

# Peer-Led Team Learning International Society

First Annual Conference



New York City College of Technology CUNY, Brooklyn, NY

300 JAY STREET, BROOKLYN, NY 11201



**MAY 17-19, 2012**  
[www.pltlis.org](http://www.pltlis.org)



# Peer-Led Team Learning International Society Inaugural Conference

New York City College of Technology  
300 Jay Street, Brooklyn, New York 11201

## Conference Agenda

### Thursday, May 17, 2012

1:00-7:00 pm

Conference Registration  
Namm 119

1:00 - 4:00 pm

Mini-Courses

Introduction to the PLTL Model

Alberto Cruz, Florida International University

Janet Liou-Mark, New York City College of Technology, CUNY

Mitsue Nakamura, University of Houston, Downtown

Introduction to Leader Training

Jose Alberte-Dueñas

Jim Becvar, University of Texas at El Paso

A.E. Dreyfuss, New York City College of Technology, CUNY

6:00 pm

Poster Presentation and Reception

6:45 pm

Welcome and Introductions

Janet Liou-Mark, Professor of Mathematics

New York City College of Technology, CUNY

Greetings

Bonne August, Provost and Vice President of Academic Affairs

New York City College of Technology, CUNY

Premiere Showing: *University of Texas at El Paso Posters on the Hill 2012*

Tony West, Videographer

Leslie Luna de Lara, Peer Leader, University of Texas at El Paso (UTEP)

James Becvar, Professor of Chemistry, UTEP

# Friday, May 18, 2012

- 8:00 - 9:00 am Breakfast and Conference Registration Namm 119
- 9:00 - 10:15 am Welcome and Greetings Atrium Amphitheater (AG 30)  
Russell Hotzler, President  
New York City College of Technology, CUNY
- Keynote Speaker:  
Stephanie Marshall, Deputy Chief Executive at the Higher Education Academy, UK  
*Students at the Center of Learning: Perspective on Challenges Facing Traditional Pedagogies*
- 10:15-10:30 am Break
- 10:30am-12:30 pm Workshop Series I  
Moderators: Milica Jevtić and Jonathan Okoro
- Theme: Focus on Peer Leaders & Training
1. The Scholarship of Peer-Led Team Learning: My progression from student leader to faculty
  2. Major Components of Successful Leadership Training
  3. Peer-Led Explorations in Chemistry: Success Strategy for STEM Learning
  4. A Discourse Analysis of Peer-Led Team Learning (PLTL)
- Theme: Implementations
1. Implementing and Sustaining the PLTL Program at San Jose City College
  2. Implementation and institutionalization of PLTL in a Caribbean University: Successes, Challenges and Implications
  3. Hub n' Spokes: A Model for Centralized Organization of Peer Led Team Learning at Florida International University
  4. Why Attendance is Mandatory in Workshops: Comparison of Course Grades of Workshop Attendees vs. Non-attendees with Similar GPA and SAT Scores
- 12:30-2:00 pm Lunch Klitgord Gym (285 Jay Street)
- Featured Speaker:  
Pamela Brown, Dean of the School of Arts and Sciences (on leave), New York City College of Technology  
*PLTL from Several Perspectives*
- 2:00-3:30 pm Workshop Series II  
Moderators: Fariyal Malik, Gendaris Tavera, Beili Wang, Karmen Yu, and Suhua Zeng
- Theme: PLTL Pilot Implementations
1. PLTL in the Developmental Writing Classroom
  2. Successful Implementation of PLTL for Statics I
  3. Learning Programming Logic Using Executable Flowchart
  4. San Jose City College Peer Leaders Share their Expertise in Leading and Evaluating Effective PLTL Workshops
- Theme: New Directions
1. Cyber PLTL (cPLTL): Development, Implementation, and Initial Findings
  2. PLTL in Pajamas: Lessons Learned
- Theme: New Directions: The PERC Model
- Peer Enabled Restructured Classrooms in Secondary Schools

## Friday, May 18, 2012 (continue)

3:30-4:00pm	Break	Namm 119
4:00-5:00 pm	First Annual Meeting of the Peer-Led Team Learning International Society Atrium 632	
6:00pm	Dinner (on own) Group dinner arrangement – Sign up at the Registration Desk Queen Restaurant, 84 Court Street, Brooklyn Heights NY, 11201	

## Saturday, May 19, 2012

8:00 - 9:00 am	Breakfast and Conference Registration Namm 119	
9:00 - 10:30 am	Workshop Series III	
	Theme: Moving the Graveyard: Using peer learning with academic staff to secure sustainable Institutional transformational institutional change Change	
	Theme: Campus Leadership by the Leaders	Foundation of the Leaders, by the Leaders, and for the Leaders
10:30-10:45 am	Break	
10:45 am – 12:15 pm	Plenary Session How can PLTLIS support new directions, implementation and sustainability, and promote institutional change?	
12:30-2:00 pm	Lunch Closing Session	
2:00-3:00 pm	Optional Session: Collaborations and Proposal Development	

## SPEAKERS

### Keynote Address:

#### Students at the Center of Learning: Perspective on Challenges Facing Traditional Pedagogies

##### Stephanie Marshall



**Abstract:** In this keynote, current issues in the UK are explored, highlighting the need for reconsideration of traditional pedagogies to better prepare students for, firstly, lifelong learning; secondly, gainful employment beyond their degree programs; and thirdly, playing their role as engaged global citizens. The trebling (in many instances) of student fees, concerns about secondary school grade inflation and spoon feeding, and inadequate rigour in course delivery are all 'blamed' for 'transition' and retention issues, while questions about 'value added' and return on investment have been raised as issues in UK higher education. A parallel set of criticisms resonates with Arum and Roksa (2011)'s findings written up in *Academically Adrift: limited learning on college campuses*, particularly their contention that "American higher education is characterized by limited or no learning for a large proportion of students, and persistent or growing inequalities over time" (p. 30). An exploration of possible ways forward are explored, suggesting that Peer Led Teaching and Learning in the toolkit of higher education institutions seeking to address these concerns from a student support perspective could be of great benefit.

**Biography:** Professor Stephanie Marshall is Deputy Chief Executive (Research and Policy) at the Higher Education Academy (HEA) in the UK. The HEA is a national body for enhancing and championing learning and teaching in higher education. Working with governments, research councils, funding agencies, higher education institutions and others across the HE system, it helps to bring about change in learning and teaching to improve student outcomes. Stephanie directs the HEA's research strategies, influences policy issues, and leads on institutional strategy and change. Before joining the HEA, she served eight years as Director of Programmes at the UK's Leadership Foundation for Higher Education, which focuses on developing and improving the management and leadership skills of current and future HE leaders. Prior to this she was the Provost of one of the University of York's eight colleges. Stephanie is committed to the examination of student experiences of learning and teaching, as well as to the broader perspectives of leadership and management and the policy issues that affect learning and teaching in higher education. She edited (with Heather Fry and Steve Ketteridge) *A Handbook for Teaching and Learning in Higher Education*, 3<sup>rd</sup> Ed. (Routledge, 2009) which has been translated into several languages, *The Effective Academic* (Routledge, 2002), and edited *Strategic Leadership of Change in Higher Education: What's New?* (Routledge, 2007).

