

CSTEP

Journeys Beyond Excellence



23rd Annual CSTEP Statewide Student Conference

The Sagamore on Lake George
Bolton Landing, New York

April 17th - 19th, 2015

Vibrations & Advanced Dynamics - Dr. Nasseeri

$m\ddot{x} + kx = 0 \rightarrow x(t) = A \sin(\omega_n t + \phi) = \frac{V_0}{\omega_n} \sin(\omega_n t)$
 or $x(t) = \frac{V_0}{\omega_n} \sin \omega_n t + x_0 \cos \omega_n t$
 $\omega_n = \sqrt{\frac{k}{m}}$

$m\ddot{x} + c\dot{x} + kx = 0$ (Characteristic Eq.)
 $s^2 + 2\zeta\omega_n s + \omega_n^2 = 0$

Case 1) 2 Distinct real roots $\Rightarrow \zeta > 1$ (Overdamped)
 $x = \frac{(V_0 - V_0 \zeta_0)}{r_1 - r_2} e^{r_1 t} + \frac{V_0 \zeta_0}{r_1 - r_2} e^{r_2 t}$

Case 2) Repeated roots (both real)
 Critically damped ($\zeta = 1$) $\Rightarrow x = (x_0 + (V_0 - V_0 \zeta_0)t) e^{r_1 t}$

Case 3) 2 Complex conjugate roots
 Underdamped ($\zeta < 1$) $\Rightarrow x = \frac{1}{\omega_d} \sqrt{(V_0 \zeta_0)^2 + (V_0 - V_0 \zeta_0)^2} e^{\sigma t} \sin(\omega_d t + \phi)$
 $\sigma = -\zeta\omega_n$

if the real part $\sigma < 0 \rightarrow$ Stable
 if the real part $\sigma > 0 \rightarrow$ Unstable

SOME INFO FOR 2015

140 posters submitted

17 categories

156 student presenters

35 different CSTEP programs

19 different schools won trophies

The QCC/CSTEP students/Poster Presenters

Joselin Vargas _Medicine Health & Wellness _1st Place Winner_ Mentor: Dr. Gerardo G. Mackenzie_Stony Brook Univeristy/ NIH – BioPREP / Preventive Medicine, Stony Brook Cancer Center

Stephan Smith_ Biology I _1st Place Winner_ Mentors: Dr. Sunil Dehipawala, Dr. Patricia Schneider, Dr. Harry Gafney_ QCC/ Physics Department, QCC/Department of Biological Sciences & Geology and Queens College/Chemistry and Biochemistry Department

Elsa Rosario_Biology I_2nd Place Winner_ Mentors: Dr. John J. Dennehy and Dr. James Carpino_QCC/Department of Biological Sciences & Geology and Queens College /Biology Department

Eddie Fernandez_ Chemistry I_1st Place Winner_ Mentor: Dr. Lall-Ramnarine_ QCC/ Chemistry department

Wilson Nieves _ Physics & Mathematics _Mentors: Dr. Sunil Dehipawala and Dr. D.S. Amarasinghe _QCC/ Physics Department and University of Hawaii, Honolulu HI

Emely Rosario _Chemistry I_ Mentor: Dr. Lall-Ramnarine_ QCC/ Chemistry department

Daysi Poano_ Chemistry I_ Mentor: Dr. Paris Svoronos, QCC/Chemistry Department

The QCC/CSTEP Award Winners



Presenter: Stephan Smith

Research title: Characterization of Iron in Petroselinum Crispum Using Mossbauer Spectroscopy

Mentor(s): Dr. Sunil Dehipawala, Dr. Patricia Schneider and Dr. Harry Gafney

Category: Biology 1

Winner's place: First Place

Participant in QCC NIH Bridges to Baccalaureate Program.

Graduating this semester and accepted to the Grove School of Engineering at City College, to major in Chemical Engineering for the fall 2015 semester

Also was awarded the Continuing Student Academic Merit Scholarship for spring 2013, fall 2014 and spring 2015 semesters.

Other presentations:

Poster presentation at the Annual Biomedical Conference for Minority Student, in San Antonio Texas; November 12 -16/2014

Award: Certificate of recognition and cash prize for outstanding presentation in Chemistry Research title: Characterization of Iron in Petroselinum Crispum Using Mossbauer Spectroscopy

Poster presentation at The 47th Metropolitan Association of College and University Biologists conference kept at Molly College November 1st 2014

Research title: Characterization of Iron in Petroselinum Crispum Using Mossbauer Spectroscopy

Poster presentation at Queen College Undergraduate research day; October 22, 2014 Research title: Characterization of Iron in Petroselinum Crispum Using Mossbauer Spectroscopy

Will be doing research this summer at the CUNY Advance Science Research Center at City College in the Biochemistry Department for the RIMS program.



