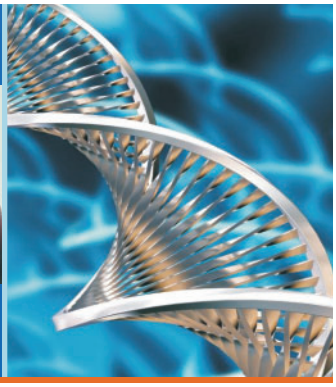
BioImmersion

Date: May 23 – 25, 2012
Time: 9:00am – 4:30pm
Fee: $1450
Location: Willis Tower • 233 South Wacker Drive • Chicago, IL 60606



Day One

The Science Driving Biotech
- Biotechnology Defined
- Industry Sectors: Healthcare, Agriculture, Industrial, Environmental
- Biotech's Biggest Spenders
- Academia

Biology Basics & Cell Signaling
- Biotechnology Goals
- Cell Structure & Function
- How Cells Communicate
- Types of Communication
- Signaling Pathways
- *Lab: DNA Isolation & Extraction*

DNA
- The History of DNA Discovery
- DNA Structure & Function
- DNA Replication
- Chromosomes & Genes
- Inheritance
- *Activity: Wheel of Genetics*

Genetic Variation
- Types of Mutations
- Causes of Mutations
- Genetic Basis of Disease
- Monogenic & Polygenic Diseases
- Personalized Medicine
- Pharmacogenomics
- *Activity: Genetic Variation Taste Test*

From DNA to Proteins
- How DNA Codes for Proteins
- Transcription & Translation
- Protein Structure & Function
- Proteins in Disease
- RNA Interference
- *Activity: Protein Synthesis Paper Lab*

Genetic Engineering
- Restriction Enzymes
- Plasmids
- Recombinant DNA
- Genetically Engineered Cells
- Recombinant Protein Therapeutics (Biologics)
- Disease Models
- Gene Therapy

Q&A/Review

Day Two

The Technology That Enables Discovery
- Genomics Defined
- How the Genome is Studied
- PCR
- DNA Sequencing
- Next Generation Sequencing
- Microarrays & SNP Chips
- *Activity: Microarray to Determine Drug Metabolism*

Antibodies: The Key to Research & Therapeutics
- Antibodies Defined
- The Role of Antibodies in Immunity
- How Antibodies Are Made
- Biotech & Therapeutic Applications of Antibodies

Proteomics
- The Proteome Defined
- Proteomic Research Tools & Techniques
- Gel Electrophoresis
- Western Blot
- Mass Spectrometry
- Chromatography
- X-Ray Crystallography
- Functional Assays
- Protein Microarrays
- *Lab: Gel Electrophoresis*

Stem Cells & Regenerative Medicine
- Properties of Stem Cells
- Types of Stem Cells
- Stem Cells in the Lab
- Promises & Challenges
- Current Advances in Stem Cell Therapy
- Organ & Tissue Replacement

Q&A/Review

Course Description

BioImmersion is a three-day course for the non-scientist which delivers an understanding of both fundamental and advanced science and technology concepts. Focusing on the healthcare industry, participants learn how new therapies are discovered, developed and manufactured.

Day Three

Therapeutic Discovery, Development & Manufacture
- Drug Discovery Timeline
- Target Identification
- Target Validation
- Therapeutic Options
- Assay Development
- High Throughput Screening
- In Vitro Safety & Efficacy Testing
- Biomarkers
- Companion Diagnostics

Drug Development
- Regulatory Agencies
- Preclinical Trials
- Pharmacokinetics & Pharmacodynamics
- Clinical Trials
- *Activity: Package Insert*

BioSimilars & BioManufacturing
- Biosimilars Defined
- Generics vs. Biosimilars
- Patents and Market Exclusivity
- Biomanufacturing Overview
- Cell Banks
- Scale-Up
- Formulation, Fill, & Finish
- *Lab: Protein Purification*

Infectious Disease
- Basics of Immunology
- Vaccines
- Anti-Viral Therapies
- HIV

Diabetes & Obesity
- Type 1 Diabetes
- Type 2 Diabetes & the Obesity Epidemic
- Current Therapeutics
- Clinical Pipeline

Oncology
- How Mutations Cause Cancer
- Angiogenesis
- Druggable Targets
- Traditional vs. Biotech Treatment Strategies
- Whole Genome Sequencing for Personalized Treatment

Q&A/Review

biotechPrimer
Industry Knowledge Delivered

Deliverables:

A reference manual containing all of the slides used in the class, all labs and activities, a glossary of biotech terms, and a certificate of completion. Lunch will be served.

Refunds:

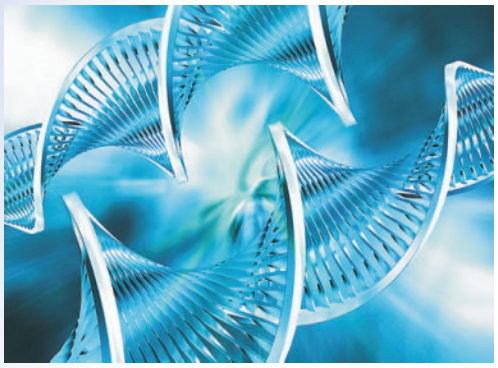
Refunds are not given. Registrants may not switch classes. If a registrant cannot attend, someone from their organization may take their place. Please contact Kerri Muir with substitute name and contact information.

Questions?

Contact Kerri Muir at 410.377.4429 x22 or Muir@ BiotechPrimerInc.com

To Register:

Go to www.BioTechPrimerInc.com and click on "Class Registration".



Instructor:
Karin Lucas, Ph.D.

Dr. Lucas received her Ph.D. from the University of California, San Diego, where she studied inflammatory pain processing. Dr. Lucas began her career in the biotech industry as a scientist and project director at Cardinal Health, where she helped advance the development of over 25 therapeutic products, working with small biotech start-ups as well as large pharmaceutical companies in all stages of development. She subsequently worked as a protein formulation scientist and manager at Biogen Idec where she developed protein pharmaceuticals for the treatment of cancer, multiple sclerosis, chronic pain and hemophilia. A part-time instructor with BioTech Primer since 2004, Dr. Lucas assumed the role of Director of Education & Training in 2011. Through instruction and curriculum development she shares her passion for science and technology with a wide audience of non-scientist professionals who have an interest in the biotech industry.

What People are Saying.....

Erin Deemer, *Leadership Development*, Biogen Idec

"Biotech Primer helps our non-scientists understand the basic science & technology used to develop our products. This knowledge leads to more productive communication with our researchers & clients."

Michael O'Malley, *Director of Product Marketing*, HyLighter

"The content of the (BioTech Primer) course was exactly what I had hoped it would be: comprehensive and exactly the right amount of detail in each section. The course and presentation material were excellent and the lab was great as it really brought to life the material. This was just a terrific overall program in every aspect and I'd highly recommend it."

Claudio Ramirez, *Consul*, Consulate of Canada

"The Biotech Primer course provided me with a robust scientific understanding of the biotech industry and will greatly enhance my credibility with clients, ie: my ability to grasp their business models."

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