### Featured Speaker:

#### Peer-Led Team Learning from Several Perspectives

##### Pamela Brown



**Abstract:** Peer-lead-team-learning is one of the most widely implemented and evaluated models for improving student learning and engagement in undergraduate science, math and engineering developed for higher education in recent years. Strengths, opportunities and challenges from the perspective of a professor, academic dean and NSF program officer will be presented.

**Biography:** Pamela Brown is currently serving as a Program Director for the National Science Foundation in the Division of Undergraduate Education, for the following programs: Advanced Technological Education (ATE), Mathematics Science Partnerships (MSP), Transforming Undergraduate Education in STEM (TUES) and STEM Talent Expansion Program (STEP). She is on leave from her position as Dean of the School of Arts and Sciences at New York City College of Technology - CUNY, where she worked with the eight departments in the School to fulfill the mission of the college. She has been a supporter of peer-led team learning since adopting it in her own chemistry classes in 1998, and has worked to expand its implementation as an administrator. A chemical engineer by training, Dean Brown earned a PhD from Polytechnic University, an SM from the Massachusetts Institute of Technology and a BS in chemistry, summa cum laude, from SUNY Albany.

## WORKSHOP SERIES I

### Theme: Focus on Peer Leaders and Training

10:30am-12:30 pm

#### The Scholarship of Peer-Led Team Learning: My progression from student leader to faculty

Amy Parente

Mercyhurst University, Erie, PA

Department of Chemistry and Biochemistry

ABSTRACT: Twenty years ago, I was an undergraduate majoring in Biology and Chemistry, struggling with the desire to integrate the details I had learned in my Chemistry courses with the 'big picture' philosophy stressed in my Biology curriculum. These early educational experiences fostered my passion for curricula geared towards interdisciplinary learning and in programs designed to increase awareness of alternative learning styles and pedagogies for instruction. My Workshop journey began shortly thereafter with PLTL's inception at the University of Rochester. Now as a faculty member I have implemented PLTL into my General Chemistry, Organic Chemistry, and Biochemistry curricula with a "full-circle" perspective that has been nearly two decades in the making. This discussion will look at the evolution of my philosophy on PLTL as I progressed from student leader to faculty as well as some strategies I have found useful for its implementation and means to involve PLTL in my scholarly activities for promotion and tenure.

#### Major Components of Successful Leadership Training

Jacob Kimbrell

University of West Georgia, Carrollton, GA

Department of Chemistry

ABSTRACT: Undergraduate leadership training is an integral factor to incorporating the Peer-Led Team Learning (PLTL) Model into the department of an institution. The University of West Georgia's Chemistry Department utilizes the student-influenced leadership training, which involves two primary sections. The first section encompasses a three-day training section before the beginning of scheduled classes. The second section incorporates a "retreat" meeting, which usually occurs four weeks into the semester after the new leaders have had the opportunity to lead three or four workshops. The incorporation of weekly journal entries, leaders meetings, and midterm observations allows for the constant training and improvement of the student leaders throughout the semester. Our primary goal is to always have our leaders evolving and improving the way they lead a workshop and the overall success of the PLTL Model.

#### Peer-Led Explorations in Chemistry: Success Strategy for STEM Learning

Crystal Acosta, Tim Brown, Maria De Pablo, Nicole Dominguez, Bonnie Gunn, Andrea Gutierrez, Jesus Guzman, Narges Kalantarian, Leslie Luna De Lara, Jonathan Muñiz, Humberto Rojo, Diana Yañez, Geoffrey Saupe, Mahesh Narayan, and James E. Becvar

The University of Texas at El Paso, El Paso, TX

Department of Chemistry

ABSTRACT: Peer-Led Team Learning (PLTL) has dramatically improved student success in general chemistry at UTEP. The weekly format has changed from three one-hour lectures (passive learning) to two large section lectures plus a required, two-hour, small-group Workshop (active learning). Every Workshop consists of a community of learners (fifteen students) overseen by a Peer Leader, an undergraduate who previously has excelled in understanding course content. Each Workshop session consists of problem solving in teams (one hour) followed by one hour of hands-on ('wet') Explorations. Explorations help the students in course relate what they are seeing in lecture to the world around them, providing students with well-rounded and contextual knowledge about the abstract concepts they are learning. Since fall 2000, the C-or-better passing rate for first-time takers in the first course in general chemistry has improved from the historic average near 55% to the current rate near 70%, translating into more than a thousand additional students over this period progressing into their science, engineering, and mathematics majors at UTEP. Undergraduate Peer Leaders will demonstrate several Explorations and explain how this form of guided inquiry learning can be integrated into the curriculum to demonstrate fundamental concepts in chemistry.

#### A Discourse Analysis of Peer-Led Team Learning

Regina Frey, Patrick Brown, Keith Sawyer, Mark Hogrebe, Sarah Luesse, and Daniel Gealy

Washington University, St. Louis, MO

Department of Chemistry

ABSTRACT: The PLTL model has proven to be highly successful at Washington University and other higher-education institutions. Previous evaluation indicates that our PLTL program is effective at improving students' academic performance similar to performance increases seen at other institutions. To our knowledge, no studies have investigated the discourse processes within PLTL groups. Better understanding of what takes place in successful PLTL groups will aid PLTL implementers in enhancing peer training and improving the design of the sessions. The objective of this study was to investigate the discourse between PLTL students during their sessions. First, we coded the student and peer-leader discourse and found 4 different categories of talk. Second, we examined the differences in student discourse between small-group and large-group collaborative-learning strategies over three types of problems (calculations, diagrams, and model building). We observed statistically significant discourse dependence on the collaborative-learning strategies used and the types of problems studied.

## **WORKSHOP SERIES I: FRIDAY, MAY 18, 2012**

### **Theme: Implementations**

**10:30 am-12:30 pm**

#### **Implementing and Sustaining the PLTL Program at San Jose City College**

Madeline Adamczeski and Robert Gutierrez

San Jose City College, San Jose, CA

The Metas Program

**ABSTRACT:** The PLTL program at San Jose City College began in 1999 with funding from the National Science Foundation that continued through 2005. More recently and currently, the PLTL program is being supported through a Title V: Hispanic-Serving Institutions grant in collaboration with the SJCC Metas Program director. Our most recent data (Fall 2011) for an introductory level chemistry and both semesters of our GOB courses, reveal student success and retention about twice that when compared to earlier SJCC data as well as that reported for PLTL's national average, 93.65% and 82.54%, respectively for students who participate in PLTL workshops (as compared to students who do not participate in PLTL workshops, with 64.83% or 52.94%, respectively). Our data also reveal that the PLTL program is addressing the achievement gap for underrepresented students in chemistry. For example, preliminary retention and success data for our Hispanic population in the courses specified above, show respectively, 87.5% and 68.75% (versus 74.63% and 61.70% for non-PLTL). Corresponding data for our Asian population are 100% in both measures for PLTL students while for non-PLTL students the corresponding data are 84.82% and 76.96% for retention and success. Clearly, the benefits of PLTL are acquired among all demographics. We attribute the success of this program, in part due to the effective collaboration with the initiatives, goals and support of the SJCC-Metas program. These data, in part will be discussed during our presentation and used to establish a budget line-item to sustain this successful program at our college.

