The STEM Symposium Organizing Committee would like to thank South Jersey Gas for their generous and continuous financial sponsorship since 2012.

We also would like to thank the following organizations who either purchased advertisement space or earned advertising space through their support of our 2018 RowanGIVES campaign:

- Biology Club
- Graduate School of Biomedical Sciences
- Pre-Health Society
- Rowan University Library
- Society of Women Engineers
Each year, the University community gathers to celebrate the hard work and achievements of its students in the fields of Science, Technology, Engineering, and Mathematics. While the Symposium lasts only for a few hours on one day out of the entire year, all of today’s displays represent months of dedication and hard work. On behalf of the University, I extend my congratulations to all of the students giving presentations today and gratitude to all of their faculty mentors. My colleagues and I are proud to be at an institution that has such dedicated people.

The STEM Symposium is possible only because of the help and broad-based participation from across the University. No support means no Symposium, so it is important to point out that today’s event arises from the efforts of many people. At the risk of accidentally leaving somebody out (and if I have done so, I apologize!), I would like to thank all of the following:

- Mahaa Ahmed ’19, Edward Delesky ’18, Ian Dunn ’19, Matthew Heisler ’20, Hannah Hoag ’16 M18, Taher Moosavi ’18, John Schneider ’17 M19, and Alexander Weisberger ’21 are this year’s STEM Student Coordinators. All of the Student Coordinators brought a lot of ideas and shouldered important responsibilities. They deserve the credit for everything that goes right today because they have done the bulk of the preparatory work. When you are at the Symposium today, please look for them and congratulate each of them!

- The STEM Symposium has a new home! This year we moved to the Rowan University STEM Center, and the Symposium Coordinators would like to thank Kenneth Lacovara, Eric Milou, and especially Brigid Milone for all of the assistance that they have provided. We also thank the College of Science & Mathematics and the Rowan College of Engineering for their support. Without the unwavering support of all three of these offices, this Symposium would not be possible.

- Anticipating our transition to becoming an all-discipline event next year, we hosting our first non-STEM presentations this year. We would like to thank our liaisons with the following colleges that have elected to participate in this year’s STEM Symposium: Gina DiBartolo (Communication & Creative Arts), Melanie Stewart (Performing Arts), Jennifer Tharp (Humanities & Social Sciences), and Robert Wieman (Education).

- Special thanks to Frank Wagner, who helps us out with lots of miscellaneous things too numerous to list here but critical for the success of this event.

- Many people from the University Advancement Office have worked very hard in support of our initiatives and activities this year, including Amie Marshall, Martha Nealer, and Marc Robb. Thank you also to the student organizations that helped us out with our very successful RowanGIVES campaign: Pre-Health Society, Society of Women Engineers.

- A bunch of folks broke their backs yesterday moving the large, heavy display boards into the Ballroom and will do so again when the boards are moved out at the end of today. At the time this goes to press, a final list of people who helped out with this was not available, but the following organizations and individuals have provided and/or have committed to providing assistance with this critical job: Kappa Sigma, Rowan Admissions Ambassadors, Society of Women Engineers, and students from the Bantivoglio Honors Program. We would especially like to thank Peter Schultz and the University’s movers for helping us with moving and storing the display boards.

- As always, we send our thanks to Susan Chard, Megan McHugh, and the Student Center for giving the Symposium a great venue! We would also like to thank Nicole Bowen from Gourmet Dining Services for their help in organizing the refreshments for today’s Symposium presenters and attendees.

- Abdûsamed Özdemir ’15 and Dillon Buck ’15 built our STEM Symposium Online Submission System. Without it, we would not have been able to accomplish half of what we need to do for today!

- Our Symposium logo was created by Dana Carroll ’13 (University Advancement). Our booklet cover and display sign designs were put together by Thuy Vo and coordinated by Debra Denton at University Publications. Henry Jimenez (Duplicating Center) helped to make the display signs. Thanks also to Fort Nassau Graphic for printing up the booklet.

Gregory B. Hecht
Dept. Biological Sciences
April 2018

WHERE ARE ALL OF THE ABSTRACTS?

