS

Panel 3

Panelist	Organization	Position	Topic
Mary Gromko, PhD	D11	Science Coordinator	Partnerships between K-12 and UCCS in science, math and engineering. The TEAMS program
Christa Lundberg	D20	MS Science Teacher	Science curriculum development for Discovery Valley Middle School
George Shields, PhD	D38 Lewis-Palmer HS	HS Science Teacher	Honors Program in Biology at Lewis- Palmer HS

AGENDA – Friday, October 21, 2005

- 7:30 – 8:00am Registration & Continental Breakfast
- 8:00 – 9:00 am Keynote Speaker – Thomas Lobl, PhD
Optimizing Therapeutic Properties and Effectiveness: Three Approaches
- 9:00 – 9:15 am Break / Poster Review
- 9:15 – 11:35 am Session I Presentations

Segmentation of Blood Vessels Using Adaptive Statistical Thresholding and Quasi-Connected Components

Tracy Petrie and Terrance Boulton

Multi-sequence Alignment Tool

Kristy Baker

Phylogenetic Analysis of Large Sequence Data Sets

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Template-based Protein Structure Prediction by SP3

Hongyi Zhou and Yaoqi Zhou

Learning from Protein Sequences - Difficulties and Strategies

Mary Qu Yang and Jack Y. Yang

- 11:35 – 1:15 pm Lunch with Poster Session and Speakers
Evan Newell, *PhD candidate* & Krystle Strand, *PhD candidate*
- 1:15 – 3:15 pm Session II Presentations

Predicting Gene Regulatory Networks from Micro-Array Time Series Data Using Fuzzy Elimination

Nawar Malhis and Arden Ruttan

Unraveling Transcriptional Regulatory Codes in Mammals

Tom Cheung, Phoenix Kwan, Micah Hamady and Xuedong Liu

Predicting Altered Pathways using Extendable Scaffolds

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Human Chromosome 21 / Down Syndrome Database

Kathleen Gardiner, Oleskii Nikolaienkoy, Cao Nguyen, Linda Crnic and Krzysztof Cios:

Human Transcriptome Database Reveals Clustering of Apoptosis Genes by mRNA Secondary Structure

Adam Davis, D. Digby and W. Seffens

Human Heart and Circulatory System Computer Model

John Field

- 3:15 – 3:45 pm Break / Poster Review
- 3:45 – 4:45 pm Speaker – Dr Julie Desbarats, PhD
Protection from neurodegenerative disease mediated by the Fas receptor
- 4:45 – 5:15 pm Poster Review & Networking

INVITED SPEAKERS

- **Thomas Lobl, PhD**, Vice President of Research & Development, NeuroSystem Corporation, Mann Biomedical Park, Valencia, CA
- **Julie Desbarats, PhD**, Assistant Professor, Department of Physiology, McGill University

- **Evan Newell, *PhD candidate***, Department of Physiology, University of Toronto, Toronto, Ontario
- **Krystle Strand, *PhD candidate***, Neuroscience Center, University of North Carolina at Chapel Hill