#### **Implementation and institutionalization of PLTL in a Caribbean University: Successes, Challenges and Implications**

Novelette Sadler-McKnight and Imron Miller

The University of the West Indies, Kingston, Jamaica

Department of Chemistry

**ABSTRACT:** This study describes the implementation, assessment and attempts at institutionalization of the Peer-Led team Learning (PLTL) programme in two Introductory Level Chemistry courses at the University of the West Indies, Jamaica. The PLTL model was implemented in September 2008 with a sample 50 students in an attempt to address declining student performance and apathy in the first year Chemistry courses. The impact of the PLTL approach was assessed by examining students' course performance as well responses to a Gafney PLTL student survey. Results revealed that PLTL students significantly out-performed their non-PLTL counterparts in three different measures of performance. In addition, PLTL students and leaders had positive views of the workshops and a significant proportion agreed the PLTL model helped them to improve their understanding of and confidence in chemistry. Administrators were impressed and the programme was expanded in September 2011 despite funding and logistical difficulties.

#### **Hub n' Spokes: A Model for Centralized Organization of Peer Led Team Learning at Florida International University**

Jose Alberte, Alberto Cruz, Nataly Rodriguez, Thomas Pitzer

Florida International University, Miami, FL

Department of Biology

**ABSTRACT:** Peer-Led Team Learning (PLTL) at Florida International University (FIU) is an active learning component added to several courses within the Department of Biological Sciences. Since its inception in 2000, the program's model has evolved to accommodate a large volume of students and courses. The traditional PLTL administrative paradigm is fragmented in nature, where each professor handles every aspect of their PLTL workshops. At FIU, a centralized model is used in the administration of the PLTL program. It is the centralized office that manages every aspect of the PLTL workshops, ensuring the standardization and overall quality of workshops across all courses. This model reduces faculty's time commitment and converts the administration of PLTL into a student-centered program. Through this and other aspects of the program, FIU PLTL has become a self-sustaining, institutionalized component of undergraduate biology education.

#### **Why Attendance is Mandatory in Workshops: Comparison of Course Grades of Workshop Attendees vs. Non-attendees with Similar GPA and SAT Scores**

Lucille Garmon

University of West Georgia, Carrollton, GA

Department of Chemistry

**ABSTRACT:** Records of test scores and course grades going back over ten years are available for approximately 5400 students in first-semester general chemistry at the University of West Georgia. In this project those attending workshops regularly throughout a semester were matched in GPA (prior to taking general chemistry) and SAT scores with those not attending

regularly. Most students were enrolled in sections in which workshop attendance was an integral part of the course. Those not attending fell into three categories: those in sections that included workshop but who chose not to attend and thus not to meet that requirement; those who were enrolled in an honors section, which did not include workshops; and those taking the course online, as the sections offered online have up to now not included workshops. In all cases, those with similar GPA/SAT scores who attended workshop outperformed those who did not.

## **WORKSHOP SERIES II: FRIDAY, MAY 18, 2012**

### **Theme: PLTL Pilot Implementations**

**2:00 pm-3:30 pm**

#### **PLTL in the Developmental Writing Classroom**

Aaron Barlow, Amelise Bonhomme, Renee Clarke, A.E. Dreyfuss, Sung Soo Moon, Jennifer Sears, Jodi-Ann Young, and Lori Younge

New York City College of Technology, CUNY, Brooklyn, New York

Department of English

ABSTRACT: Writing placement exam preparation can be broken down into small tasks overseen by Peer Leaders, following (though not precisely) patterns set out by Fred Keller in "Good-bye Teacher" in 1968. The mechanical aspect of writing, however, is never enough for the production of essays that communicate, something that requires audience and a desire to "speak." Students in developmental classrooms often have problems beyond the writing itself: they may be test shy and may not be prepared to take on even college entry tasks without careful direction. Working with Peer Leaders, the developmental program can address the problems of mechanics and testing demands, the Peer Leaders taking on some of the responsibility for guiding students through the tasks. PLTL can also help address the broader problems of preparation for college and even for critical thinking, the Peer Leaders serving as role models. The pilot program at New York City College of Technology (CUNY) will be discussed.

#### **Successful Implementation of PLTL for CMCE 1110**

Melanie Villatoro, Marcelo Moreira, and Yineng "Alex" Liang

New York City College of Technology, CUNY, Brooklyn, NY

Construction Management and Civil Engineering Technology

ABSTRACT: I am attempting to implement the PLTL Workshops in Statics and Strength of Materials. This course is a freshman course and hopefully students experience in this course will impact their way of learning for the remainder of their career. The Spring 2012 semester is a trial period but we hope to continually assess and improve the program in the future years. I would like to share my experience, positive and negative with this method of learning and teaching.

#### **Learning Programming Logic Using Executable Flowchart**

Ongard Sirisaengtaksin, Walter Huetwohl

University of Houston Downtown, Houston, TX

Computer and Mathematical Sciences

ABSTRACT: In general, students find a programming course difficult, especially non-computer science majors. This is true no matter what programming language is being taught and used in the course, whether it is C++, Visual Basic, or Java. The main reason is that students must have both good problem solving skills or logic, and a command of the programming language syntax to be able to write a complete program from the start to the end. This implies that in order to create a program, one must be able to come up with an algorithm for the solution to the problem and then convert the algorithm into code according to the programming language used. Most students lack problem solving skills or logic. Some students have difficulty understanding programming constructs and logic. Some even have a hard time comprehending the syntax of the programming language. One possible solution to alleviate these learning problems is to engage students in a programming environment that requires only logic skills not syntax. Furthermore, students can also visualize the structure and logic of the program as well as the flow of execution of the program. So, the main objective of our project is to develop a programmable and executable chart application. The application will allow students to create a program with very minimal syntax and independent from any programming language. Students will be able to create a program using block symbols like symbols that are used in a flowchart. Block symbols that are used in the application are limited to a small set of symbols such as input, output, and condition. The reason is to avoid a confusion which block symbol to be used. So, students can concentrate on the logic of the program. Students can create a program by adding a block symbol and add a programming code/statement into the block symbol one by one until the program is complete. Then, students have an option to either to run or step through to the program. This allows students to visualize the flow of execution of the program and focus on the logic of the program rather than the syntax of the language. This application can also be used to demonstrate concepts such as if and loop constructs.

## **San Jose City College Peer Leaders Share their Expertise in Leading and Evaluating Effective PLTL Workshops**

Athena Ford, Ngan Hong, Phat Huynh, and Tuan Nguyen  
San Jose City College, San Jose, CA  
Department of Chemistry

**ABSTRACT:** The PLTL program at San Jose City college has transformed the culture, resulting significant gains in student success and retention. Indeed, the culture has also been transformed with students acquiring a positive and enthusiastic attitude toward chemistry. For example, we have very active and energetic ACS and SACNAS Chapters on our campus. Peer leaders from San Jose City College will present the workshop implementation components of the PLTL program from perspectives both as a peer leader and a student of PLTL workshops. The poster will include responsibilities including peer-to-peer assessment, evaluation, feedback, data input, pedagogy, and continuous program review (CPR). We will also summarize program assessment data and share highlights of weekly leader meetings.