We continue to support the University’s efforts to “go green.” Students have expressed the desire to have a printed keepsake for this day, and so we have produced this booklet containing the abstract titles and authors. Full text abstracts are presently available for download by University students and faculty at:

http://stem.rowan.edu

Click on “Downloads”
The Rowan Pre-Health Society is a club on campus that is devoted to guiding students through their path to medical school. The Pre-Health Society provides mentoring from upperclassmen, networking events with representatives from universities in the area, community service opportunities, and more. The Pre-Health Society's feature event in the annual Make-A-Wish Banquet, where the club raised over $1000 for the Make-A-Wish Foundation New Jersey Chapter each of the past three years. General Meetings for the club are held on Fridays at 2:00. Any questions can be emailed to rowanprehealth@gmail.com!

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American Studies

**ANTHROPOLOGY**

**Poster #352**
Artificial Cranial Modification in Diaguita III Peoples of Chile's Semiarid North
MAXIMILIEN T. BIELSA\(^1\), and Maria A. Rosado\(^2\)
Mathematics\(^1\) Sociology & Anthropology\(^2\)

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CARA C. MAWSON, and David R. Klassen
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BARTHOLOMEW J. RICCI
Physics & Astronomy

**Poster #343**
Surface Broadband Albedo Mapping of Mars in the K and L Spectral Regions
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Physics & Astronomy

**Poster #430**
Investigation into Improperly Processed Images Impeding Analysis of Martian Spectral Endmembers
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SARAH HALIM¹, JONATHAN RESTREPO¹, and Chun Wu²
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Pharmaceutical Sciences Program¹ Chemistry & Biochemistry¹ Biomedical & Translational Sciences²

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Chemistry & Biochemistry¹ Mathematics²

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Biomedical & Translational Sciences¹ Chemistry & Biochemistry² Physics & Astronomy³

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Chemistry & Biochemistry1 Biomedical Sciences (CMSRU)2

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Chemical Engineering¹ Physics & Astronomy¹ Biomedical & Translational Sciences³

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Chemistry & Biochemistry¹ Pharmaceutical Sciences Program² Biological Sciences¹ Biomedical & Translational Sciences³

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Bioinformatics Program¹ Biomedical & Translational Sciences²

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JOHN J. VIZZINI¹, and Chun Wu²
Pharmaceutical Sciences Program¹ Biomedical & Translational Sciences²

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BIOLOGY

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**Impact of Urbanization on Aquatic Turtles in Southern New Jersey**

MATTHEW F. GLADFELTER, RUTHANNE HENDRICKS, TOREY J. HOELER, SARA P. KNOWLES, SARA MCCLEARNAN, and SHANNON L. ENNIS, and Patrick W. Crumrine

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NATHAN A. EVANS, Mark J. Hickman, and Nasrine Bendjilali

Bioinformatics Program

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JOHNSA M. STOLZ, and Benjamin R. Carone

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AARON A. RACK, and Benjamin R. Carone

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Biological Sciences

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Biological Sciences\(^1\) Chemistry & Biochemistry\(^2\)

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Biomedical & Translational Sciences\(^1\) Biological Sciences\(^2\)

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A Yeast-Based Assay to Test Reverse Micelle Formulations for Drug Delivery  
MIHAELA A. VASILE\(^1\), Nathaniel V. Nucci\(^2\), Benjamin R. Carone\(^3\), and Ileana Soto\(^3\)  
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Nanopore Technology: Sensing DNA Methylation for Precancerous Diagnostic Applications
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Cameron J. Burns and Vince Z. Beachley
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Biomedical Engineering¹ Rowan Family Medicine²

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A Comparative Study of Drug Release from Corn Zein Nanofibers and Corn Zein Films
Kelsey G. Defrates¹, Theodore J. Markiewicz¹, Christopher R. Gough¹, Robert A. Moore², Kristen M. Bessette¹, and Xiao Hu¹
Biomedical Engineering¹ Biophysics Program² Physics & Astronomy³

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Biomedical Engineering¹ Cooper University Hospital²

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Anatomical Investigation of Planarian Regeneration Using Immunostaining
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Thomas J. Madan¹, Alexandra M. Di Stefano¹, Cindy To², Jason A. Kaufmann², Dan Mazzucco¹, Erik Brewer¹, and Mary M. Staehle¹
Biomedical Engineering¹ Mechanical Engineering²

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Kiet A. Tran¹, Tyler C. Diorio², Zachary R. Brown¹, Brennen D. Coventy¹, Alexis L. Hoerter², Tony Lowman¹, Richard Lin¹, and Erik Brewer¹
Biomedical Engineering¹ Chemical Engineering² Mechanical Engineering²

