

DAVID ALEXANDRE JOSEPH CAMPEAU

16 YEARS OLD FROM ROCHESTER, MN ATTENDS MAYO HIGH SCHOOL INVENTED **BRAIN COMPUTER INTERFACE**

DAVID WAS BORN AND HAS LIVED HIS ENTIRE LIFE IN ROCHESTER, MN. HE HAS A LIFE OF VARIED INTERESTS WHICH INCLUDE SEVERAL SPORTS. AS AN ALPINE SKI RACER, HE PARTICIPATED IN THE JUNIOR OLYMPICS IN WINTER PARK, CO IN 2008. HE HAS BEEN A MEMBER OF THE ROCHESTER WATER-SKI SHOW TEAM SINCE 2004 WHERE HE DOES BAREFOOT, SLALOM, BACKWARDS AND PYRAMID SKIING. HE HAS RECENTLY BECOME INTERESTED IN UNICYCLING.

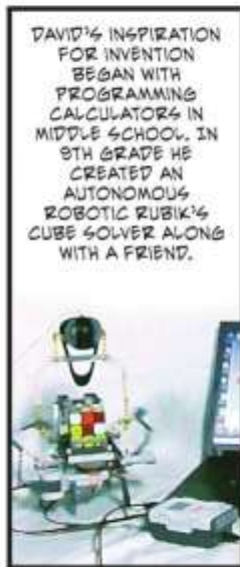
WOOHOO!



DAVID IS ALSO SKILLED IN THE ARTS. HE PLAYS THE PIANO AND THE VIOLIN SINCE 3RD GRADE. HE IS A MEMBER OF SEMYO (SOUTHEASTERN MINNESOTA YOUTH ORCHESTRA).



DAVID'S INSPIRATION FOR INVENTION BEGAN WITH PROGRAMMING CALCULATORS IN MIDDLE SCHOOL. IN 8TH GRADE HE CREATED AN AUTONOMOUS ROBOTIC RUBIK'S CUBE SOLVER ALONG WITH A FRIEND.



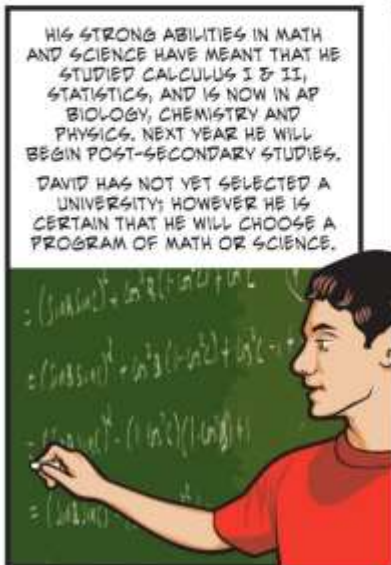
WHEN HE SAW THE GAME, "MIND FLEX", HE WAS INSPIRED TO START HIS WORK ON THE BRAIN COMPUTER INTERFACE.

HE WON THE **INTERNATIONAL BIOGENIUS CHALLENGE** IN JUNE OF 2011 AND 3RD PLACE IN ENGINEERING AT IEEF 2011, LOS ANGELES, CA-ENGINEERING: ELECTRICAL & MECHANICAL 2ND AWARD (ALSO EUROPEAN ORGANIZATION FOR NUCLEAR RESEARCH - ALL EXPENSE PAID TRIP TO TOUR CERN SUMMER 2011 AND INTERNATIONAL COUNCIL ON SYSTEMS ENGINEERING CERTIFICATE OF HONORABLE MENTION).



HIS STRONG ABILITIES IN MATH AND SCIENCE HAVE MEANT THAT HE STUDIED CALCULUS I & II, STATISTICS, AND IS NOW IN AP BIOLOGY, CHEMISTRY AND PHYSICS. NEXT YEAR HE WILL BEGIN POST-SECONDARY STUDIES.

DAVID HAS NOT YET SELECTED A UNIVERSITY; HOWEVER HE IS CERTAIN THAT HE WILL CHOOSE A PROGRAM OF MATH OR SCIENCE.