## **WORKSHOP SERIES II: FRIDAY, MAY 18, 2012**

### **Theme: New Directions**

**2:00 pm-3:30 pm**

### **Cyber PLTL (cPLTL): Development, implementation, and initial findings**

John Sours and Pratibha Varma-Nelson  
Indiana University Purdue University Indianapolis  
Center for Teaching and Learning

**ABSTRACT:** The conditions and tools required to offer Peer-Led Team Learning (PLTL) online will be discussed. This paper is not about technology per se, but how it can be used to adapt an educational strategy that has already proven beneficial in STEM courses in a face-to-face environment and offering it in an online environment. Creation of an online collaborative environment for conducting PLTL Workshops will be discussed. Preliminary results will be presented about how it is being received by students in our general chemistry course and the effectiveness of the training provided to the students and peer leaders to work collaboratively in this environment will also be discussed.

### **PLTL in Pajamas: Lessons Learned [cyber workshops]**

Jose Alberte, Alberto Cruz, Nataly Rodriguez, and Thomas Pitzer  
Florida International University, Miami, FL  
Department of Biology

**ABSTRACT:** The Biology Department at Florida International University (FIU) implemented a cyber Peer-Led Team Learning (cPLTL) program. Students and Leaders communicate in real time, using laptops computers and cameras, fulfilling all of the requirements of the standard model of PLTL. All participants are trained in the use of software and technology required to interact during cPLTL sessions. Initial observations indicate that students perform at least as well in cPLTL as with in-person sessions. Through this fully online version of PLTL, students who cannot attend in-person PLTL sessions are able to take advantage of the boost. The cPLTL program at FIU appears successful and is likely to be as institutionalized as the in-person format of PLTL.

## **WORKSHOP SERIES II: FRIDAY, MAY 18, 2012**

### **Theme: New Directions: The PERC Model**

**2:00 pm-3:30 pm**

### **Peer Enabled Restructured Classrooms in Secondary Schools**

Pamela Mills, Leslie Keiler, Sarah Bonner and team of presenters  
Hunter College, CUNY, New York, NY; PARTNERS: York College, CUNY, Queens, NY; New York City College of Technology, CUNY, Brooklyn, NY; Department of Education, City of New York; and others

The team of presenters are part of the Math Science Partnership in New York City 2, an NSF funded initiative to integrate peer-led collaborative learning in the high school classroom daily. The Peer Enabled Restructured Classroom (PERC) has been designed by a team of scientists, mathematicians, science educators, mathematics educators, educational researchers, teachers, and students. Representative members of the team, including teachers and students, will be present.

**ABSTRACT:** The Peer Enabled Restructured Classroom (PERC) is a new model for the high school classroom. In a PERC classroom, high school students teach their peers under the instruction and guidance of a classroom teacher. Ongoing studies in NYC schools find that PERC students outscore their non-PERC counterparts by 20% on state mathematics and science exams.

PERC was built on the hypothesis that the urban, high-needs high school classroom is simply too complex for a single, typical teacher to manage. The classroom needs a team of instructors; but resources are scarce. What if the team included students—not necessarily elite students, but average students whose own performance would be lifted by the experience?

PERC is a radically different classroom, built on proven techniques of peer tutoring and collaborative learning. The use of PERC in the high school classroom and the training of the peers to be leaders will be discussed. Hear the voices of the TA scholars as they discuss the impact of the peer leadership experience on their lives.

## **WORKSHOP SERIES III: SATURDAY, MAY 19, 2012**

### **Theme: Institutional Change**

**9:00 am-10:30 am**

#### **Moving the Graveyard: Using peer learning with academic staff to secure sustainable transformational institutional change**

Steve Outram

Higher Education Academy, UK

Institutional Strategy and Change

ABSTRACT: Adapted from the AAHE Summer School program the UK Higher Education Academy in partnership with the Leadership Foundation for HE has enabled over 70% of UK higher education providers to transform the student learning experiences of their students using a year-long change development programme known as “Change Academy.”

Using a suite of collaborative, peer learning techniques within an “explore, challenge and apply” model of change, Change Academy has introduced a model of change to the sector that has been emulated not only by institutions themselves but also by individual colleagues in the classroom. This oral presentation will explore the nature of collaborative, peer learning in achieving successful institutional change and introduce participants to both the conceptual basis of the model and its practical application.

Reference: Bradford, M. (2009). *Change Academy Report*, Higher Education Academy

[http://heacademy.ac.UK/resources/detail/changeacademy/CA\\_Report\\_MB](http://heacademy.ac.UK/resources/detail/changeacademy/CA_Report_MB)

## **WORKSHOP SERIES III: SATURDAY, MAY 19, 2012**

### **Theme: Campus Leadership by the Peer Leaders**

**9:00 am-10:30 am**

This session is intended for Peer Leaders to brainstorm how campus PLTL programs can become embedded in the campus culture, working with faculty and administrators. The following presentation will be made to provide one model.

#### **Foundation of the Leaders, by the Leaders, and for the Leaders**

Farhad Zonoozi, Mahesh Narayan, and James E. Becvar

University of Texas at El Paso

Department of Chemistry

ABSTRACT: Funding PLTL after the grants end has often been unsuccessful leading to PLTL termination. Many universities will not step up to the plate. We propose local independent nonprofit organizations (Local Foundations), possibly Local Chapters within PLTLIS, overseen by and run by the Peer Leaders, to advance STEM education through a funded PLTL workforce. Independent Foundations can promote sustainable PLTL using the large workforce of outstanding Leaders to aid primary instructors in secondary and higher education using a grass-roots, bottom-up approach without university fees, institutional bureaucratic restrictions, or politics. The Foundation will provide pupils with the requisite skills to succeed in higher education in STEM or any other discipline. Such Foundation is proposed as a collaboration of: Academics; Industry leaders; University Students; Members of the local education district; and High School teachers. Funding will be sought primarily from local individuals, businesses, industries and philanthropic organizations.



# Posters and Abstracts

## **A New Dimension to Electron Orbitals**

Humberto Rojo and Juan C. Noveron  
University of Texas at El Paso, El Paso, TX  
Department of Chemistry

**ABSTRACT:** One of the most difficult concepts to illustrate to new chemistry students is that of electron orbitals and electron density distribution in atoms. The analogy that 'electrons orbit a nucleus like satellites orbit the earth' does not illustrate the true nature of electrons. The spherical *S* orbital is relatively easily understood, but not the *P*, *D* and other more complex orbitals. The challenge is compounded when chemical bonding involves orbital hybridization. We propose printing electron orbitals on transparency sheets so that the orbitals can be stacked upon each other to visualize how the orbitals exist in relation to each other. Replacing these with color stereo anaglyphs and using 3D glasses yields a deeper understanding of the complexity of the many different orbitals within a single atom and the even greater complexity of hybridized molecular orbitals. The "puzzle" aspect of this activity should improve a student's grasp of the 'orbitals' concept.