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Daniel M. Maldonado Herrera¹, Alyssa N. Brandley¹, Laura L. Osorno¹, Mindy George-Weinstein², and Mark E. Byrne¹
Biomedical Engineering¹ Philadelphia College Of Osteopathic Medicine²

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Amanda J. Burke, Nicholas G. Pisani, Liana D. Wuchte, and Mark E. Byrne
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JENNIFER A. KLAVENS1, MARK D. DITTMAR2, DOMINIC J. GIGLIOTTI1, AMANDA L. WELLIK1, YE XUE4, Xiao Hu5, and Cristina Iftode2
Chemistry & Biochemistry1 Molecular & Cellular Biosciences2 Biological Sciences3 Biomedical Engineering4 Physics & Astronomy5

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MICHELLE M. TO1, PATRICK B. SCHORNSTAEEDT1, JONATHAN E. ZACHOK1, Adarsh Gupta2, Joshua Coren2, Erik Brewer1, and Mary M. Staehle1
Biomedical Engineering1 Rowan Family Medicine2

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MATTHEW L. FIORI1, JOSEPH A. DISTEFANO1, SARA J. DAILEY1, Sean McMillan1, Erik Brewer1, and Mary M. Staehle1
Biomedical Engineering1 Our Lady of Lourdes Health System2

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ASHLEY W. PLUNKETT1, ROBERT E. DEPERSIA III1, Alan Pope2, Erik Brewer1, and Mary M. Staehle1
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LEAH R. FILARDI, NICOLE M. ROSSELLI, JAMIE A. SHIRTZ, VAISHALI KRISHNAOSS, and Iman Noshadi
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Optimization in Chemotherapy Regimens
IAN C. DUNN, and Kirti M. Yenkie
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JUSTIN T. RYAN1, ELIZABETH N. KUHLMAN1, PHILIP WALL2, ALEXANDER P. HESKETH1, MAHBOUBEH NABAVINIA1, and Iman Noshadi1
Chemical Engineering1 Mechanical Engineering2

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WILLIAM R. GRAY, CALEB J. HILL, JUSTIN R. WIDENER, ALEXANDRA DIVITO, and Iman Noshadi
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AMY H. ZINSKY, BROOKE E. AUSTIN, DylAn J. QUINN, and Gustavo Moura-Letts

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Chemical Engineering Chemistry & Biochemistry

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JUSTIN D. HORGAN, and Gustavo Moura-Letts

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ALEXIS JAPKA¹, MICHAEL BURATYNSKI¹, DANIEL F. ASHTON¹, and Parth Bhavsar²
Mechanical Engineering¹ Civil & Environmental Engineering

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Electrical & Computer Engineering¹ Civil & Environmental Engineering²

Poster #412
The Effect of Alternating Colored Light on Algae Growth Rate
ROISIN BREEN¹, PATRICIA L. HURLEY², ERIN E. PEPE², and JIAYUN SHEN²
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Electrical & Computer Engineering¹ Computer Science²

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MICHAEL R. MATTHEWS
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MATTHEW L. RODRIGUEZ1, AUSTIN HUANG1, and ARDIT PRANVOKU2
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CHRISTOPHER J. HEISLER, and Vahid Heydari
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MARTIN H. PRICE, ANDRES R. BLOTTA, JOSEPH R. HAMMER, RYAN M. ALBERT, DAVID M. JEFFERSON, and MATTHEW CHABALOWSKI
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NICHOLAS S. WEINTRAUT
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MARC-GREGORY R. DIXON¹, BROOKE L. BROWN², BRENDA ARMSTRONG³, BRENNAN S. RINGEL₂, ERIC N. ZIELONKÁ², and ALEKSANDR W. FRITZ³
Mathematics¹ Computer Science² Electrical & Computer Engineering³

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JAKE N. FRASER, and TOMAS URIBE
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SHANE C. WALSH¹, Jody R. Manning², and Zachary J. Christman¹
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LEANNE T. CIOFFI¹, and Luke D. Trusel²
Geography, Planning & Sustainability¹ Geology²
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CONNOR DUGAN1, Anjali D. Mone2, John P. Gaughan3, Joshua P. Desipio5, and Sangita U. Phadtare4
Medicine (CMSRU)1 Gastroenterology/Liver Diseases Division of Cooper University Hospital5 Cooper Research Institute1 Cooper Medical School of Rowan University4