PROGRAM COMMITTEE

- **Askill, Ian**: Aspire Biotech, Inc., Colorado Springs, CO (Wound Healing, Biomaterials) B
- **Bhattacharyya, Dhruba**: Tezpur University, Assam, India (Machine learning, Data Mining)
- **Boult, Terrance**: Department of Computer Science, University of Colorado, Colorado Springs, CO (Computer Vision)
- **Butz, Cory**: Department of Computer Science, University of Regina, Saskatchewan, Canada (Probabilistic Reasoning)
- **Cascaval, Radu**: Department of Mathematics, University of Colorado, Colorado Springs, CO (Mathematical Modeling in Physiology)
- **Chao, Kun-Mao Chao**: National Taiwan University (Sequence analysis, algorithms)
- **Cios, Krys**: University of Colorado at Denver and Health Sciences Center Bioinformatics, Data Mining, Machine Learning, Neural Networks)
- **Clement, Mark**: Department of Computer Science, Brigham Young University, Provo, UT (Phylogenetic Trees, Parallel Computing, Supercomputers)
- **Fishwick, Paul**: Department of Computer Science, University of Florida, Gainesville (Modeling, Simulation, Visualization)
- **Gardiner, Kathleen**: University of Denver,
- **Hines, Lisa**: University of Colorado Health Sciences Center (Functional Genomics and Molecular Epidemiology)
- **Hodges, Robert**: University of Colorado at Denver and Health Sciences Center (Biomolecular Structure, Peptide Chemistry)
- **Hunter, Larry**: University of Colorado at Denver and Health Sciences Center
- **Kalita, Jugal**: University of Colorado at Colorado Springs (Bioinformatics, Artificial Intelligence)
- **Kurgan, Lukasz**: University of Alberta (Computational Biology and Data Mining)
- **Makhaldiani, Nugzar**: Joint Institute for Nuclear Research, Dubna, Moscow, Russia (Dynamical systems including soliton, string, membrane theories) ; computational quantum (field) theories; quantum computing)
- **Mamitsuka, Hiroshi**: Kyoto University, Japan (Machine learning, bioinformatics, probabilistic modeling of biological phenomena)
- **Mattoon, James**: Department of Biology, University of Colorado, Colorado Springs, CO (Biochemistry)
- **Medhi, Deepankar**: University of Missouri at Kansas City
- **Neufeld, Eric**: Department of Computational Science, University of Saskatchewan, Saskatoon, Canada (Artificial Intelligence, Visualization)
- **Newell, M. Karen**: Associate Professor and Merkert Endowed Chair of Biology, University of Colorado, Colorado Springs, CO (Immune-Mediated Cell Death; Tumor Immunology; Cellular Metabolism)
- **Pan, Yi**: Georgia State University, Athens GA (Bioinformatics, Parallel and Distributed Computing)
- **Pathak, Saurav**: Department of Physics, University of Pennsylvania, Philadelphia, PA (Multi-variate Methods, Machine Learning)
- **Pedrycz, Witold**: University of Alberta, Canada (pattern recognition, data mining, fuzzy sets, knowledge-based clustering)
- **Prentice, John**: Wild Rose Biophysics, Inc., Boulder, Colorado
- **Restrepo, Diego**: Professor of Cell and Developmental Biology and Director, Neuroscience Program (Neurobiology)
- **Rogowska, Jadwiga**: Harvard University (Image processing and computer vision, medical image processing and applications, functional magnetic resonance imaging, optical coherence tomography, and mathematical modeling)
- **Singh, Ambuj**: Department of Computer Science, University of California at Santa Barbara, CA (Bioinformatics, Databases, Distributed Computing)
- **Subramanian, Devika**: Department of Computer Science, Rice University, Houston, TX (Artificial Intelligence, Adaptive Systems, Modeling Visuomotor Tasks)

- **Swiniarski, Roman:** California State University at San Diego (Neural networks, data mining, image processing and recognition, intelligent systems, mammogram recognition)
- **Tadeusiewicz, Ryszard:** Akademia Górniczo-Hutnicza im. Stanisława Staszica w Krakowie, Poland (Artificial intelligence, neural networks, mathematical modeling of biological systems, complex systems theory and application, biomedical engineering)
- **Tripet, Brian:** University of Colorado at Denver and Health Sciences Center
- **Wolkow, Tom:** University of Colorado at Colorado Springs (Cell Biology)
- **Xu, Cheng-Zhong:** Wayne State University, Detroit, MI (Distributed and Parallel Computer Systems, Medical Engineering)
- **Zhou, Xiaobo:** University of Colorado at Colorado Springs, CO (Distributed Computing, Information Fusion)
- **Zukoski, Matthew:** Wilkes University, Wilkes-Barre, PA (Biomedical Imaging and Modeling)

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