## **A Peer-led Workshop Experience in an Introductory Mathematics Class**

Laura Ghezzi, Mursheda Ahmed, Maureen Cauthen, Christopher Chan, Tamika Hendricks, Trung Tran  
New York City College of Technology, CUNY, Brooklyn, NY  
Department of Mathematics

**ABSTRACT:** In this poster the instructor and the peer leaders will share this semester experience with the peer-led workshop embedded in an introductory mathematics class at the New York City College of Technology. Five peer leaders meet the class for an additional hour per week. We will discuss our methodology, successes, challenges and we will show samples of student work.

## **A Speed of One Molar Per Second Presents Some Blocks In the Road**

Jonathan Muñiz, James Smith, Nicole Dominguez, Narges Kalantarian, Andrea Dominguez, Jesus Guzman, Farhad Zonoozi, Mahesh Narayan, and James E. Becvar  
University of Texas at El Paso, El Paso, TX  
Department of Chemistry

**ABSTRACT:** It is hard for students in general chemistry to understand that a chemical reaction can have a speed. Peer Leaders in second semester general chemistry have found a 'solution': Provide the students in Workshop with large Lego®-like blocks in a large clear bag. These can be used to represent molecules with atoms of appropriate combining properties. The blocks permit visualization of reactants and products like  $\text{CH}_4$ ,  $\text{O}_2$ ,  $\text{CO}_2$ , and  $\text{H}_2\text{O}$  in a reaction like the combustion of methane. Concentrations can be followed as the reaction progresses by rearranging block combinations. Reacting a certain amount (e.g. one molar) per unit time can be easily represented to visualize the abstract concept of "rate of a chemical reaction". Moreover, altering the starting 'concentrations' of reactants permits students to understand two difficult concepts: limiting reagent and concentrations at equilibrium. The 'blocks' change obstacle into vehicle for students to 'get' the speed of reaction.

## **Academic Peer Instruction (API) Program for Remedial Algebra at LaGuardia Community College**

Frank Wang, Andi Toce, Joyce Zaritsky  
LaGuardia Community College, CUNY, Long Island City, NY  
Department of Mathematics

**ABSTRACT:** In 2001, LaGuardia Community College conducted a study by deploying highly selective Academic Peer Instruction (API) tutors in 24 remedial algebra sections to promote collaborative learning and effective use of technology. The research hypothesis was that API tutors would motivate students to spend more time on studying utilizing the online learning system called "EDUCO," which in turn would improve their academic performance. We will present evidence that the 625 students in the API group consistently show better outcomes in course pass rates and mean exam scores with lower standard deviations, compared to the 415 students in the control group. We will also share results of faculty and student surveys, reflecting the promise and challenge of peer instruction.

### **Achieving Student Success Using PLTL**

Ann Darnell, James Becvar, Benjamin Flores, Helmut Knaust, Jorge Lopez, Josefina Tinajero  
University of Texas at El Paso, El Paso, TX

**ABSTRACT:** The PLTL Program at the University of Texas at El Paso is designed to improve the success of STEM students in their undergraduate program to ensure that a greater number graduate. This poster shows the results obtained of self-assessed impact where students feel they learn the most. Overwhelmingly, students report their greatest learning gains in small, team-based workshops led by a trained peer leader who provides active learning experiences during the mandatory, weekly two-hour workshop. The larger the course lecture sections, the larger the response that students learn most in small workshops. Retention and graduation rates continue to climb as the NSF STEP-funded grant draws to a close. As our peer leaders graduate and apply to graduate, medical, and other professional schools, we learn of the benefits provided not only to the undergraduate students enrolled in the course, but to the peer leaders themselves. An outcomes assessment of both peer leaders and students will be presented.

### **Case Study of Peer-Led Team Mentoring and Team Learning through Hands-on Robotic Design Project**

Andy Zhang, Iem Heng, Fritzpatrick Roque, Aindan Murphy, Ethan Wong, Bijin-Bayat Makhtari, An Lin, Ali Harb, Alexander Barbaran

New York City College of Technology, CUNY, Brooklyn, NY  
Department of Mechanical Engineering Technology

**ABSTRACT:** In January 2012, City Tech students took on a challenge to help two local high school robotic rookie teams to build two robots in six weeks for annual FIRST Robotic Competition (FRC). City Tech students served as peer mentors and played crucial roles in leading the two high school rookie teams to build two robots. The hands-on activities enable students to personally experience what works and what does not work. Learning by doing in an apprentice-type cognitive learning environment, becomes an effective way for students to learn engineering technology. These activities make technology more tangible and allow students to learn from their mistakes. The poster will document the whole process of peer mentoring and learning activities and present findings on aspects of peer-led team learning activities, and implications on curriculum modification to meet the challenge of providing the right knowledge set and skills to college students.

### **Classical Music Stimulates Community College Students Perception and Engagement during Chemistry Laboratories**

Iván Rivera-Torres, Department of Natural Sciences  
LaGuardia Community College, CUNY, Long Island City, NY  
Department of Natural Sciences

**ABSTRACT:** Exposure to classical music has been shown to enhance brain functions such as abstraction, mathematical ability and spatial reasoning. However, previous studies have focused on students attending chemistry lectures at four-year institutions. Limited insight exists on the connection between classical music and the levels of perception and engagement among community college students during chemistry laboratories. This study exposes community college students, working in teams integrated by members from highly diverse backgrounds, to selected classical music compositions as they perform chemistry experiments. Our preliminary results suggest that following such exposure, there is a general enhancement of perception among students (measured by test scores, times of completion of experiments and surveys), which facilitates the accomplishment of the experimental goals and reinforces the understanding of the underlying chemistry concepts. It is also observed that despite the high diversity among team members, abilities related to effective peer-leadership and student interactions are also stimulated.

### **Developing a Community of Practice Among Peer Leaders: The Leadership Seminar**

Amelise Bonhomme, A.E. Dreyfuss, Travion Joseph, Janet Liou-Mark  
New York City College of Technology, CUNY, Brooklyn, NY

**ABSTRACT:** The Leadership Seminar is a weekly meeting that all Peer Leaders must attend. It was piloted in the fall semester of 2011 as means of creating a community of practice among the first-time and the experienced Peer Leaders, and was formalized in the spring 2012 semester. Each weekly session is one hour in duration, meeting at a time convenient for all participants; the intent is to provide an opportunity for Peer Leaders to become familiar with one another, discuss problems that arise in their workshops, and further develop their leadership skills.

### **Free To Learn via Freestyle PLTL**

Maria De Pablo, Crystal Acosta, Leslie Luna De Lara, Geoffrey Saupe, James E. Becvar  
University of Texas at El Paso, El Paso, TX  
Department of Chemistry

**ABSTRACT:** At the University of Texas at El Paso, the Peer-Led Team Learning Program utilizes a freestyle learning approach in which each individual peer leader has the opportunity to guide Workshop students in the manner they feel is most effective. Each peer leader is responsible for facilitating student comprehension of content discussed in lecture, with emphasis on key concepts; for example, naming compounds. In Workshops, peer leaders are free to explore diverse learning strategies and activities ranging from problem sets, short web clips, games, mnemonic devices and songs, etc to facilitate student learning; e.g. naming compounds. Peer leaders choose activities they feel are well suited to their students, and these may be completely unlike the

plans of the other peer leaders. This method of freestyle learning is not only unique but has allowed the program to evolve (through trial and error) and to progress into a stronger Peer-Led Team Learning program.