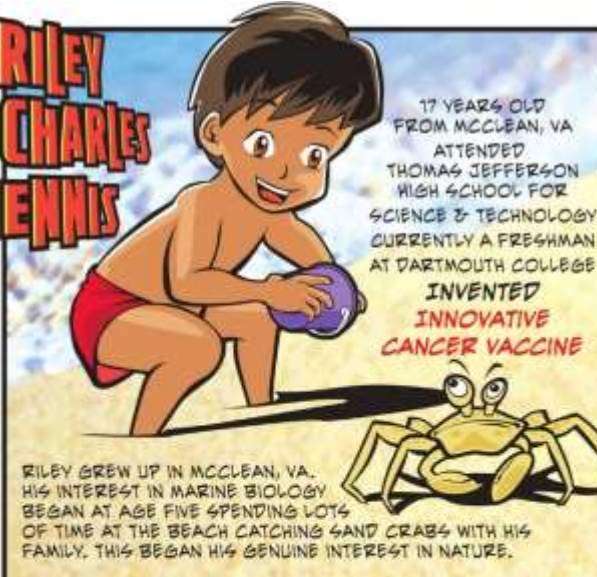
HE HAS PLANS TO CONTINUE HIS RESEARCH ON THE **BRAIN COMPUTER INTERFACE** WITH THE INTENTION OF HELPING TO GENERATE A SIGNAL TO RESTORE MOTOR FUNCTION FOR THOSE THAT ARE PARALYZED.



RILEY CHARLES ENNIS

17 YEARS OLD FROM MCCLEAN, VA ATTENDED THOMAS JEFFERSON HIGH SCHOOL FOR SCIENCE & TECHNOLOGY CURRENTLY A FRESHMAN AT DARTMOUTH COLLEGE


INVENTED INNOVATIVE CANCER VACCINE



RILEY GREW UP IN MCCLEAN, VA. HIS INTEREST IN MARINE BIOLOGY BEGAN AT AGE FIVE SPENDING LOTS OF TIME AT THE BEACH CATCHING SAND CRABS WITH HIS FAMILY. THIS BEGAN HIS GENUINE INTEREST IN NATURE.

RILEY'S MOM INSTILLED IN HIM THE VALUE OF VOLUNTEERING. HE VOLUNTEERS AT THE NATIONAL AQUARIUM IN BALTIMORE AND ALSO WITH CHILDREN SUPPORTING PROGRAMS FOR AUTISM AND CHILDREN'S HEART DISEASE.

DURING HIS JUNIOR YEAR, RILEY WORKED AT THE CHILDREN'S NATIONAL MEDICAL CENTER WHERE HE NOTICED A YOUNG GIRL WHO SHOWED ALL THE SIGNS OF CHEMOTHERAPY AND RADIATION. THIS GAVE HIM A NEW PASSION TO DEVELOP CANCER TREATMENTS.



AT THOMAS JEFFERSON HIGH SCHOOL FOR SCIENCE & TECHNOLOGY, RILEY DID RESEARCH WITH HORSESHOE CRABS, OCTOPI AND STARFISH. WHEN HE BEGAN A RESEARCH PROJECT AT GEORGETOWN UNIV., HE ARRIVED AT THE LAB WITH AQUARIUM TANKS AND BUCKETS FULL OF OCTOPI THAT WERE INKING AND CRAWLING OUT. HIS MENTORS LAUGHED AT THIS FUNNY SCENE AND EVENTUALLY SUGGESTED USING MICE FOR HIS RESEARCH.



RILEY ENJOYS BEING OUTDOORS IN NATURE, AND HE LIKES HANGING OUT WITH FRIENDS. HE PLAYED SOCCER, BASKETBALL AND FOOTBALL, AND SPENDING TIME WITH FAMILY IS ALSO IMPORTANT.



IN MAY 2010, RILEY SPOKE AT A LARGE RELAY FOR LIFE RALLY. WHEN SPEAKING ABOUT HIS CANCER VACCINE PROJECT, HE NOTICED SOME PEOPLE BEGAN CRYING. AFTERWARDS, HE REALIZED THE IMMENSE IMPORTANCE OF NEW CANCER DISCOVERIES. HIS INVESTIGATIVE WORK TOOK ON A NEW MEANING. HIS FOCUS WAS NOT ON GETTING A GOOD GRADE ON HIS PROJECT OR WINNING AN AWARD AT INTEL, BUT MAKING AN IMPACT ON A PERSON'S LIFE.

THROUGH 2 YEARS OF RESEARCH AT THE UNIVERSITY OF PENNSYLVANIA AND GEORGETOWN UNIVERSITY, RILEY WAS SUCCESSFUL AT CREATING HIS CANCER VACCINE CONCEPT. CANCER CELLS SUPPRESS THE IMMUNE SYSTEM AND THE GOAL OF HIS VACCINE IS TO MOUNT AN IMMUNE RESPONSE TO SURPASS THE IMMUNOLOGICAL BARRIER.

