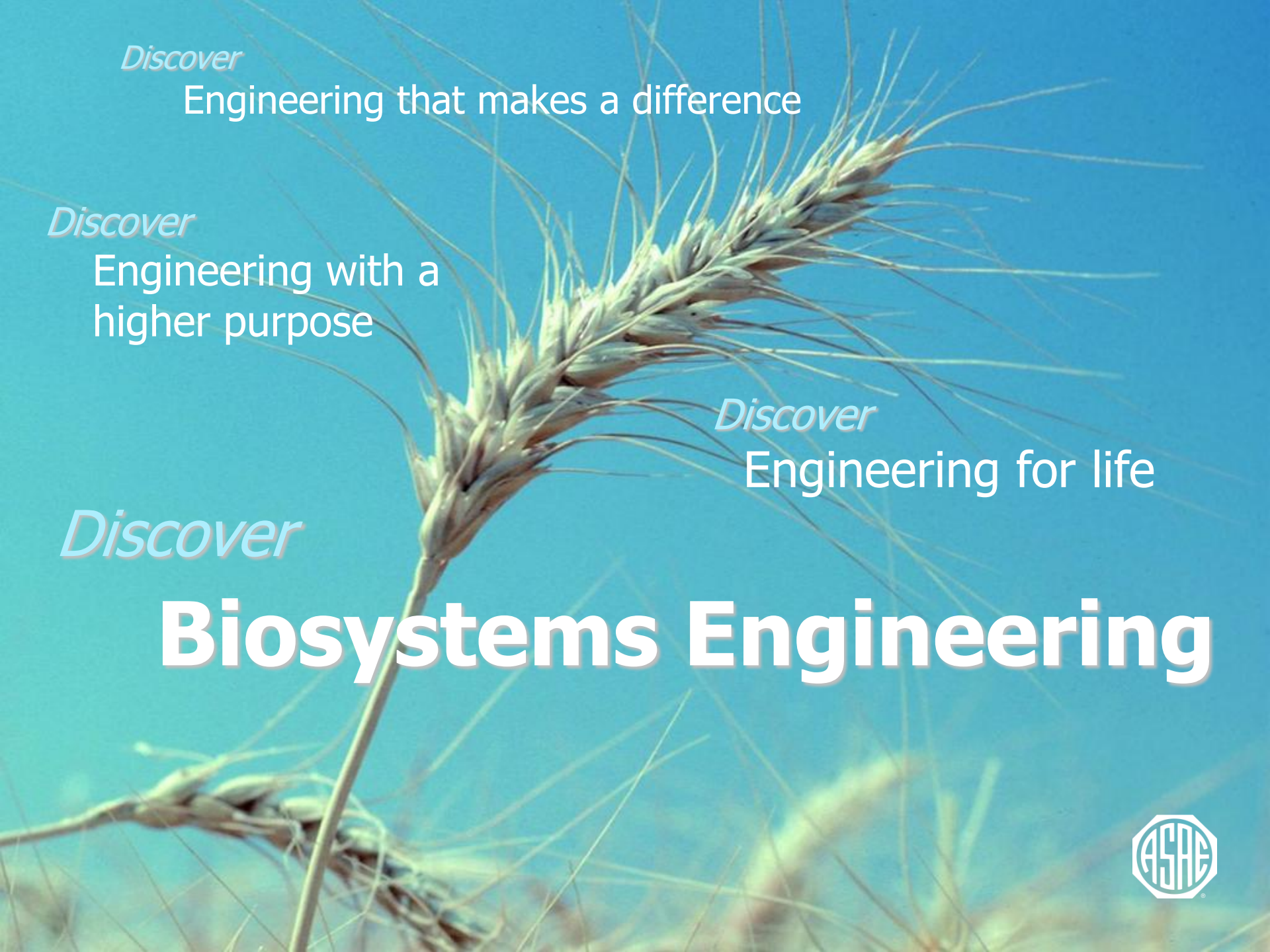
