



Term: Summer | Issue 1 | Date: August 12, 2017

SCIENTIST USE SPINACH LEAF TO CREATE HEART TISSUE

Scientist at Worcester

Polytechnic institute were able to turn spinach leaves into human heart tissue. They were looking for natural models that could be used to not only grow tissue but also to ensure a vascular system to deliver blood and nutrients into developing tissue. Plants however already have an intricate vascular system, allowing the scientist to not only create heart tissue but also ensure blood delivery to growing



Figure 1: Seven day progression of spinach decellularization process.

JWBMS INTERNS: PUTTING A FOOTPRINT IN OUR COMMUNITY

Eating a balanced diet is vital for good health and wellbeing. To achieve this state we need a wide variation of food sources to provide a full spectrum of nutrients. Healthy habits should not only be implemented during adulthood but also must be properly understood by young children. Having this knowledge, common diseases caused by unhealthy lifestyles such as obesity, diabetes, high cholesterol, and high blood pressure can be avoided.

Therefore, media coverage has highlighted the importance of healthier student lunches, consumer education regarding organic products, and the trending rise of childhood obesity. To attack this issue in our

SQUEAKY CLEAN

Rubber ducks are not the only ones that need to be squeaky clean. According to the American Association of Public Health frequent and efficient hand cleansing in children has been shown to reduce communicable illnesses by 30-40%. Children touch everything and although parents and teachers may not be able to stop them at all times, they can control the amount of times their hands are washed. It is important not only for children to wash their hands, but especially important before meals. Hands that are contaminated with pathogens can lead to gastrointestinal illnesses accompanied by fever, chills, loss of appetite and abdominal pain. Who would of known something as simple as washing two very small hands can contribute to the great health of a child?



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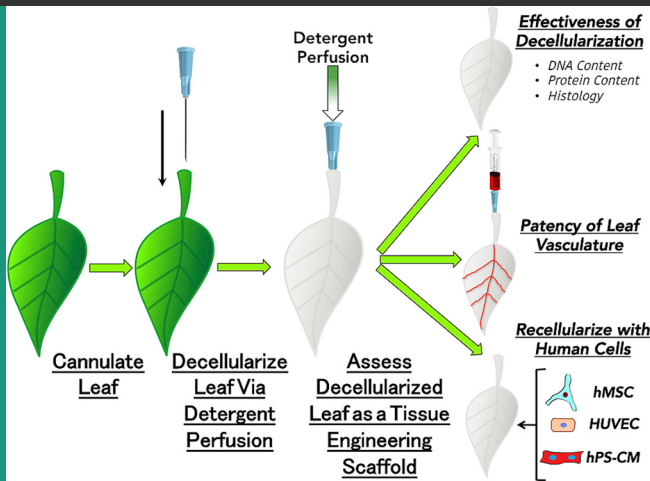


Figure 2: Flow diagram depicting the creation of spinach leaves recellularized with human cells. tissue. Researchers used a process called decellularization to removed the plant cells leaving behind only the leaf's structure. This breakthrough has opened multiple possibilities from potentially growing a heart for transplant, to treating damaged heart muscle caused by myocardial infarctions.

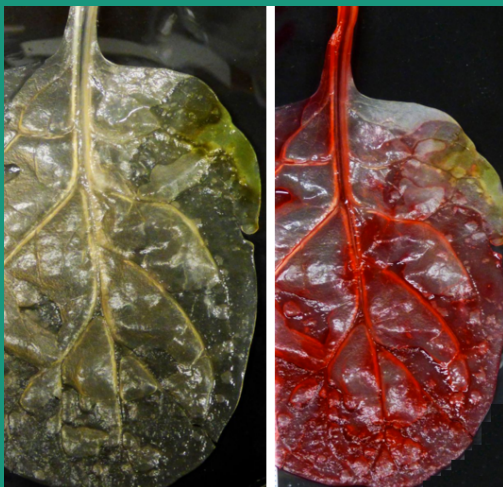


Figure 3: Before (left) and after (right) picture that displays the capability of spinach vasculature to function as an intricate blood delivering system.