RILEY IS NOW A FRESHMAN AT DARTMOUTH COLLEGE WHERE HE IS CONTINUING HIS STUDIES IN BIO-SCIENCES AND ECONOMICS. HIS INVENTION IS AN INNOVATIVE CANCER VACCINE COMPLEX THAT MAXIMIZES IMMUNOLOGICAL STIMULATION & ULTIMATELY BRIDGES TWO KNOWN PATHWAYS OF THE IMMUNE SYSTEM IN A SINGLE DELIVERY VESSEL IN ORDER TO TREAT CANCER.

RILEY WON 2ND PLACE AT THE 2011 INTEL INTERNATIONAL SCIENCE & ENGINEERING FAIR, THE DR. BENNETT A. MALBON PRIZE, GRAND PRIZE AT THE VIRGINIA STATE SCIENCE FAIR AND IN 2010 OBTAINED A PROVISIONAL PATENT LICENSE.

HIS GOAL IS TO CREATE A BIOTECHNOLOGY COMPANY, BECAUSE HE REALIZES THAT SCIENCE RESEARCH IS MORE BENEFICIAL WHEN IT BECOMES A USABLE PRODUCT.



ALEXANDER PRODROMOS GILBERT

18 YEARS OLD — FROM MCLEAN, VA — ATTENDED ST. ALBANS SCHOOL
**INVENTED IMPROVED CONTRAST IN MAGNETIC RESONANCE
 IMAGING (MRI) FOR MORE ACCURATE MEDICAL DIAGNOSES**



HIS FATHER INTRODUCED HIM TO HIS FAVORITE HOBBIES, WHICH INCLUDE CHESS, SOCCER AND TENNIS. HIS TENNIS TEAM WAS SECOND IN THE WASHINGTON, DC AREA WHEN HE WAS IN HIGH SCHOOL.



ALEXANDER GREW UP IN CHATHAM, NJ AND THEN MOVED TO MCLEAN, VA IN 2000. WITH GREEK HERITAGE ON HIS MOTHER'S SIDE OF THE FAMILY, IT WAS IMPORTANT FOR ALEXANDER TO GO TO GREEK SCHOOL TO LEARN THEIR TRADITIONS EACH SATURDAY MORNING UNTIL HE ENTERED HIGH SCHOOL. ALEX, ALONG WITH HIS MOTHER, FATHER, AND SISTER GO TO GREECE EACH SUMMER TO SEE THEIR EXTENDED FAMILY. HE SPEAKS GREEK, SO HE CAN COMMUNICATE WITH HIS COUSINS, GRANDMOTHER AND UNCLES.

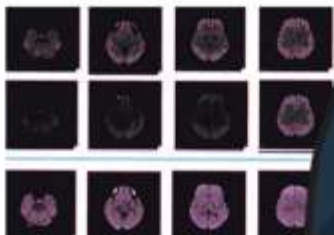


ALEX ALSO ENJOYS MUSIC. HE HAS PLAYED THE EUPHONIUM FOR 8 YEARS, AND TWO YEARS AGO HE BEGAN PLAYING THE GUITAR. HE ESPECIALLY LIKES CLASSIC HARD ROCK.

HE BECAME INTERESTED IN RESEARCH AFTER TAKING HIS ADVANCED MATH & SCIENCE COURSES DURING HIS SOPHOMORE YEAR IN HIGH SCHOOL. HE WORKED AT NIH (NATIONAL INSTITUTES OF HEALTH), AND HE SPENT THE FOLLOWING SUMMER WORKING AT THE MASSACHUSETTS GENERAL HOSPITAL IN NEUROIMMUNOLOGY BRANCHES. THERE HE FOCUSED ON IMPROVING MRI CONTRAST WITH A COMPUTER PROGRAM AND AN EX-VIVO HISTOCHEMICAL STAIN RESPECTIVELY.



HIS RESEARCH PROJECT OF A QUANTITATIVE T2 MRI MAPPING AT 1.5 TESLA DEVELOPED A COMPUTER ALGORITHM WHICH IMPROVES CONTRAST IN MAGNETIC RESONANCE IMAGING (MRI). HIS PROGRAM HAS BEEN SUCCESSFULLY APPLIED TO BRAIN MRIS, ENABLING MORE ACCURATE IMAGE DEFINITION OF TISSUES, IN AREAS OF DEMYELINATION, OR PLAQUES, WHICH ARE OFTEN PRESENT IN PATIENTS WITH MS. IT OFFERS HOPE FOR POTENTIAL BETTER DIAGNOSIS OF NEUROLOGICAL DISEASES INCLUDING ALZHEIMER'S.