Presenter: Elsa Rosario

Research title: "Screening for compensatory evolution in Mutated bacteriophage phi 6"

Mentor(s): John Dennehy, James Carpino, Patricia Schneider

Category: Biology 1

Winner's place: 2nd Place

Participant in QCC NIH Bridges to Baccalaureate Program.

Other presentations:

Poster presentation at the Annual Biomedical Conference for Minority Student, in San Antonio Texas; November 12 -16/2014

Award: Certificate of recognition and cash prize for outstanding presentation in Virology Research title: Screening for compensatory evolution in mutated bacteriophage phi 6.

Conducted research at Queens College last summer and will continue working on her research at Queens College this summer.



Presenter: Eddie Fernandez

Title: Designing Asymmetrical Ionic Liquids

Mentor: Dr. Sharon Lall-Ramnarine

Category: Chemistry 1

Winners Place: 1st Place

Merit Scholarship recipient in Fall 2014/Spring 2015.

Graduating this semester and accepted to Queens College for Fall 2015.

He participated in a \$5000 Community College Institute (CCI) internship at Brookhaven National Laboratory last summer and was accepted for a \$5000 National Science Foundation Internship at BNL this summer.

Other Presentations:

Eddie Fernandez, Sharon Lall-Ramnarine, Nicole Zmich, Damian Ewko, Emely Rosario and, James F. Wishart, “Synthesis of asymmetrical dicationic ionic liquids”, Summer Intern Poster Session, Brookhaven National Laboratory, Upton, NY, August 7th 2014



Presenter: Joselin Vargas

Title: The Novel Curcumin-Derivative CMC 2.24 Alone or In Combination With Mitotic Inhibitors Reduces Pancreatic Cancer Growth In Vitro

Faculty Mentor: Gerardo G. Mackenzie, Ph.D (Stony Brook/NIH – BioPREP), Dr. Nidhi Gadura & Dr. Svoronos. ,Dr. Patricia Schneider (RIMS)

Department: Preventive Medicine, Stony Brook Cancer Center, Stony Brook University, Stony Brook, NY

Winners Place: 1st Place

Participant in QCC NIH Bridges to Baccalaureate Program.

Graduating this semester and accepted to Stony Brook University for the Fall 2015 semester and received a Stem scholarship to cover any cost of attendance.

This summer she will be conducting research at the CUNY- York College research in the Chemistry Department for the **RIMS** program.

Other presentations:

November 12-16, 2014

Poster presentation at the Annual Biomedical Conference for Minority Student, in San Antonio Texas

Award: Certificate of recognition and cash prize for outstanding presentation in Cancer Biology

Research title: The Novel Curcumin-Derivative CMC 2.24 Alone or in Combination with Mitotic Inhibitors Reduces Pancreatic Cancer Growth in Vitro, November 1, 2014

Award: Certificate of Achievement for the excellence poster presentation

Poster presentation at The 47th Metropolitan Association of College and University Biologists conference at Molloy College

Research Title: The Novel Curcumin-Derivative CMC 2.24 Alone or In Combination With Mitotic Inhibitors Reduces Pancreatic Cancer Growth In Vitro

Poster presentation at Stony Brook University- NIH – BioPREP / **BioPREP** program, August 1, 2014

Research Title: The Novel Curcumin-Derivative CMC 2.24 Alone Or In Combination With Mitotic Inhibitors Reduces Pancreatic Cancer Growth In Vitro



The Poster Categories

BIOLOGY I

Chinelo Nnebe - Adelphi University

Elhizeh Hydera - Borough of Manhattan CC

Grace Loussakou & Michael Llano - Borough of
Manhattan Community College

Andrea Saavedra - Kingsborough Community College

Krystina Lowe-Howard - Onondaga Community College

Elsa Rosario - Queensborough Community College

Stephan Smith - Queensborough Community College

Jessica Jimenez - LaGuardia Community College

BIOLOGY I

Honorable Mention

Elsa Rosario

Queensborough Community College

Screening for Compensatory Evolution in Mutated $\phi 6$
Bacteriophage

BIOLOGY I

WINNER

Stephan Smith

Queensborough Community College

Characterization of iron in *Petroselinum crispum* (Parsley) Using
Mossbauer Spectroscopy.