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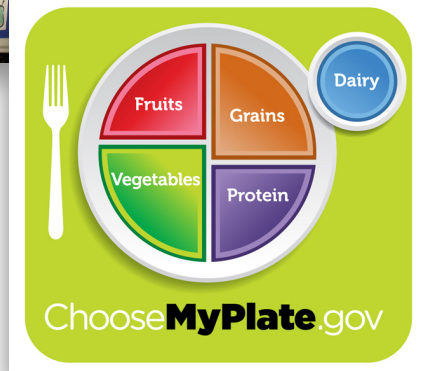
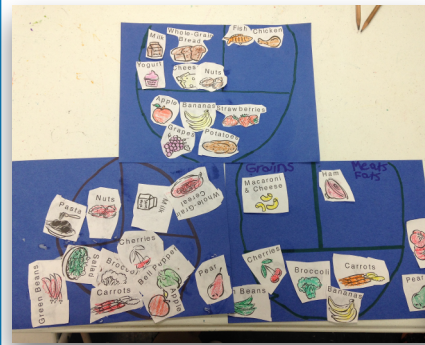


Figure 4: In class nutrition lectures and arts and crafts that created visuals to help guide young children with portion control. community JWBMS interns decided to implement teachings on nutrition and exercise. They visited The Resource Center on four separate occasions and taught four-hour classes to children ages 5-12 and touched on topics regarding physical activity, the spread of germs, allergies, and diseases caused by poor eating habits such as obesity, diabetes, and tooth decay. The children demonstrated their understanding of the topics with individual presentations of drawn balanced plates and group competitions. Discussions were geared towards helping students understand that there are many healthy food alternatives. Through positive mentoring, student motivation increased and sparked interest on how they could live a daily healthy lifestyle.

ANNOUNCEMENTS

For future newsletters and the latest information on what you can do to help us improve our community please visit our website at:

www.jwbms.org

MEET YOUR INTERNS

Jairo Triana



Jairo is a 25 year old senior majoring in Biological Sciences at FIU. His focus this summer is to get a well rounded experience of the medical field before applying to medical programs upon graduation. As a military veteran he was able to experience first hand the economic and sociological hardships that affect people within the US and around the world. He hopes to one day, through medicine, cross cultural barriers in an effort to bring peace in areas of war across international borders. In his spare time he enjoys staying physically active and traveling as much as possible.

Aurelie - Jean Louis



Aurelie Jean-Louis is a disciplined goal oriented, fourth-year student at Florida International University. She will obtain her bachelor's degree in Biology this upcoming Spring. In the future, she hopes to pursue a career as an internal medicine physician. She has a commitment and appreciation for individuals with disabilities. Outside of academics, she loves to spend her time volunteering.

Paris Kelly



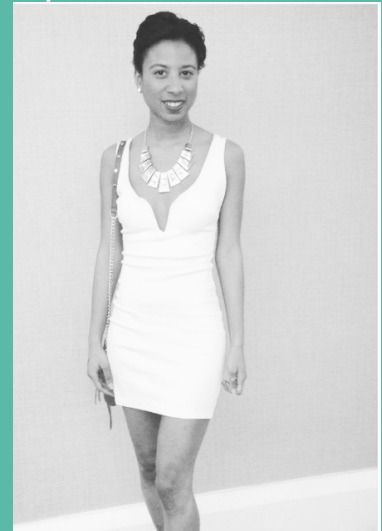
Paris Kelly is a recent graduate of Florida Atlantic University with a Bachelors in Sociology. Her career interests are Lupus Research, Ophthalmology, and Internal Medicine. In the past, Paris has volunteered with the Lupus Foundation of America Florida chapter as a Developmental Intern and she organized Wellness vendors such as LA Fitness, Le Cordon Bleu and Red Cross. During the summer she has had the opportunity to shadow physicians in the fields of Infectious Diseases and Ophthalmology. What she has enjoyed the most is observing the physician's different mannerisms while interacting with patients. Paris paints, sings, and likes to spend time with family during her spare time.

Jennifer Fraga



Jennifer Fraga is currently a junior at Florida international University. She hopes to attend Herbert Wertheim College of medicine and pursue her dreams of being a doctor. She has over one thousand hours of clinical volunteering experience and a passion for improving her community. Mrs.Fraga greatly appreciates the opportunity to be an intern for the JWBMS society and their mission.

Raquel Bastien



Raquel is a Suffolk University Alumna, pursuing a medical career. She is passionate about dermatology, disabilities, dance and travel. Currently, she works for the Cleveland Clinic and Pediatric Associates, which have cemented her dreams of becoming a doctor. Her wish is to treat, educate and advocate through medicine, especially within the Multiple Sclerosis community.