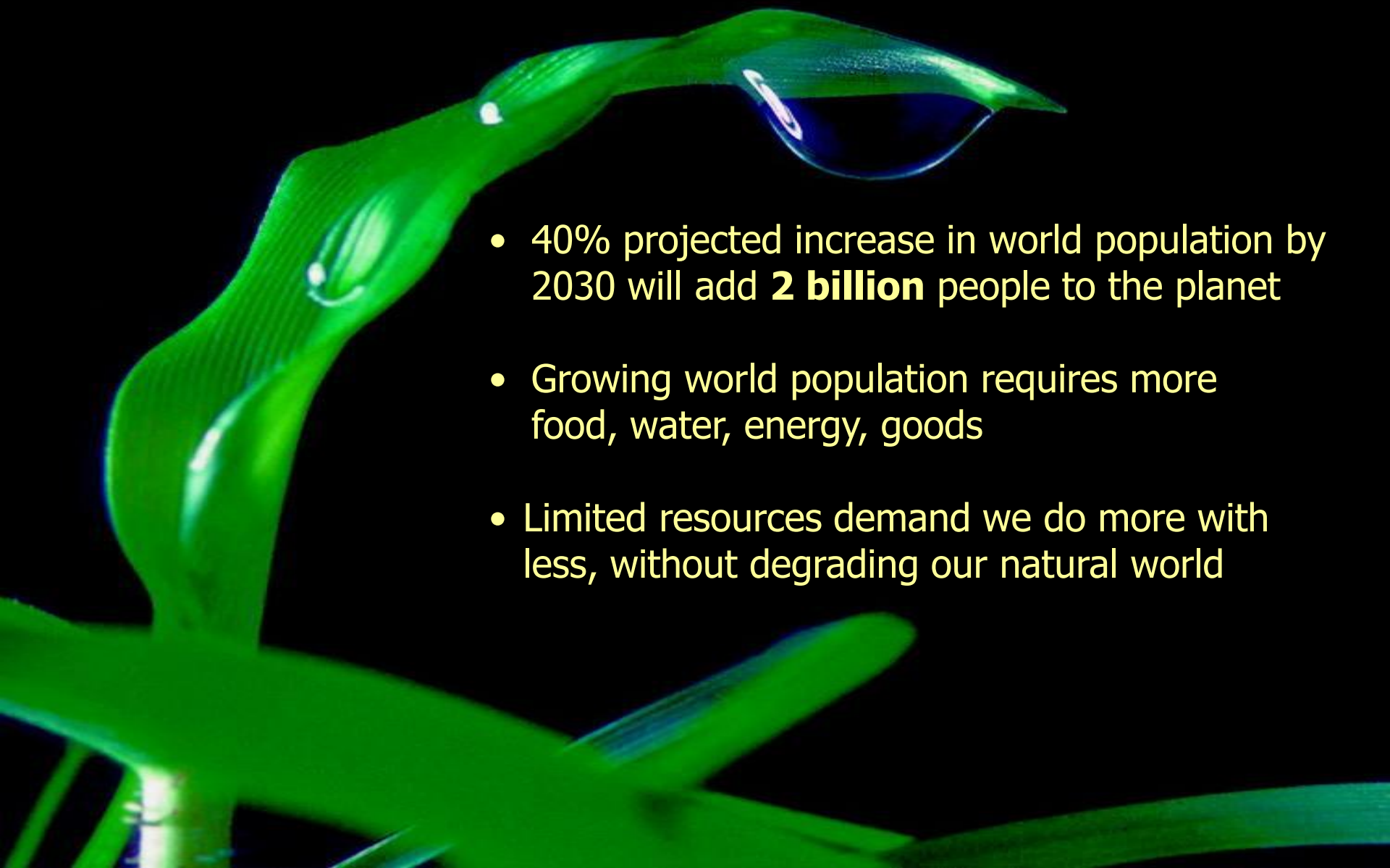