CHEMISTRY I

Tetiana Taran - Borough of Manhattan CC

Xulan Deng - Clarkson University

Jevar Carter & Emily Daniels - Onondaga CC

Daysi Proano - Queensborough Community College

Eddie Fernandez - Queensborough Community College

Emely Rosario - Queensborough Community College

Sabrina Santiago - Suffolk County Community College

Moussa Kane - SUNY Potsdam

CHEMISTRY I

Honorable Mention

Tetiana Taran

Borough of Manhattan Community College

The Role of Water in the Molecular Modeling of Octa-acid
Adamantane Carboxylate

CHEMISTRY I

WINNER

Eddie Fernandez

Queensborough Community College

Synthesis of Symmetrical and Asymmetrical Dicationic Ionic
Liquids

MEDICINE, HEALTH, & WELLNESS

Stephanie Clarke - College of Staten Island

Roseline Nkama - College of Staten Island

Joel Sagramsingh - Morrisville State College

Peter Rezkalla - New York University

Joselin Vargas - Queensborough Community College

Emily Sanseverino - Rochester Institute of Technology

Kemji Eke - SUNY Buffalo

Jonathan Ashe - SUNY College at Old Westbury

Maria Gonzalez - SUNY Potsdam

MEDICINE, HEALTH, & WELLNESS

Honorable Mention

Peter Rezkalla

New York University

Insulin Resistance and Breast Cancer Prognosis

**MEDICINE, HEALTH, &
WELLNESS
WINNER**

Joselin Vargas

Queensborough Community College

The Novel Curcumin-Derivative CMC 2.24 Alone Or In
Combination With Mitotic Inhibitors Reduces Pancreatic Cancer
Growth In Vitro

PHYSICS & MATHEMATICS

Nazia Jamil - Borough of Manhattan Community College

Evon Andrews - Farmingdale State College

Randy Williams - Fordham University

Juin-Wan Zhou - Fordham University

Lenoi Carter - Onondaga Community College

Wilson Nieves Vasquez - Queensborough CC

Wilka Carvalho - Stony Brook University

Brittany Schaum - SUNY New Paltz

Cristopher Negron - SUNY Potsdam

PHYSICS & MATHEMATICS

Honorable Mention

Wilka Carvalho

Stony Brook University

Modeling a Detection of internally reflected Cherenkov light
(DIRC) Particle Detector for High-Multiplicity Collisions

PHYSICS & MATHEMATICS

WINNER

Juin-Wan Zhou

Fordham University

A Brief Study of Microtubule Persistence Length

THE OUTSTANDING MENTORS OF THE POSTER PRESENTERS



Dr. Harry D. Gafney



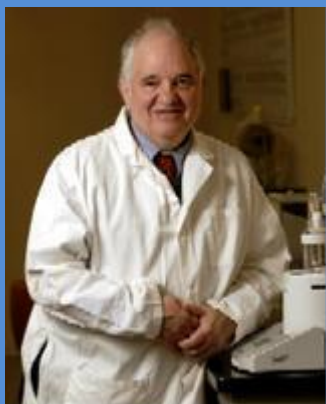
Dr. John Dennehy



Dr. James Carpino



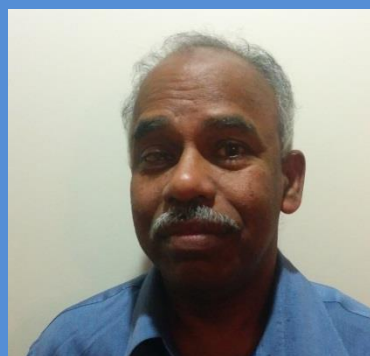
Dr. Gerardo G. Mackenzie



Dr. Paris Svoronos



Dr. D.S. Amarasinghe



Dr. Sunil Dehipawala



Dr. Nidhi Gadura



Dr. Lall-Ramnarine

Dr. Patricia Schneider

The QCC/CSTEP students participants



The QCC/CSTEP Group



CSTEP STUDENTS/NON-PRESENTERS

Oscar Zagalo_ Current Research Student with Dr. Gadura QCC/ Department of Biological Science & Geology

He has been accepted to the **BioPREP** summer program at Stony Brook, NIH – BioPREP, where he will be participating in a 10 week research program.

Adebisi Adewole _ Current Research Student with Dr. Karan Puri_ “Ducci's Four Numbers Game”_QCC/Mathematics and Computer Science

She will present her research at the QCC Honors Conference [May 1st, 2015]

She is graduating this semester and accepted to Baruch College [Fall 2015]

This summer, she will be continuing research with her mentor at QCC.

Catherine Carti_Non-Presenter _Current Research Student

Jeff Massena_Non-Presenter _ CSTEP Conference Ambassador_ Current Research Student

2015 Poster Committee

Gary Sarinsky

Kingsborough Community College

Marie-Francesca Berrouet
Queensborough Community College

Martha Giraldo-Riordan

Adelphi University

Sabita Nayak

Adelphi University

Poster Ambassadors



Poster Ambassadors

Shanise - Morrisville State College

Carim-Sanni - SUNY College of Optometry

Anthony - Hofstra university

Jeff - Queensborough Community College

Martin - SUNY Old Westbury

Charlyne – Long Island University

Thank you for your time!

Ms. Francesca Berrouët

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Haitian Club Advisor

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