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KEVIN P. RESCIGNO1, SANDRA J. LUDEWIG2, REBECCA L. HALL1, Robert R. Weaver6, Sean P. Hendricks7, Nicole A. Vaughn8, Shari Willis9, and Penny E. McPherson-Myers3
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IMAD M. AWAN1, ZOYA GRIGORYAN2, Lori Feldman-Winter3, and Sangita U. Phadtare4
Biomedical Sciences (CMSRU) Medicine (CMSRU)2 Medicine (CMSRU) of Cooper University Hospital3 Cooper Medical School of Rowan University4

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EMILY A. GRENIER
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MARCUS M. PENATE1, CHRISTOPHER T. PHAM1, and Hieu Nguyen2
Computer Science1 Mathematics2
Rowan University
Graduate School of Biomedical Sciences

Cell Biology
Molecular Biology
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### MECHANICAL ENGINEERING

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KAITLYN MYERS¹, MADELINE PRESNEL², and Hieu Nguyen¹  
Mathematics¹ Computer Science²

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AMANDA R. DONNER¹, JOSEPH F. IANNELLO², Wei Xue³, Kandilam V. Ramanujachary¹, MATTHEW STONE⁴, EDWIN J. HICKS IV⁵, and JORDAN T. COOK⁶  
Chemistry & Biochemistry⁷ Physics & Astronomy⁸ Mechanical Engineering⁹ Electrical & Computer Engineering¹⁰

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PIOTR B. LUKASZEK, THERESE E. PARR, and Jennifer A. Kadlowec  
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MEHDI BENMASSAOUD¹, CHRISTOPHER KOHAMA², ALEC J. SALVATORE³, Jennifer A. Kadlowec¹, Taewon B. Kim¹, and Shivakumar I. Ranganathan¹  
Mechanical Engineering¹ Biomedical Engineering² Chemical Engineering³

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DAVID M. COFFMAN¹, PETER GENOVESE IV¹, ANDREW BUNOZA¹, ALEXANDER R. LINDNER³, LESLIE C. MAIER¹, CAROLINE R. JORGENSEN¹, SEAN E. CALLAHAN², ALEXANDER C. SEMLER³, QUINN MCHUGH¹, and Anu Osta¹  
Mechanical Engineering¹ Electrical & Computer Engineering² Civil & Environmental Engineering³

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MICHAEL C. CAMERON¹, BRANDON P. YOUNG², JOHN J. STROLLO², ALEXANDRA C. MANOFU², SEAN P. DUGAN², Anu Osta¹, and Jennifer A. Kadlowec²  
Electrical & Computer Engineering¹ Mechanical Engineering²

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BRENNAN P. APPLEMAN, and Francis M. Haas  
Mechanical Engineering

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LOUIS A. BRILL¹, KISHAN PATEL², and Iman Noshadi³  
Mechanical Engineering¹ Electrical & Computer Engineering² Chemical Engineering³

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BHANU PRAKASH R. GUGGILLA, and ALEXANDER J. RUSTED  
Mechanical Engineering

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JAY A. LEFKOWITZ¹, TYLER J. GIBSON², BRIAN A. MATEUS², JAKE M. ZANI¹, JAY ESTADT², KEVIN MEDICH¹, and Francis M. Haas¹  
Mechanical Engineering¹ Chemical Engineering²

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JAY A. LEFKOWITZ¹, ALEXANDER R. IVANS₂, ALEXANDER SHEPHERD³, and Francis M. Haas¹  
Mechanical Engineering¹ Chemical Engineering²
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It's Happening at Home
MOLLY J. GIFFORD
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ROBERT J. NITZKY1, BRYAN O. LEANDRY1, DAVID J. ZWICK1, JOSEPH M. PERROTTA1, and Nicholas Whiting1
Physics & Astronomy1 Biomedical & Translational Sciences2

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Physics & Astronomy1 Chemical Engineering2

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ALYSSA P. STERN
Biomedical Art & Visualization Program

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KIMBERLY M. GAULL¹, MARINA F. MIKIC¹, CAROLINE M. OTTO², and Gerald E. Hough²
Psychology¹ Biological Sciences²

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Fighting with Food: Using Community Farms as a Tool for Liberation
DAQUAN WASHINGTON
Sociology & Anthropology
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SESSION IV (2:00 – 3:30) Posters #401-455
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