

# Technology Transfer: HOW I ARRIVED AT A JOB I LOVE (most days)

**Alan H. Deutch, Ph.D.**

**Director, Office of  
Technology Transfer and  
Development**

**National Heart, Lung, and  
Blood Institute**

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# OTTAD's Mission

- Improve public health by facilitating the development of cooperative relationships between NHLBI (and other ICs) and the private and public sectors by promoting the transfer of research advances and resources to the broader scientific community (aka technology transfer)

# OTTAD Serves as the Technology Transfer Competitive Service Center for ...



National Institute on Deafness & Other Communication Disorders



National Institute of Biomedical Imaging and Bioengineering



National Institute of Nursing Research



National Institute Arthritis & Musculoskeletal & Skin Diseases



National Institute of Environmental Health Sciences

# Technology Transfer is...



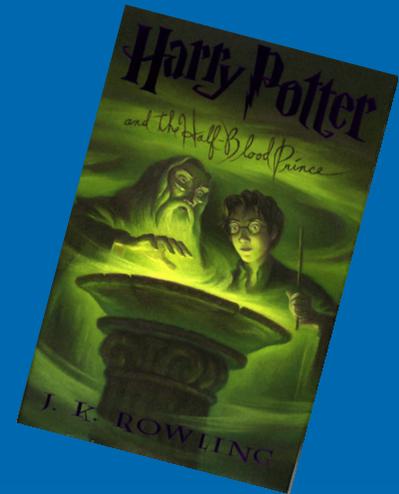
- The sharing of skills, knowledge, tangible materials, and processes among nonprofit biomedical entities, the private sector and the government to ensure development and distribution of technology
  - Publications
  - Transactional agreements governing the conduct of collaborations, the transfer of materials, etc.
- The management of “intellectual property rights (IP)”
  - Patents and Licensure