Discover
Engineering that makes a difference
Discover
Engineering with a higher purpose
Discover
Engineering for life
Discover
Biosystems Engineering

Finding Solutions for Life on a Small Planet



- 40% projected increase in world population by 2030 will add **2 billion** people to the planet
- Growing world population requires more food, water, energy, goods
- Limited resources demand we do more with less, without degrading our natural world

Biosystems Engineers ensure growing population has the necessities for life

- Safe and abundant food and water
- Timber and fiber for shelter and clothing
- Plentiful and renewable energy resources
- A healthy environment in which to live

Biosystems Engineers—what do they do?

- Devise practical, efficient solutions for producing, storing, transporting, processing, and packaging agricultural products

- Solve problems related to systems, processes, and machines that interact with humans, plants, animals, microorganisms, and biological materials
- Develop solutions for responsible, alternative uses of agricultural products, byproducts and wastes and of our natural resources - soil, water, air, and energy

Why Choose Biosystems Engineering?

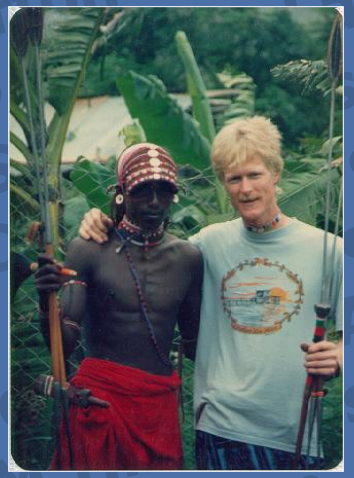
Can't decide whether to study math, physical sciences, or biological sciences? Bio-Ag Engineering allows you to combine them all!

Unique curriculum offers valuable experience in other engineering disciplines and prepares graduates for multi-disciplinary teams common in today's workforce.

Make a lasting mark on the world around you!

Who Employs Biosystems Engineers?

With a unique understanding of the interrelationships between technology and living systems, you'll have a wide variety of employment options available to you!




Specialty Areas at UK
Food and Bioprocess Engineering
Controlled Environmental Systems Engineering
Bioenvironmental Engineering
Machine Systems Automation Engineering

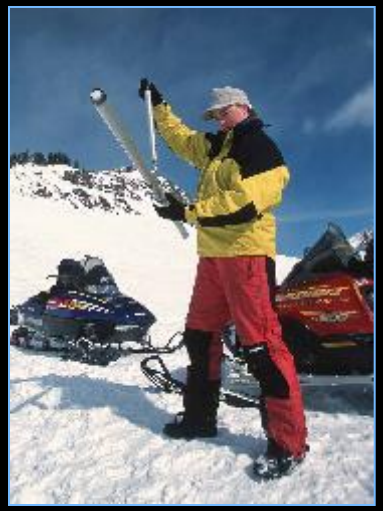
Pre-Biomedical Engineering

Applying engineering practice to problems and opportunities related to medicine and human health

- Bioinstrumentation
- Biomechanics
- Biomaterials
- Systems Physiology
- Clinical Engineering
- Bioinformatics
- Rehabilitation Engineering
- Medical implants

Bioenvironmental

Improving conservation by understanding the complex mechanics of soil and water



- Wetlands protection
- Water control structures: dams, reservoirs, floodways
- Drainage
- Erosion control
- Pesticide and nutrient runoff
- Crop water requirements
- Water treatment systems
- Irrigation

Food and Process Engineering

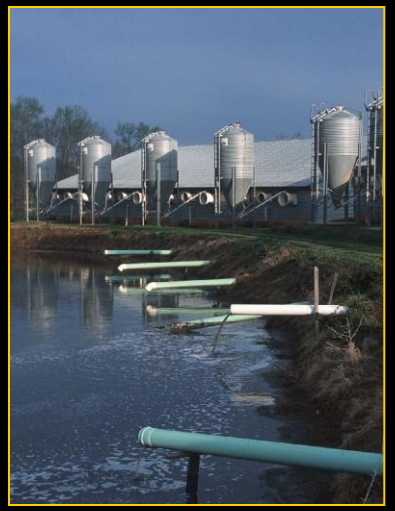
Using microbiological processes to develop useful products, treat municipal, industrial, and agricultural wastes, and improve food safety

- Packaging, storage, transportation of perishable products
- Pasteurization, sterilization, irradiation techniques
- Food processing techniques & technologies
- Biomass fuels
- Nutraceuticals, phamaceuticals
- Biodegradable packaging materials

Controlled Environment Systems Engineering

Engineering a healthy environment for living things

- Animal and plant housing
- Grain storage
- Waste storage, recovery, reuse, transport
- Climate, ventilation, disease/pest control systems



