



# Iowa Biogenealogy™



The application of research to commercial opportunity has a rich history in Iowa. George Washington Carver, Henry Wallace and Nobel Prize Laureates Dr. Norman Borlaug (known as the Father of the Green Revolution) and Dr. Tom Cech (President of the Howard Hughes Medical Foundation) represent national and international known individuals who gained their scientific education while in Iowa. Walking through the halls of any of Iowa's universities will provide a visual impression on how these institutions have become hotbeds for scientific research having a strong eye for commercialization. (Photos: George Washington Carver courtesy Iowa State University; Henry Wallace courtesy Pioneer Hi-Bred; Norman Borlaug courtesy World Food Prize Foundation; Thomas R. Cech © The Nobel Foundation.)

The University of Iowa ranks among the top 10 in research funding from the National Institutes of Health, Iowa State University ranked 2nd nationally in intellectual property licenses and options executed and 3rd in executed licenses yielding income. The National Ag-Based Lubricants Research Center has been established at the University of Northern Iowa. The *Iowa Biogenealogy™* chart allows you to trace the technology origins of more than 200 biotechnology, plant seed, veterinary medicines, fermentation, and numerous other life science companies.

Key areas of strength have been built over recent years in the following specialties:

- University of Iowa (www.iowa.edu):
  - FDA-Approved GMP Drug & Biologic Production Facility
  - Center for Advanced Drug Development
  - Center for Biocatalysis and Bioprocessing
  - Center for Biomaterials & Computational Biology
  - Holden Comprehensive Cancer Center
- The University of Iowa Hospitals and Clinics
  - U.S. Veterans Administrative Hospital
  - College of Medicine
  - Center for Gene Therapy of Cystic Fibrosis & Other Genetic Diseases
  - State Hygienic Lab
  - Transgenic Animal Core & Vector Core Facilities

## IOWA STATE UNIVERSITY

OF SCIENCE AND TECHNOLOGY

- Plant Science Institute (having Centers specializing in Bioinformatics, Plant Genomics, Plant Transformation, Plant Breeding, Designer Crops, and Crops Utilization Research)
- Office of Biorenewables
- Center for Food Security & Public Health
- College of Veterinary Medicine
- Veterinary Teaching Hospital
- Center for Integrated Animal Genomics
- U.S. Dept. of Energy – Ames Laboratory
- U.S. Dept. of Agriculture – National Animal Disease Labs, National Veterinary Services Labs, Center for Veterinary Biologics, Swine Research Center and Animal Plant Health Inspection Service



- University of Northern Iowa (www.uni.edu):
  - National Ag-based Lubricants Center

At the state level, the Biosciences Alliance of Iowa, a consortium of industry, academic research and state government, is making impressive inroads in bolstering the existing collaborations between industry and the state's research institutions. This collaboration continually mines university research for marketable products possessing new businesses and business opportunities. Seven areas have been identified where Iowa is ideally positioned for tremendous expansion. These areas are:

**Advanced Food Products** – incorporating Iowa's strength in plant and animal sciences, production agriculture, food science, nutrition and processing technology to develop and produce functional foods and nutraceuticals.

**Animal Systems** – establishing a leadership position in modeling animal systems and developing technologies with applications for transgenic animals, chimeric animals and cloning.

**Bio-based Products** – drawing on Iowa's plant and animal biomass to generate chemicals, energy, fuels and materials having industrial and commercial applications.

**Biomedical Imaging** – combining Iowa's institutional strengths in engineering and medicine to establish an integrated approach to image acquisition, new device development, advanced image processing, image segmentation, image matching, image storage and retrieval, image display and image analysis.

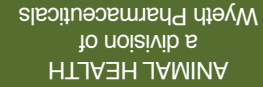
**Drug Discovery, Development, Piloting and Production** – leveraging Iowa's strengths in basic biomedical research, drug development, and GMP production into an integrated pipeline of new drugs and therapeutics.

**Post-Genomic Medicine** – using Iowa's genomic expertise and specific diseases/disorder skills, in conjunction with epidemiologic data and the state's stable population to produce rapid advances in post-genomic medicine and associated discoveries.

**Biosecurity/BioDefense** – deploying the leading-edge advances of Iowa's institutions in human, animal and plant disease prevention, protection and treatment to establish an integrated approach to securing the environment, food production systems, human health and safety.



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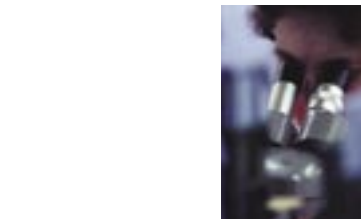
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Trans Ova Genetics

University of Iowa

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# Iowa BioGenealogy™



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