### **How can female students in a math workshop increase their problem-solving capabilities?**

Gendaris Tavera

New York City College of Technology, CUNY, Brooklyn, NY

Peer Leader Training Course

### **How can the Peer Leader help students in workshop trust their partner's knowledge?**

Alma Plaku

New York City College of Technology, CUNY, Brooklyn, NY

Peer Leader Training Course

### **How can the Peer Leader help students' learning through questioning?**

Jonathan Okoro

New York City College of Technology, CUNY, Brooklyn, NY

Peer Leader Training Course

### **How can the Peer Leader support students' learning in workshop?**

Connie Lu

New York City College of Technology, CUNY, Brooklyn, NY

Peer Leader Training Course

### **How is teamwork a key to success in workshop?**

Trung Tran

New York City College of Technology, CUNY, Brooklyn, NY

Peer Leader Training Course

### **How is the Peer Leader experience enhanced through a community of practice?**

Maureen Cauthen

New York City College of Technology, CUNY, Brooklyn, NY

Peer Leader Training Course

### **Implementation of PLTL in a Freshman Biology Course at University of Houston-Downtown**

Yuanyuan Kang, Lisa Matsell, Mitsue Nakamura

University of Houston-Downtown, Houston, TX

Department of Natural Sciences

**ABSTRACT:** As part of the UHD initiative to improve student retention and performance, we started a project to implement PLTL workshops in one freshman general biology course. Here we present our practice and some anecdotal data regarding its effectiveness in the Spring of 2011 as well as our current progress in this project. According to our data, there was an increased performance (20%) among the students who attended workshops compared to the class average and a moderate decrease (10%) in withdrawal and failing. However, we also faced challenges in certain areas such as the lack of workshop materials and biology peer leaders. Therefore we will discuss these issues and the strategies we took to address them.

### **Let My People Go**

Diana Yañez, Geoffrey Saupe, and James E. Becvar

University of Texas at El Paso, El Paso, TX

Department of Chemistry

**ABSTRACT:** Motivating students to study and learn is a constant difficulty in STEM courses, especially as the semester progresses. Workshops have many types of students: some students are independent learners that don't need much extra help, but many other students benefit from significant attention of a closer to one-on-one nature. This latter category of student has a tendency to become overwhelmed without the extra help and then to simply give up. Peer-Led Team Learning at UTEP offers strategies to reach those students in need of the additional help. The "Let My People Go" incentive offers all students in Workshop the opportunity to leave early (e.g. 30 minutes early from the two-hour workshop) if they demonstrate understanding of the concepts for the week. After the successful learners have departed, the Peer Leader can assist the "Lost Sheep": those students in greater need of focused problem-solving attention.

## **No Stupid Questions**

Timothy Brown

University of Texas at El Paso, El Paso, TX

Department of Chemistry

ABSTRACT: General chemistry Workshops at the University of Texas at El Paso emphasize the “peer” in “Peer-led team learning.” Leaders serve as guides during Workshops, not as intellectual superiors to their students. Establishing mutual trust from the get-go generates a positive learning environment. Asking a question as an honest result of curiosity is the foundation of all science, all knowledge. The Workshop environment directly combats the fear of asking the so-called “stupid question”. Taking general chemistry at North Carolina State University, the first author never had the advantage of PLTL Workshops for learning. Asking questions was not comfortable. The only process was memorization of concepts, regardless of comprehension. This was ineffective in regard to understanding chemistry and memorization resulted in a short period of retention. Peer-led team learning creates a comfortable learning environment where students are not afraid to ask questions and are provided ample opportunity to ask the “not-so-stupid” questions.

## **Online PLTL for CSI**

Maxwell Goedjen, Brian Holtkamp, Ongard Sirisaengtaksin

University of Houston Downtown

Department of Computer and Mathematical Sciences

ABSTRACT: At the University of Houston-Downtown, we have been using PLTL workshop exercises in our introductory programming course, CSI. These exercises put emphasis on the skill to develop algorithms independent of a specific programming language. This alleviates students from a need to know the syntax of a language and put their focus on learning how to develop an algorithm for a given problem. These workshops have been done in a face-to-face setting. Since one of the CSI sections will be offered online in the fall of 2012, there is a need for PLTL workshops to be conducted online. We have been exploring a possibility of using free video conferencing applications such as Skype, Voodoo, Google+ Hangouts, to permit conducting PLTL workshops online. We will present our findings on the comparisons of these free video conferencing applications.

## **Peer Assisted Learning at City Tech: An Overview**

Janet Liou-Mark, Laura Yuen-Lau, Connie Lu, Lori Younge, Jodi Ann Young, Sereta Scott

New York City College of Technology, CUNY, Brooklyn, NY

Department of Mathematics

ABSTRACT: New York City College of Technology has been offering Peer Assisted Learning workshops for students enrolled in foundational mathematics courses for the past three years. Students enrolled in the workshops work collaboratively on modules facilitated by a peer leader. These workshops meet once a week for one hour to discuss questions designed to foster critical thinking, problem solving abilities and computational skills. An analysis on the effects of these workshops will be presented. Mathematics self-efficacy, task values, and goal orientation of the participants will also be examined.

## **Peer Leaders Training Workshop Style**

Sara Wilder, Mitsue Nakamura

University of Houston Downtown, Houston, TX

Department of Computer and Mathematical Sciences

ABSTRACT: Typically workshop leaders are trained in a general classroom setting, one faculty member explaining the requirements and objectives of the workshop style to a classroom full of prospective leaders. The University of Houston-Downtown (UHD) has adapted the Peer-Led Team Learning (PLTL) training model to better suit the needs of both the students and the university by incorporating the workshop ideal into the training itself. UHD leaders experience first-hand the benefits of the workshop style and are given the chance to become familiar with the student’s perspective before they begin running workshops themselves. The number of prospective leaders to be trained every semester has been reduced in accordance to the workshop style. Approximately 8 students undergo training per semester, with 11 sessions in total. The group meets for 1 hour each week under the guidance of a peer-coordinator to discuss topics from the *Peer-Led Team Learning: Handbook for Team Leaders* by Roth, Goldstein and Marcus (2001). Peer-coordinators are previously trained leaders chosen due to their interest in education; their objective is to guide the leaders through their training in a manner that workshops should be conducted. Leaders are required to read through the section of the handbook to be discussed that week, reflect over, and then answer 3-6 questions as assignment so that they can be prepared to collaborate in the workshop. The materials used in the training workshops are created by the faculty supervisor, then given to the peer-coordinator to modify according to the group’s particular needs. The coordinator offers all modifications up for approval to the supervisor as well as reviews after every workshop session is completed to ensure a constant flow of communication throughout the semester.

