

Educating The Biotechnology Workforce

ATE Center for Biotechnology



Bio-Link

NSF ATE Center of Excellence

Bio-Link's mission:

To strengthen and expand biotechnology technician education at community and technical colleges to:

1. Enlarge and diversify the technician workforce
2. Meet industry's growing needs for trained technicians
3. Make high-quality training in all aspects of biotechnology available to all students



New Directions

- Shift toward biomanufacturing → • Greater need for technicians
- Bio-Link's transformation into a National Resource Center → • Decentralization and greater reliance on regional presence
- Cross-disciplinary initiatives → • Greater collaboration among ATE Centers



Collaboration History

- Bio-Link → • Northern California Biotech Center Model
- MATEC → • Technical Assistance for Bio-Link
- AMATYC → • Relied on Bio-Link for CRAFTY project
- AgrowKnowledge → • Agbiotech
- SCME → • Partnership from the onset



Lessons from Nature

- Information driven synthesis (DNA Code)
- Self assembly
- Self replication
- Sensory (smell, taste, light, motion receptors)
 - Recognition
- Transport & channel creation



Applications

- Biomaterials
- Drug delivery
- Personalized medicine
- Drug design
- Sensors
- Imaging
- Rapid identification








Sectors

- National security
- Military
- Medical
- Personalized medicine
- Agriculture
- Materials
- Forensics
- Information technology
- Environment



Biological & Microsystems Technologies

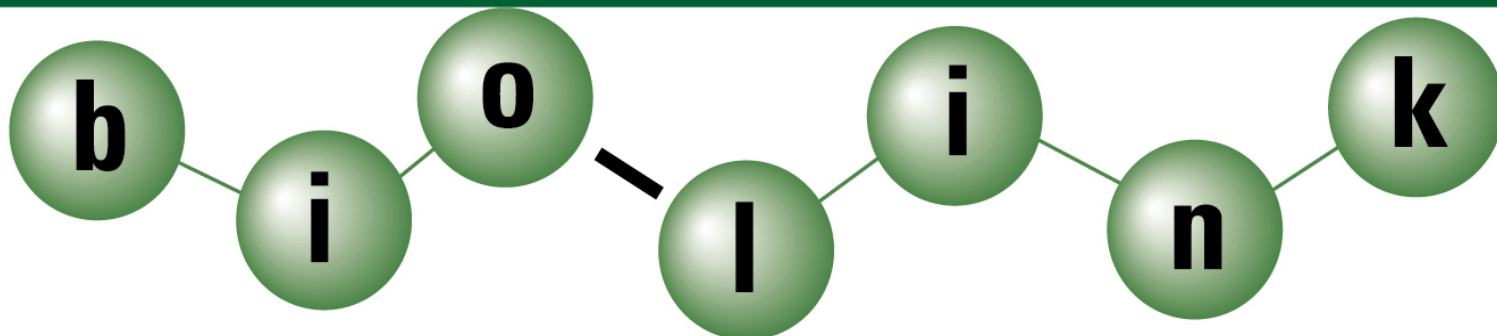
- Biosensors  • Active microelectronic array for genetic analysis
- Protein microarray assays  • Protein biochemistry
- Surface chemistry  • Nitrocellulose microarray binding
- Resonance light scattering  • Microarray labeling
- Microfluidics  • Drug delivery systems



Why Community Colleges?

- Flexible (dealing with disruptive technology)
- Close to pool of diverse student talent
- Faculty expertise
- Supportive system
- Workforce focused
- Collaborative
- Funding available





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Elaine Johnson, Ph.D.
Bio-Link Principal Investigator and Director
ejohnson@biolink.ucsf.edu
www.bio-link.org