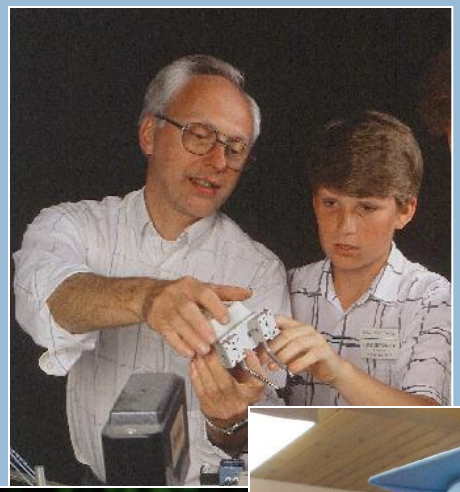
Machine Systems Automation

Improving efficiency and conservation in agricultural, food, and biological systems

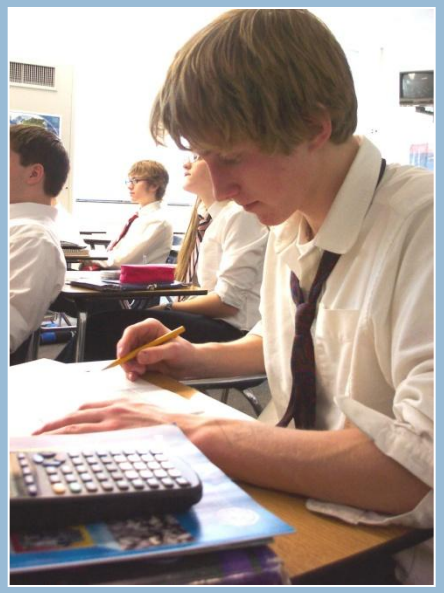
- Agricultural tractors, combines, implements, and transportation equipment
- Turf and landscape equipment
- Equipment for special crops

- Global positioning systems
- Machine instrumentation and controls
- Data acquisition and "Bioinformatics"—biorobotics, machine vision, sensors, spectroscopy
- Electromagnetics

Preparing for a College Career in Biological and Agricultural Engineering

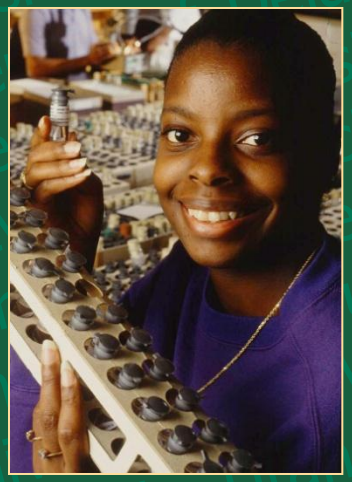


- Math
- Science—especially life sciences



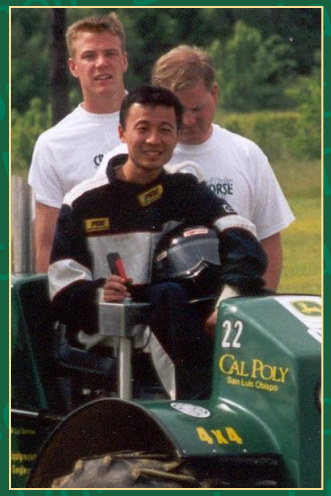
- Writing and Speaking—to communicate clearly and to "sell" your ideas

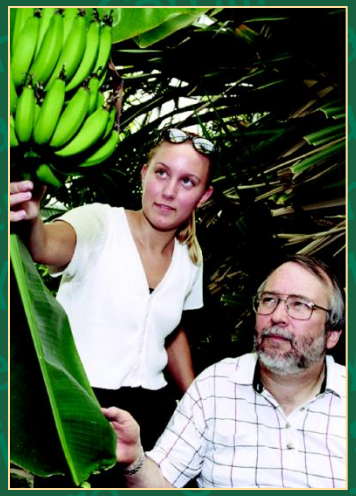
*"**I found** biological and agricultural engineering to be a challenging field of study and very different from the typical engineering fields. And, I have the chance to work in an industry that affects everyone in the world!"*



*"**Other university departments** are so big and impersonal, but my faculty took time to get to know me and help me grow, personally as well as academically. There is a real sense of community in this major."*

*"**My studies** prepared me for the job market by exposing me to many different experiences and scenarios that come across in work."*



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