## **Peer Leading Helps More Than the Students Being Led**

Nicole Dominguez, Jessica G. Salazar, Mahesh Narayan, and James E. Becvar

University of Texas at El Paso, El Paso, TX

Department of Chemistry

ABSTRACT: Workshops help the Peer Leaders with grounding in their own STEM majors' courses by enhancing the understanding of the basic concepts taught in introductory chemistry and physics courses. Because each Peer Leader facilitates learning in at least two 2-hour workshops a week and spends a minimum of three hours preparing for those workshops, Leaders have a more in-depth understanding of basic material and study habits. This better understanding and study skill development gives Peer Leaders an advantage in preparing for and taking standardized entrance exams for advanced higher education such as MCAT, GRE, PCAT, and DAT. In addition, Peer Leaders have the advantage that they continue to review the material for years after taking the courses. Leaders increase leadership and communication skills, skills they will continue to use throughout their lifetimes in whatever career they pursue. Leaders also learn patience to help those who need it most.

### **Peer-Led Team Learning: A General Chemistry Approach at New York City College of Technology**

Diana Samaroo, Elizabeth Mills, Renee Clarke, Si Min Tan, Siguel Brunache

New York City College of Technology, CUNY, Brooklyn, NY

Department of Chemistry

ABSTRACT: Peer-Led Team Learning (PLTL) has been implemented in General Chemistry since 2010 at NYC College of Technology. The approach used in chemistry involves workshops consisting of problem sets developed by the course coordinator. These problem sets include textbook problems as well as practice examination questions. The effectiveness of Peer-Led Team Learning at NYC College of Technology entails that attendance is required, as opposed to encouraged at workshops. Comparative data prior to and after implementation of PLTL will demonstrate improvement in grades as well as understanding chemical concepts.

### **Peer-Led Team Learning Addresses Problem-Solving Ability**

Timothy Brown, Juan Noveron, Geoffrey Saupe, James Becvar

University of Texas at El Paso, El Paso, TX

Department of Chemistry

ABSTRACT: Students intending careers in medicine or any STEM major need the ability to solve problems. One cannot acquire this ability from listening, reading a textbook, or by following step-by-step directions in a lab manual. What separates Peer-led Team learning at UTEP from similar programs at other universities is the use of Explorations: hands-on, experimental-like activities, in which students, in a laboratory setting, are provided with a task or specific problem directly correlating with what they are learning in lecture. Students must work together, must "think on their toes," and must problem solve in order to obtain a solution. Explorations induce high levels of critical thinking among students. The first exploration, "Bad Breath Indicator" uses bromo-thymol-blue and produces a color change, a change inducing a huge array of questions. These in-depth questions and the chemistry behind these questions, makes explorations the epitome of what peer-led team learning at UTEP is about.

### **Peer Mentors Making Connections with First Year Learning Communities**

Anna Acevedo, Justin Ramos, Dany Salas, Lauri Shemaria-Aguirre, Ilia Silva

New York City College of Technology, CUNY, Brooklyn, NY

The First Year Learning Communities

ABSTRACT: Our First Year Learning Communities (FYLC) assist students to adapt to college life by fostering a social connection with peers, a sense of community between students and faculty with the cooperative nature of their learning experience and connections to course work. All students in learning communities are provided with a peer mentor (advisor). The peer mentors visit the classroom, assist professors, provide information to students on a regular basis and meet with students. Peer Mentors also assist in organizing and facilitating a special orientation, events and workshops for students in learning communities. The ultimate goal of the peer mentors is to assist with increasing student success (e.g., retention, higher grades, college experience) and assist students to acclimate to college life in a positive encouraging manner. Our peer mentors provide students with a model of academic success and perseverance.

### **PLTL in the Developmental Writing Classroom**

Aaron Barlow, Amelise Bonhomme, Renee Clarke, A.E. Dreyfuss, Sung Soo Moon, Jennifer Sears, Jodi-Ann Young, Lori Younge

New York City College of Technology, CUNY, Brooklyn, New York

Department of English

ABSTRACT: Writing placement exam preparation can be broken down into small tasks overseen by Peer Leaders, following (though not precisely) patterns set out by Fred Keller in "Good-bye Teacher" in 1968. The mechanical aspect of writing, however, is never enough for the production of essays that communicate, something that requires audience and a desire to "speak." Students in developmental classrooms often have problems beyond the writing itself: they may be test shy and may not be prepared to take on even college entry tasks without careful direction. Working with Peer Leaders, the developmental program can address the problems of mechanics and testing demands, the Peer Leaders taking on some of the responsibility for guiding students through the tasks. PLTL can also help address the broader problems of preparation for college and even for critical thinking, the Peer Leaders serving as role models. The pilot program at New York City College of Technology (CUNY) will be discussed.

## **Public Speaking Paved Through Peer-Led Team Learning**

Narges Kalantarian, Andrea Gutierrez, Mahesh Narayan, and James E. Becvar

University of Texas at El Paso, El Paso, TX

Department of Chemistry

**ABSTRACT:** The Department of Chemistry at the University of Texas at El Paso now uses an innovative constructivist approach to address the individualistic learning styles of students in general chemistry. Through funding from an NSF-STEP grant, UTEP has adopted a strong Peer-Led Team Learning (PLTL) curriculum in second semester general chemistry to emphasize team-based, student-directed learning. Students in this three-credit-hour course are required to attend just two hours of lecture each week by adding a small-section two-hour workshop overseen by a Peer Leader. Although workshop activities and evaluations of the program have focused on the students taking the chemistry course, Peer Leaders overseeing the workshop show significant professional growth including enhancement in their public speaking skills. Confidence and ease in speaking in front of groups can be directly correlated with semesters spent as a Peer Leader. An instrument for assessment of public speaking skill development will be presented at PLTLIS 2012.

## **Supporting the Community of Women in STEM through the Navigation by Mentoring and Peer Leadership Program**

Janet Liou-Mark, AE Dreyfuss, Karmen Yu, Milica Jevtic, Suhua Zeng, Reginald Blake, and Reneta D. Lansiquot

**ABSTRACT:** The retention and persistence rates of females majoring in mathematics consistently lag behind those of their male counterparts. Indeed, the disparity in rates of females graduating in mathematics at the baccalaureate level continues to be a national challenge. Through the support of the Tensor Foundation and Mathematical Association of America Women and Mathematics grant, the Navigation by Mentoring and Leadership (NML) program at the New York City College of Technology of the City University of New York was designed to address these major issues. The goal of eradicating gender disparities in Mathematics and STEM disciplines can be helped by improving the institutional climate for women and others majoring in Applied Mathematics. To support this goal, the NML program involved students in a vibrant community offering an array of activities designed to support them through their undergraduate years. These activities have included 1) a multi-tiered mentoring program, 2) peer-led team learning leadership opportunities, 3) lunches with women mathematics faculty, 4) career preparation opportunities, 5) conference participation and presentations, and 6) cultural events.

