



# **Sustainability of Technology**

*by Team Five*

# **Gregory Lynn,** Bioengineer & Educator

- **Ultimate goal is to teach the next generation of critically-minded, mathematically capable, and scientifically literate pupils**
- **Fascination with the natural sciences: Mathematics, Physics, Chemistry, Biology, etc.**
- **Aiming to apply engineering techniques medical issues (H1N1, Cancer, Alzheimer's, Blindness, etc.)**
- **Believe in the responsibility each individual owes to their community -- in profession, political life, social life, recreation, etc.**
- **Advocate of Gentle Criticism & Argument; Hegel's Triad: thesis - antithesis - synthesis**

# Bioengineering Feats

- **'Curing' Blindness, stem cell implantation improved sight in a 'progressive-blindness' causing disease**

<http://content.usatoday.com/communities/sciencefair/post/2012/01/huamn-embryonic-stem-cell-blindness-treatment-study-reaction/1>



- **Synthetic Hand Prosthetics w/ opposable thumbs (Michelangelo Hand, *Otto Bock*)**

[http://www.twincities.com/localnews/ci\\_19731218](http://www.twincities.com/localnews/ci_19731218)

- **Nanobot Drug Delivery Systems that deliver proteins to specific destinations**

[http://insciences.org/article.php?article\\_id=7991](http://insciences.org/article.php?article_id=7991)



- **Generally, invest NOW -- payoff later**

# **Samantha Alexander,** Chemical Engineer

- **The most important thing I want in my life is fulfillment. I want to live a successful life as a Chemical Engineer, working closely with the American Navy or Air Force on projects that will enhance the reliability and performance of the equipment that helps defend our borders.**
- **I will be passionate and dedicated to my job, but I ultimately want to marry and live a long and happy life with my husband and children.**
- **I want to look back on my life many decades from now with a smile on my face thinking that I've accomplished everything I've set out to do!"**

**Motto to live by: "*Work like you don't need money, Love like you've never been hurt, And dance like no one's watching*" (Crystal Boyd).**

# Military Advances

- **Unmanned (Aerial/Ground/Sea) Vehicles**
  - Reduces loss of US Military casualties
  - Revolutionizes military tactics (can proceed into hostile areas, versatile capabilities)
  - Lack human error/vulnerabilities

## **SWORDS**

**Weight:** 200 lb.

**Speed:** 4 mph

**Weapons:** M249 light machine gun

**Notable feature:** First armed robot deployed to Iraq; didn't fire a shot

## **Warrior X700**

**Weight:** 250 lb.

**Speed:** 10 mph

**Weapons:** A .30-caliber machine gun

**Notable feature:** Articulated arm that can lift 150 lb. swaps in for weapons.

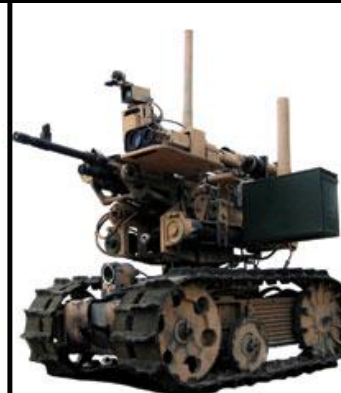
## **MAARS**

**Weight:** 235 lb.

**Speed:** 7 mph

**Weapons:** M240B medium machine gun

**Notable feature:** Programmable no-fire zones to prevent fratricide.



# Jon Szuch, Civil Engineer

- **Social Life**

- Keeping close with my family is extremely important to me.
- Maintaining a strong relationship with my best friends is something that means a lot to me.

- **Material Life**

- I would like to live in an expensive home in a safe neighborhood.
- Owning technology to make my life simpler is important to me.

- **Occupation**

- I plan on becoming a civil engineer and would like to work in construction.
- Will help in building our society's infrastructure.
- I would like to one day become a manager for a company so I can have a greater say in how the company achieves its goals.

# Technology Improving Lives

- Expanding use of technology will help me achieve my personal goals.
  - New inventions in communications have made it easier to communicate, thus, allowing me to remain close with friends and family.
    - Cell Phones
    - Email
    - Internet
  - New technological developments have and will continue to make everyday tasks simpler.
  - Communication advancements will help me in collaborating with my fellow coworkers on various projects.
  - Entertainment has been revolutionized with the radio and the television, creating global communities

[http://articles.cnn.com/2005-04-01/tech/cnn25.top.technology\\_1\\_cell-phones-wireless-world-scott-shamp/2?\\_s=PM:TECH](http://articles.cnn.com/2005-04-01/tech/cnn25.top.technology_1_cell-phones-wireless-world-scott-shamp/2?_s=PM:TECH)



# **Evan Wall,** Electrical Engineer

- My family is very important to me.
- My parents and brother are both engineers, I like to think that someday we will start up a family business
- I find outer space very interesting, I would like to help in its exploration some day. There is so much that we can learn by exploring and studying outer space.
- I also find robotics very interesting, I hope that one day I might be able to work on building a land rover.



# Technology Benefits Us

- Over the years technology has allowed for the increase in the life expectancy of humans.
- Neolithic life expectancy: 20 years
  - [http://www.brown.edu/Departments/Economics/Papers/2007/2007-14\\_paper.pdf](http://www.brown.edu/Departments/Economics/Papers/2007/2007-14_paper.pdf)
- Current life expectancy: 67.2 years
  - <https://www.cia.gov/library/publications/the-world-factbook/rankorder/2102rank.html>
- Recent advances in public health since 1900's that have increased life expectancy by roughly 30 years.
  - Vaccination
  - Control of infectious diseases
  - Decline in deaths from coronary heart disease and stroke
  - Safer and healthier foods
  - Fluoridation of drinking water
  - Recognition of tobacco use as a health hazard
- Technology allows people to lead healthier, happier,

Fin.