AS A RESULT OF HIS INTEREST IN SCIENCE, IN 2011 HE WAS A DAVIDSON FELLOW, AN ISEF FINALIST & AN INTEL SCIENCE TALENT SEARCH SEMIFINALIST. HE WAS ALSO THE POPULAR SCIENCE TOP HIGH SCHOOL INVENTOR IN 2011. IN 2010 HE WAS A RAYTHEON MATH HERO AND A RESEARCH SCIENCE INSTITUTE SCHOLAR.

ALEXANDER IS CURRENTLY A FRESHMAN AT MIT AND IS PLANNING ON MAJORING IN MATERIAL SCIENCE AND ENGINEERING WITH THE POSSIBILITY OF CONTINUING ON TO GRADUATE SCHOOL.



SIDDHARTHA GAUTAMA JENA

18 YEARS OLD
ATTENDS BLOOMFIELD HILLS SCHOOLS
INTERNATIONAL ACADEMY, BLOOMFIELD HILLS, MI.

**INVENTED
ERYTHROCYTE DYSFUNCTION
& AMELIORATION IN
HYPERCHOLESTEROLEMIC
CONDITIONS**

SIDDHARTHA JENA WAS BORN IN NEW HAVEN, CONNECTICUT AND MOVED TO MICHIGAN WITH HIS FAMILY AT AGE SIX. SINCE CHILDHOOD, SIDU WAS VERY INTERESTED IN SCIENCE AND FASCINATED BY NATURE. HE REMEMBERS BEING VERY YOUNG DIGGING UP EARTHWORMS AND SPENDING HOURS STUDYING AND OBSERVING THEM.



SIDU HAS ENJOYED TRAVELING TO ASIA AND EUROPE WITH HIS PARENTS. HE ESPECIALLY LIKES THE TRIPS TO HIS PARENTS' NATIVE INDIA WHERE HE HAS THE OPPORTUNITY TO TALK ABOUT SCIENCE WITH HIS GRANDFATHER WHO IS A CHEMIST. HE LIKES EXPERIENCING DIFFERENT CULTURES AND FOOD.



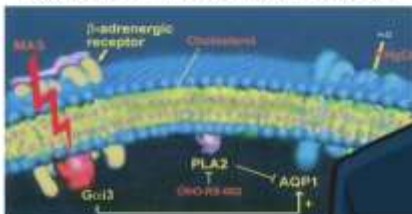
SIDU SPENDS TIME READING, PLAYING TENNIS, TAKING LONG BIKE RIDES AND PLAYING PING PONG WITH HIS FRIENDS. HE IS AN ACCOMPLISHED PIANIST AND SAXOPHONE PLAYER. PLAYING THESE TWO INSTRUMENTS AND PARTICIPATING IN RECITALS, MASTER CLASSES AND COMPETITIONS HAVE ENRICHED HIS LIFE.



FOR THREE YEARS HE HAS BEEN A CLASS OFFICER AND COMPETES ON HIS SCHOOL'S MODEL UNITED NATIONS AND SCIENCE OLYMPIAD TEAMS. HE IS A STUDENT ADVOCATE FOR RELAY FOR LIFE AT THE WEST BLOOMFIELD, MICHIGAN CHAPTER.



SINCE 2009, SIDU BEGAN SEVERAL RESEARCH PROJECTS AT WAYNE STATE UNIVERSITY. IN 2010 HE CONCENTRATED ON HIS INTEREST IN THE CELLULAR PROCESSES OF HUMAN CHOLESTEROL. SIDU'S INVENTION, "ERYTHROCYTE DYSFUNCTION & AMELIORATION IN HYPERCHOLESTEROLEMIC CONDITIONS", IS AN ALTERNATE, MORE EFFECTIVE METHOD OF AMELIORATING DETRIMENTS IN GAS AND WATER TRANSPORT THAT RESULT FROM HIGH CHOLESTEROL. THESE DETRIMENTS CAN RESULT IN DEHYDRATION AND SHORTNESS OF BREATH THAT ARE PRECURSORS TO MORE SEVERE MANIFESTATIONS OF CHOLESTEROL-INDUCED HEART DISEASE.