# Examples of IP



Trade Secret

Patent



Copyright

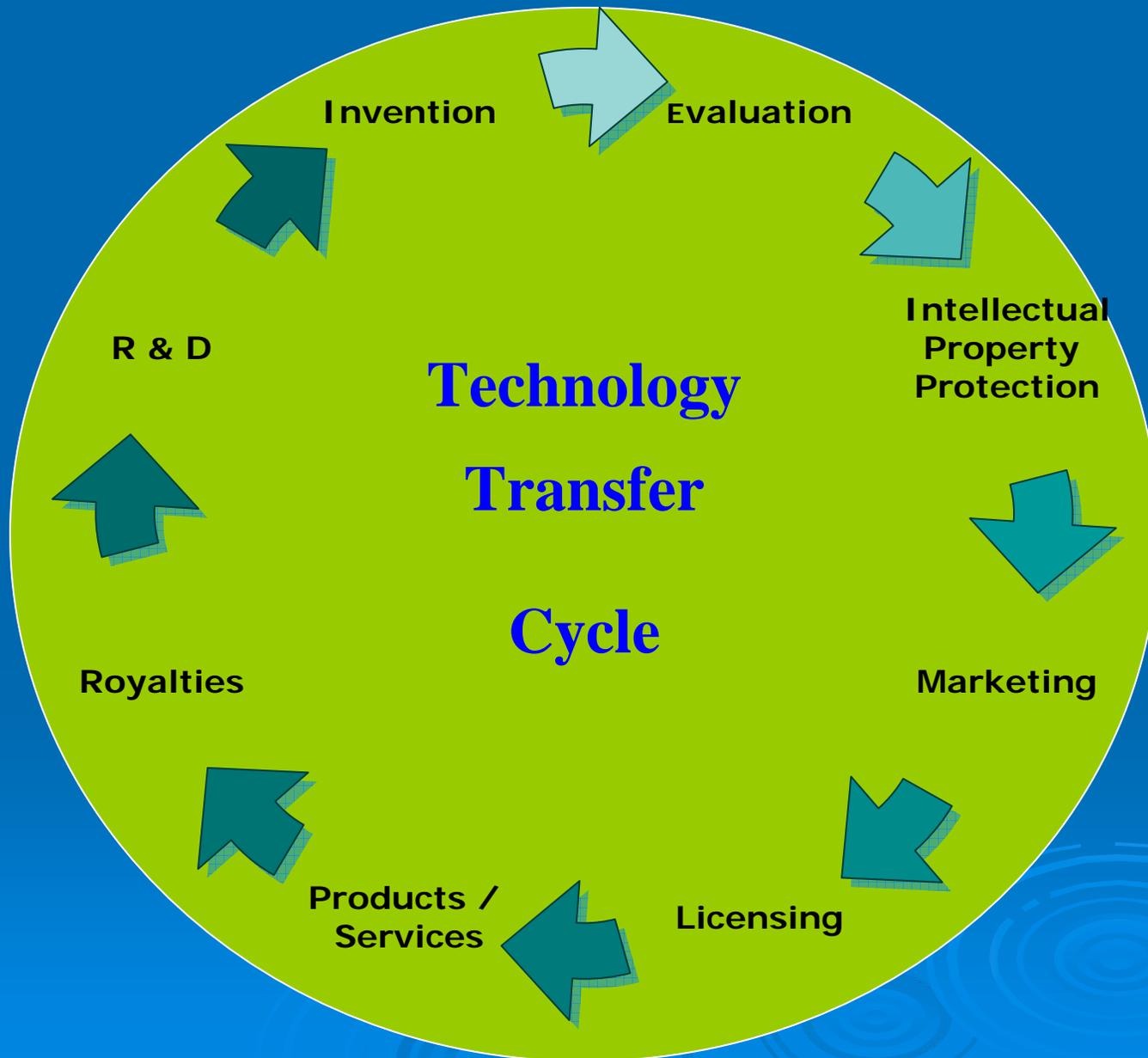


Trademark

## Patent Rights May Be Licensed (exclusive or non-exclusive basis)

- The right to make, use, offer for sale, sell or import the invention claimed by the patent
- NIH licenses patent rights to promote the further development and commercialization of the invention (at reduced risk) for public benefit in exchange for financial consideration in the form of upfront payment, milestone payments, royalty payments (e.g., MAR, earned royalty on sales), and other payments

# Tech Transfer: Circular Pipeline



# OTTAD's Role

- Manage the process of “technology transfer” and facilitate the advancement of biomedical technology by working to:
  - (1) Negotiate “transactional” agreements, and
  - (2) Secure and manage “intellectual property rights” in partnership with the NIH Office of Technology Transfer (OTT)

## For Transactional Agreements, We:

- Negotiate the contractual terms and conditions of agreements (e.g., MTAs, NDAs/CDAs, CRADAs, and CTAs) governing collaborative research relationships and the exchange of biomedical materials and information
- Ensure that the provisions of these agreements comport with applicable laws, regulations and policies



U.S. Department of Health and Human Services

# NIH News

National Institutes of Health

For Immediate Release  
Thursday, March 12, 2009  
301-496-4236

## **Framingham Heart Study Launches New Project to Develop Blood Tests for Heart Disease** *NHLBI, Boston University Form New Collaboration with BG Medicine*

The landmark Framingham Heart Study (FHS) is launching a major initiative to discover risk factors and markers that could lead to new blood tests to identify individuals at high risk of heart disease and stroke. A public-private partnership has been established to enable researchers to apply cutting-edge technology to stored blood samples from thousands of Framingham Heart Study participants. FHS is funded by the National Heart, Lung, and Blood Institute (NHLBI), part of the National Institutes of Health, and conducted in collaboration with Boston University (BU) School of Medicine and School of Public Health.

Called the Systems Approach to Biomarker Research in Cardiovascular Disease (SABRe CVD), the initiative will identify and validate new biomarkers – such as proteins or molecules in the blood — for heart disease. An important component of the biomarker research will be conducted under a five-year cooperative research and development agreement (CRADA) with BG Medicine, a Massachusetts-based biotechnology research company, which has developed patented technology to detect and validate subtle biological changes at the molecular level.

