

September...

Botulism is a rare and potentially fatal paralytic illness caused by a toxin produced by the bacteria *Clostridium botulinum*. The disease begins with weakness, trouble seeing, feeling tired, and trouble speaking. This may then be followed by weakness of the arms, chest muscles and legs. The disease does not usually affect consciousness or cause a fever.

That will be our subject in September.

The Home Office

For years the members referred to the home New York Office as "National". Well now it is to be more formally called "Home Office" in its correspondence.

Membership Grades

The AIChE has four grades of membership as listed below (ranging from the highest grade to the lowest grade):

- *Fellow*
- *Senior Member*
- *Member*
- *Student member*

2014 Section Officers

Chairperson:

Chandra Nair

Chair-Elect:

Jacqueline Sibbles

Treasurer:

Patricia Forgang

Secretary:

Andrew Soos

Past Chair:

Todd Salamon

Directors:

Phil Messina

Laura Turci

Ken Carlson

David Greene

Howard Stamato

Director Emeritus:

Frank Dittman



Site Tour 2014 - Bayway

The Bayway Refinery, located on New York Harbor in Linden, N.J., processes mainly light, low-sulfur crude oil. Crude oil is supplied to the refinery by tanker, primarily from the North Sea, Canada and West Africa. Bayway refining units include one of the world's largest fluid catalytic cracking units, two hydrodesulfurization units, a reformer, an alkylation unit and other processing equipment.

The refinery produces a high percentage of transportation fuels, such as gasoline, diesel fuel and jet fuel, as well as petrochemical feedstocks, residual fuel oil and home heating oil. The facility distributes refined products to East Coast customers via barges, trucks, pipelines and railcars. Bayway also has a 775 MMLB/Y polypropylene plant.

The NJ section visited Bayway in June 2014.





REASONS TO BE AN ENGINEER

1. **Engineering is one of the top paid professions.**

Starting salaries for engineers are among the highest for any college degree. A typical starting salary for an engineer fresh out of school with a bachelor degree is over \$50,000. An engineer can double his or her salary with experience and additional training. Engineers make, on average, 65% more than scientists.

2. **Engineers are employable.**

Engineers are in high demand in every country around the world. Basically this means you have an excellent chance of getting a job in engineering right out of school. In fact, engineers enjoy one of the lowest unemployment rates of any profession.

3. **Engineering is a stepping stone toward becoming a CEO.**

Engineering is the most common undergrad degree among Fortune 500 CEOs, with 20% claiming an engineering degree. In case you are wondering, the second most common degree was business administration (15%) and the third was economics (11%). Engineers work with others and often lead projects and teams. Engineers study economics and business, so they are a natural fit when it comes time to take the reins or start a new company.

4. **Engineering opens doors for professional advancement.**

Many of the skills that engineers hone and use open doors to professional advancement, personal growth and other opportunities. Engineers learn how to analyze and solve problems, work in a team, communicate with others, meet deadlines and manage others. Engineering usually involves ongoing education and often offer opportunities to travel.

5. **It's a good major if you don't know what you want to do.**

If you are good at science and math, but aren't sure what you want to do with your life, engineering is a safe starting major. It's easier to switch from a rigorous college major to an easier one, plus many of the courses required for engineering are transferable to other disciplines. Engineers don't just study science and math. They learn about economics, business, ethics and communication. Many of the skills that engineers master naturally prepare them for other types of business.

6. **Engineers are happy.**

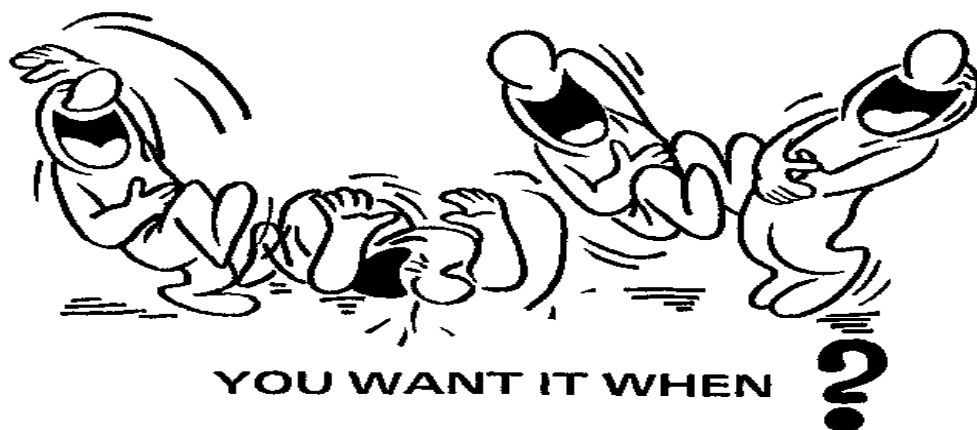
Engineers report a high degree of job satisfaction. This likely is due to a combination of factors, such as flexible schedules, good benefits, high salaries, good job security and working as part of a team.

7. **Engineers make a difference.**

Engineers address real-world problems. They fix things that are broken, improve those that work and come up with new inventions. Engineers help move the world toward a brighter future by solving problems with pollution, finding ways to harness new energy sources, producing new medicines, and building new structures. Engineers apply principles of ethics to try to find the *best* answer to a question. Engineers help people.

8. **Engineering has a long and glorious history.**

"Engineering" in the modern sense traces its name back to the Roman era. "Engineer" is based on the Latin word for "ingenuity". Roman engineers built aqueducts and designed heated floors, among their numerous accomplishments. However, engineers built significant structures long before this. For example, engineers designed and built the Aztec and Egyptian pyramids, the Great Wall of China and the Hanging Gardens of Babylon,



What is the difference between Mechanical Engineers and Civil Engineers? Mechanical Engineers build weapons; Civil Engineers build targets. Chemical Engineers are engineers that build targets that explode really well.

A graduate with a Science degree asks, "Why does it work?" A graduate with an Engineering degree asks, "How does it work?" A graduate with an Accounting degree asks, "How much will it cost?" A graduate with a Liberal Arts degree asks, "Would you like an apple pie with that?"