SIDU BECAME A DAVIDSON FELLOW IN 2011 EARNING THE TOP AWARD, AND IN 2010 AND 2011 PLACED 1ST AND 4TH RESPECTFULLY IN MEDICINE AND HEALTH AT THE INTEL INTERNATIONAL SCIENCE AND ENGINEERING FAIR.

HE PLANS TO MAJOR IN CHEMISTRY AND PHYSICS IN COLLEGE AND HIS GOAL IS TO EARN A PH.D. AND POSSIBLY AN M.D. AS WELL. BEING A RESEARCHER, PROFESSOR AND PERHAPS A PRACTITIONER WILL ALLOW HIM TO LIVE HIS DREAM AT ALL LEVELS OF SCIENCE:

EXPLORATION ...
APPLICATION ...
INSTRUCTION.



SAMANTHA MARIE MARQUEZ



15 YEARS OLD
FROM MIDLOTHIAN, VA
ATTENDS MAGGIE L. WALKER
GOVERNOR'S SCHOOL

**INVENTED
CELLOIDOSOMES®
THE BIOENGINEERING
OF ARTIFICIAL GLANDS
& BIOREACTORS**

SAMANTHA WAS BORN IN
CONNECTICUT AND GREW UP
SURROUNDED BY
TEXTBOOKS. SHE
OFTEN WENT TO HER
FATHER'S
LABORATORIES.

SAMANTHA,
WHAT WAS THAT
NOISE?



HER LOVE OF READING MADE HER MOM
SAY, "SHE LITERALLY 'EATS' BOOKS".
SHE ALSO CONTINUALLY ASKS, "WHY?"

SAM!
STOP
EATING
BOOKS!

WHY?



SHE HAS HAD SEVERAL
UNUSUAL PETS: LIZARDS,
FROGS, AND EVEN A TORTOISE.
SHE LOVES TO COOK FAMILY
RECIPES WITH HER MOM.



SAMANTHA HAS TRAVELED
WIDELY INCLUDING MANY TRIPS
TO VENEZUELA AND SPAIN WHERE
SHE STILL HAS FAMILY. PERHAPS
THAT SPARKED HER INTEREST IN
GLOBAL STUDIES, POLITICS AND
RELIGION.

HER INTERESTS INCLUDE THE
DEBATE CLUB AND LANGUAGES.
SHE SPEAKS BOTH SPANISH AND
MANDARIN CHINESE.

¿CÓMO ESTÁ?
英俊



SHE FIRST ASKED THE QUESTION
WHICH GREW INTO HER RESEARCH
ON CELLOIDOSOMES® AT THE AGE
OF 11. HER CURIOSITY ABOUT
SPHERICAL CRYSTALS CALLED
"CELLOIDOSOMES" ENCOURAGED
HER TO DO INTERNSHIPS AT
HARVARD, ARIZONA STATE U.,
TEXAS A&M U., VCU, AND U. OF FL.

WHEN
TRYING TO
REPRODUCE
PARTICLES THAT CAN
CHANGE, INSTEAD OF
USING AN ARTIFICIAL
SPHERICAL CRYSTAL,
**WHY NOT USE
LIVING CELLS?**



AS A RESULT OF HER PROFOUND
INTEREST IN SCIENCE, SHE HAS
**7 PATENTS AND
10 TRADEMARKS.** SHE WON **1ST
PLACE & BEST IN CATEGORY
(ENGINEERING: MATERIALS &
BIOENGINEERING)**
AT INTEL ISEF IN LOS ANGELES,
CALIFORNIA 2011. SHE HAS A RICH
PASSION FOR KNOWLEDGE AND
SEES HER RESEARCH AS A
JOURNEY THAT WILL GO ON
THROUGHOUT HER LIFE.



SHE HOPES TO BECOME A GOOD ROLE MODEL FOR OTHERS AND
THAT HER WORK CELLOIDOSOMES® THE BIOENGINEERING OF
ARTIFICIAL GLANDS & BIOREACTORS
WILL CREATE THE BUILDING BLOCKS
FOR OTHERS BEYOND THE FIELD
OF MEDICINE.

SHE PLANS TO CONTINUE HER
STUDIES IN THE UNIVERSITY IN A
BIOMEDICAL FIELD OR
MEDICINE. HER ULTIMATE
GOAL, HOWEVER, IS TO LIVE
A HAPPY LIFE.