## **Sustaining the PLTL Program and How it Fits into San Jose City College's Strategic Plan**

Robert Gutierrez and Madeline Adamczeski

San Jose City College, San Jose, CA

The Metas Program

**ABSTRACT:** The PLTL program at San Jose City College began in the summer of 1999 with funding from the National Science Foundation that continued with federal, state and local grants through 2005. More recently and currently, the PLTL program is being supported through a Title V: Hispanic-Serving Institutions grant in collaboration with the SJCC Metas Program. Our strategy to ensure the sustainability of this program is to work with our office of research and planning in evaluating and assessing the program on a semester and course bases. Our most recent data (Fall 2011) for an introductory level chemistry and both semesters of our GOB courses, reveal student success and retention about twice that when compared to both earlier SJCC data as well as that reported for PLTL's national average, 93.65% and 82.54%, respectively for students who participate in PLTL workshops (as compared to students who do not participate in PLTL workshops, with 64.83% or 52.94%, respectively). Our data also reveal that the PLTL program is closing the achievement gap for underrepresented students in chemistry. For example, preliminary retention and success data for our Hispanic population in the courses specified above, show respectively, 87.5% and 68.75% (versus 74.63% and 61.70% for non-PLTL). Corresponding data for our Asian population are 100% in both measures for PLTL students while for non-PLTL students the corresponding data are 84.82% and 76.96% for retention and success. Clearly, the benefits of PLTL are acquired among all demographics. Although we attribute the success of this program, in part due to the effective collaboration with the initiatives, goals and support of the SJCC-Metas program, the grant funding period is emanate. These data are being disseminated to our administrators, up to and including the President of SJCC in the form of emails to gain travel support to participate in this conference, faculty and student participation in the President's 1st Annual Student Success Symposium, presentations at 3 SJCC Academic Senate Meetings with the last requesting a motion to sustain the PLTL program with adequate funding. The increased retention enjoyed by courses offering PLTL workshops revealed that the program is financially fiscal. To finalize sustained financial support to perpetuate the program, faculty, students, and the Metas Director prepare program reviews, including a financial report and presentation at the San Jose Evergreen Community College Board of Directors. See also our oral presentation for more details.

## **The PLTL Leader Boost**

Jose Alberte, Alberto Cruz, Nataly Rodriguez, Thomas Pitzer

Florida International University, Miami, FL

Department of Biological Sciences

**ABSTRACT:** Higher grade achievement by PLTL students is well documented in the Biology Department at Florida International University (FIU) and at many other programs both nationally and abroad. Although qualitative data has demonstrated PLTL's impact on leader improvement and learning, we seek to quantify the PLTL leader boost. FIU PLTL is just beginning to ask questions about the potential benefits acquired by undergraduates who act as peer Leaders and initial observations and feedback indicate this group receives many valuable rewards such as enculturation in the discipline, increased performance in traditionally assessed learning outcomes and increased retention within the discipline.

### **This Is Not Just Tutoring**

Sandie Han, Amelise Bonhomme, Jack Huang, Juan Mejia, Alma, Plaku, Gendaris Tavera  
New York City College of Technology, CUNY, Brooklyn, NY

Department of Mathematics

ABSTRACT: MAT1175, the first credit-level math course at City Tech, covers topics in algebra and geometry. Many students at this level display a lack of skill and motivation. The embedded peer-led workshop provides a strong support to help students succeed. Led by trained peer leaders, students work diligently and collaboratively on new math concepts as well as fundamental skills. Faculty instructor and peer leaders integrate different techniques and creative ideas to cultivate a supportive environment and stimulate learning. The peer leaders and students share some of their favorite activities in this poster presentation.

### **Training Student Facilitators to Lead Peer-Led Group Discussions in Computing and the Sciences**

Mandy Raab, Stephen Jodis

Saint Vincent College, Latrobe, PA

The Herbert W. Boyer School of Natural Sciences, Mathematics, and Computing

ABSTRACT: Saint Vincent College offers the opportunity for Peer-Led Team Learning through the Collaborative Learning Program (CLP). Student facilitators, who are faculty selected and upperclassman in their majors, lead freshmen and sophomore discussion groups in the science and computing disciplines. Each year CLP provides a summer training workshop for 8-10 new student facilitators. The workshop is divided into 3 phases. The Initiation Phase helps the students get to know each other through engaging in Ice Breaker Games and Activities. The workshop then proceeds to the Methodology Phase where students learn the pedagogy of the CLP Program. Facilitators also learn how to integrate various study skills and strategies into their CLP sessions including Time Management, Note-Taking Styles, and Learning Styles. The final stage of the workshop is the Hands-On Phase. Students practice mock sessions to feel more prepared and confident in leading a solo session during the upcoming academic year.

### **Using Bloom's Taxonomy in a Peer-Led Workshop in Probability and Statistics**

Frank Aline, Yi Ming Yu, Suhua Zheng

New York City College of Technology, CUNY, Brooklyn, NY

Department of Mathematics

ABSTRACT: Bloom's Taxonomy goes hand in hand with the peer-led workshop's methods by providing us as peer leaders with a structured order of the learning levels taken to extend our learning capabilities. We, the Peer Leaders, assist students into progressing to the next level in mathematics by going beyond recalling, understanding and applying (Levels 1-3 of Bloom's Taxonomy). In our Probability and Statistics II workshop, we apply Bloom's Taxonomy to help the students, especially with the application of comprehension, application, and analysis (Levels 2-4). By proposing questions to the students, we initiate the recollection of the subject at hand. As a result, these questions help the establishment and encouragement of critical thinking for the students, especially in the higher levels. The Analytical level (Level 4) specifically shows that an individual can know whether what he or she is doing allows them to perform well in the subject.

### **What factors influence workshop students' motivation to succeed?**

Fariyal Malik

New York City College of Technology, CUNY, Brooklyn, NY

Peer Leader Training Course

### **What happens when students in mathematics hold on to problem-solving methods that are not working?**

Shelford Mitchell

New York City College of Technology, CUNY, Brooklyn, NY

Peer Leader Training Course

### **What traits do Peer Leaders use to support their students?**

Milica Jevtic

New York City College of Technology, CUNY, Brooklyn, NY

Peer Leader Training Course

### **What types of interaction help students blossom through workshop in Statics I?**

Marcelo Moreira

New York City College of Technology, CUNY, Brooklyn, NY

Peer Leader Training Course

### **Why are students in workshop able to complete modules but do not perform well on exams?**

Jack Huang

New York City College of Technology, CUNY, Brooklyn, NY

Peer Leader Training Course

## **Why do students in workshop not like to ask questions?**

Yineng “Alex” Liang

New York City College of Technology, CUNY, Brooklyn, NY

Peer Leader Training Course

## **Workshop Adaptability**

Jesus Guzman, Timothy Brown, Geoffrey Saupe, Mahesh Narayan, and James E. Becvar

University of Texas at El Paso, El Paso, TX

Department of Chemistry

ABSTRACT: How often would a student say: “Professor, I don’t understand what you’re teaching. Would you mind changing your teaching style?” More than likely you will never see this scenario. Students are generally forced to adapt to the professor. The PLTL program at the University of Texas at El Paso tailors Workshop classroom to students’ needs. The Leader guides students into self-learning using team-based learning activities and problem solving. This program evolves to students needs. The small classroom environment allows for a personal connection among peers. This allows students to feel comfortable to ask questions and even to make suggestions. Students can reflect on the workshop’s structure and activities for the day and make recommendations for the following weeks’ workshop and how it can be improved. This relaxed learning environment allows students to focus on the material at hand, not what a particular professor expects from them.

## **The PLTLIS Conference Organizers**

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## **Save the Date**

PLTLIS Workshop on Institutional Change  
September 21, 2012  
University of Houston-Downtown

The Second Annual Peer-Led Team Learning Conference  
May 30-June 2, 2013  
University of Houston-Downtown