

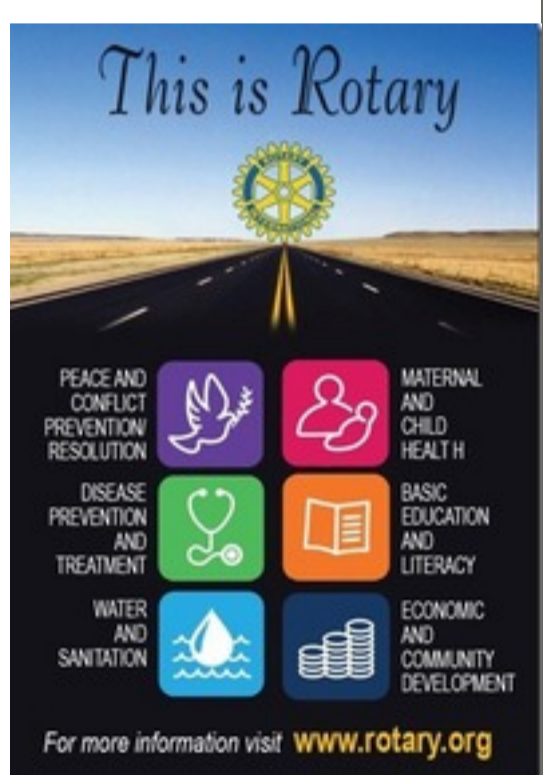


NEWS

- [Latest News](#)
- [Long Island Theater And Book Review](#)
- [Classified](#)
- [Politics / Government](#)
- [Food Page](#)
- [Schools](#)
- [Editorial/Letters To Editor](#)
- [Suffolk County](#)
- [Health - Wellness - Fitness](#)
- [People](#)
- [Photo Gallery](#)
- [Pets and Animals](#)
- [Meetings and Announcements](#)
- [Smithtown Events](#)

New Matters

- Feb 13, 2018 - . [SHSW Girls Basketball JV Creates Valentine's Cards For Children](#)
- Feb 13, 2018 - . [***Travel Advisory Overnight Closure On LIE***](#)
- Feb 12, 2018 - . [Accompsett MS Teacher Joe Stapleton's Memory Wall Of Photos](#)
- Feb 12, 2018 - . [Events - Movie Night At Smithtown Historical Society](#)
- Feb 12, 2018 - . [Death Notice - Vincent C Manna IV](#)
- Feb 10, 2018 - . [One-Car Fatal Collision Overnight On Southern State Parkway](#)
- Feb 10, 2018 - . [***Silver Alert Brianna Lane***](#)
- Feb 9, 2018 - . [SCPD & Commack FD Announce 8th Annual Blood Drive Honoring Slain Officer Ciano](#)
- Feb 9, 2018 - . [Police Arrest Man For Selling Drugs And Possessing Fighting Animals](#)
- Feb 9, 2018 - . [February Break At The Smithtown Historical Society](#)



[« Accompsett MS Teacher Joe Stapleton's Memory Wall Of Photos](#) | [Main](#) | [Smithtown Students - Snow - Iditarod - Fun »](#)

Commack HS Senior Jake Nieto Has Scientific Paper Published

WEDNESDAY, FEBRUARY 7, 2018 AT 5:21PM

Student Researcher Finds New Method to Determine Scar Tissue

Jake Nieto, a senior at Commack High School, just had his second scientific research paper published, a very rare accomplishment for someone at any age. His research and manuscripts “laid the foundation for other students to continue Jake’s work,” said his mentor Dr. Prakash Narayan, Vice President of Preclinical Research & C.O.O. at Angion Biomedica Corp. Jake’s latest paper, titled, “A Modified Elliptical Formula to Estimate Kidney Collagen Content in a Model of Chronic Kidney Disease,” is “An important contribution to science and medicine” said Dr. Narayan. “His formula will most likely lead to a decrease in the need for painful kidney biopsies.”



left to right: Commack High School science teachers and mentors Jeanette Collette and Richard Kurtz, Dr.

Through the high school’s mentoring network, Jake teamed up with Dr. Narayan in the summer of 2016 to work on two projects relating to kidney disease. “Jake is a precocious young man, who brought exceptionally strong skills in applied mathematics, advanced biophysics, and deep data analysis.” Jake’s work during that summer resulted in two peer-reviewed first author publications. The first one published in 2016 describes a formula for estimating the amount of cysts in a model of polycystic kidney disease (<http://journals.plos.org/plosone/article?id=10.1371/journal.pone.0163063>). The second publication (<http://journals.plos.org/plosone/article?id=10.1371/journal.pone.0190815>) in January 2018 describes a novel method to evaluate the amount of scarring in kidneys based off just two linear measurements. The salient features of this second body of work are a modification of the commonly used elliptical formula to estimate renal dimensions and potentially, in the future, reduction in the number of painful and sometimes risky biopsies performed to determine the amount of scar tissue in the kidney.

Each summer, Angion, a small business biotech engaged in developing therapeutics in areas of unmet medical needs such as kidney and liver disease, opens its doors to interested STEM students from Long Island, New York City, and New Jersey. The students spend about two months getting hands-on experience with basic and applied biomedical research conducting experiments, testing hypotheses, gathering and analyzing data while sharpening their presentation skills with the help of one of Angion’s principal investigators in a state-of-the-art research facility.

Jake spent last summer studying the biochemical processes of THC through the Simons Science Research Program at Stony Brook University, and credits his interest in physics and engineering to his grandparents. “He loves to solve problems, and his quest for answers drives him,” said science teacher and mentor Richard Kurtz. Jake has many other interests besides science and math. He competes on the school’s Science Olympiad and Mock Trial teams, is president of the Spanish Honor Society and the Science Honor Society, and is vice president of the Gardening Club. Jake is also a musician, and a tutor. He has not made a final decision on which university he will attend next year, but plans to study physics and engineering.

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