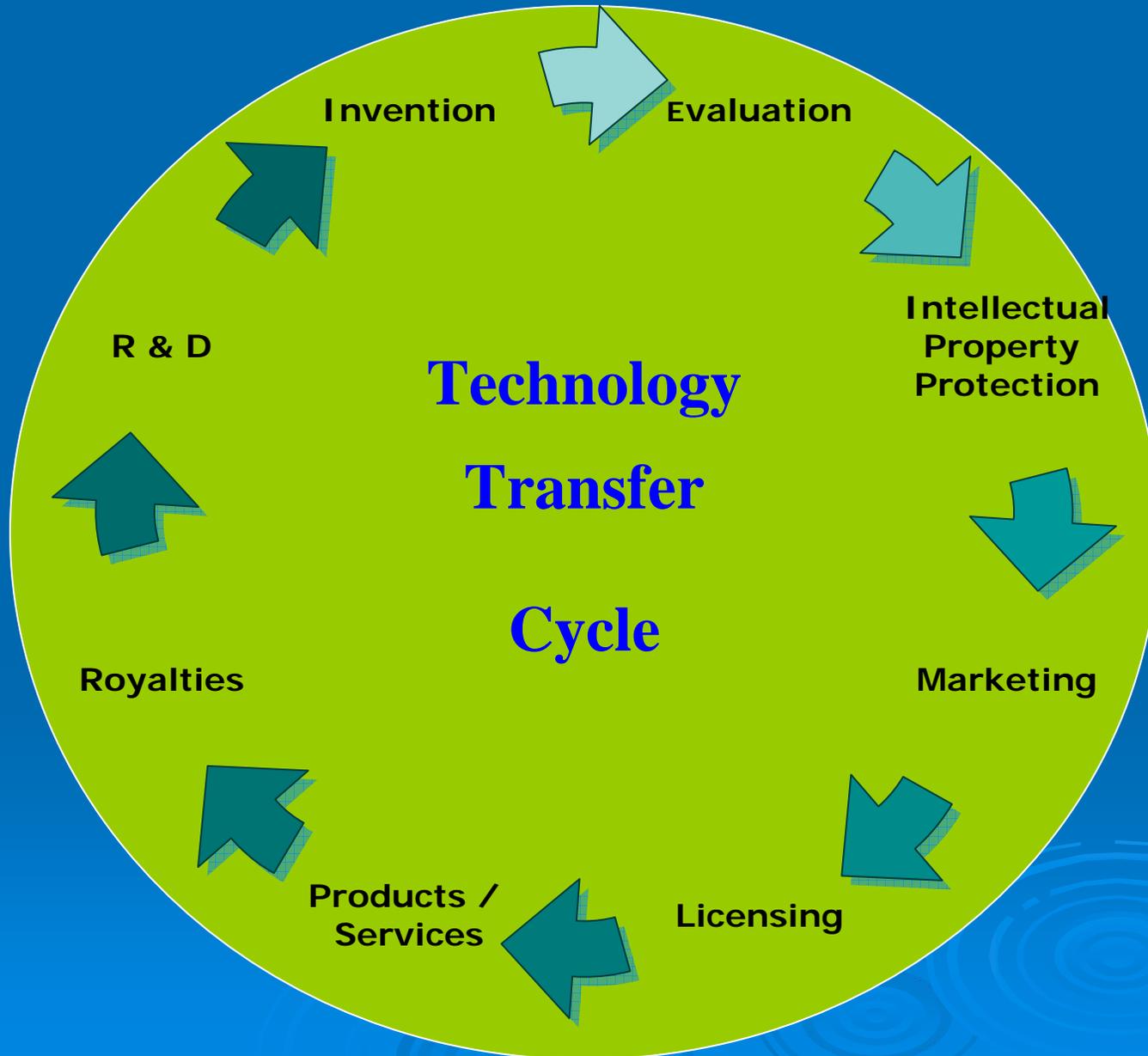
“...This collaboration is the first time that the Framingham Heart Study is partnering with a commercial company in a CRADA research project.”

"The Framingham Heart Study is one of NIH's shining stars — during its 60-year history, it has yielded some of the most important basic knowledge about risk factors for cardiovascular disease, such as high blood cholesterol and high blood pressure," said NHLBI Director Elizabeth G. Nabel, M.D. "This new agreement takes our research to a whole new level. Imagine having a simple blood test to tell us if a patient is at high risk for a heart attack or stroke — we could do so much more to prevent or delay these often debilitating and deadly diseases..."

# For Intellectual Property Rights, We:

- Work to feed the pipeline
  - Evaluate IC inventions and make patent prosecution decisions
- Partner with OTT to manage the technology pipeline
  - Oversee and monitor patenting, technology marketing and licensure activities to ensure responsible expenditure of public funds
  - Oversee financial management of patent and license portfolio by monitoring patent prosecution costs, license royalty receipts and royalty administration

# Circular Pipeline



# Typical Career Path Within NIH

- Ph.D. > Research (Postdoc or beyond) > Training (Mentorship / Detail / Fellowship / Internship / FAES Classes) > Entry Level Position (GS-11/12)

# My Career Path and Drivers

- Path: Economics > Zoology (B.S.) > Genetics (M.S.) > Molecular Cell Biology (Ph.D.) > Postdoc (specialist / academic / basic research) //////////////// > Industrial / Applied Research (closer to product / end-user) > Research Scientist in biotech (Applied Generalist) > Research Manager > the “Career Development Retreat” > On-the-Job Training (Strategic Ventures & Licensing, Business Development)
- Drivers: Making a difference, more immediate gratification, facilitating and catalyzing collaborations, generalist, closer to technology end-user (Patients and Pharma)

# Required (Highly Desirable) KSAs

- Generally provided by “the Ph.D. experience”: Ability to understand the technology or research, able to talk science with inventors and investigators, able to formulate questions and understand answers. Typically don’t need J.D.
- Additional highly desirable qualities: Detail oriented, communication skills, persuasiveness, persistent, patient, skills in negotiating (getting past “no”, getting to “yes”), confidence (dealing with CEO, VP, J.D., Ph.D.), ability to multi-task, quick learner, time management.

# Parting Considerations

- Once you leave lab, difficult to return
- Workload largely outside your control
- Will you be content as a provider of a service, and as a facilitator / catalyst in establishing collaborations?
- Do you see opportunities all around you?
- Sometimes part of a team (working groups), often individual effort
- Are you comfortable seeking and asking for assistance?
- Some activities 1) exciting and very challenging, others 2) mind-numbing. Focus on #1!!!! and you'll have a job that you love (most days)