

## Bioethics Education in Professional Science Master's Programs at California State University Channel Islands

Ching-Hua Wang, M.D., PhD.  
Karol Pessin, J.D.  
11-2009



## CSUCI and Its Professional Science Master's Programs

- The CSU system & the PSM Initiative
- CSUCI and Its Mission
- PSM programs at CSUCI
- Advisory Board
- Curriculum development
- MS Biotechnology & Bioinformatics Program
- MS Biotechnology/MBA Dual Degree Program
- Enrolled over 200 students and graduated over 50 students



## PSM Programs at CSUCI

- MS Biotechnology & Bioinformatics Program
- Biotechnology
- Bioinformatics
- Stem Cell Technology & Laboratory Management
- MS Biotechnology/MBA program
- Key course: Biotechnology Law and Regulation
- Other core, required and elective courses



## Characteristics of Our Students



- Culturally heterogeneous
- Some with Professional background
- Recent graduates
- 7% International students
- Lack of "big picture"
- Narrowly focused at work
- Reduction of "on-job" training
- Critical to provide a framework and integrate bioethics into the entire curriculum
- The focused approach
- The integrative approach

## The Focused Approach Biotechnology Law and Regulation

- Individual /organizational responsibility in R&D and commercialization of biotechnology
- Intellectual property
- Government and industrial regulation
- policy responses to societal concerns in the US & abroad
- Privacy
- Liability
- Ethics



## Framework of Bioethics Education

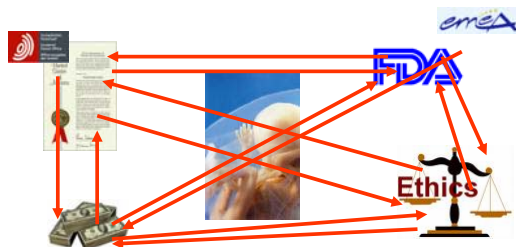
- Human testing
- Animal testing
- Reproductive medicine, stem cell technology
- Tissues and organ transplantation
- Research ethics in the behavioral and neurosciences (“neuroethics”)
- Scientific fraud and responsible conduct of scientific research

## Case Studies

- Reducing the costs of clinical trials
- Outsourcing research
- Genetic selection and human cloning
- Neuroethical considerations for legal liability
- Considerations for organ transplants
- Many more...



## The Integrative Approach



CSUCI Spring 2009

9

KP BIOL503 2009

## Bioethics Education Throughout the Curriculum

- Bioethical considerations in every area in the Law and Regulation class
- DNA and Protein Sequence Analysis
- Pharmacogenomics and Pharmacoproteomics
- Stem Cell technology and Management
- Molecular Structure
- Project Management
- Team Projects



## Summary

- Vital component in the curriculum
- Dissemination of bioethics education via technology

