



# College of Natural Sciences & Mathematics Newsletter

APRIL 2017 / nsm.fullerton.edu

## Campus Honors the Achievements of Faculty, Staff and Administrators Years of Services

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President Mildred García and John Beisner, interim associate vice president for Human Resources, Diversity and Inclusion, congratulated Maria C. Linder, center, for her 40 years of service.

Dr. Maria Linder, professor of chemistry and biochemistry, has served students and the University for four decades. Linder is a recognized authority on how copper and iron function in the body and been honored with the University's Outstanding Professor and the L. Donald Shields Excellence in Scholarship and Creativity awards, in addition to the California State University Wang Family Excellence Award.

Hundreds of Cal State Fullerton faculty, staff and administrators joined in a celebration April 12, recognizing the milestones and achievements that they have accomplished. "I am honored to lead such a tight-knit family of educators and proud that the Titans being recognized today are representative of all of our collaborative work and achievements," President Mildred García noted during the University Awards Program. The annual program recognized recipients of three campuswide awards, as well as years of service, degrees and certificates earned.

See more at: <http://news.fullerton.edu/2017sp/Faculty-Staff-Achievements-Honored.aspx>

## NSM in the News

# Campus Honors the Achievements of Faculty, Staff and Administrators For Years of Services



### 25 Years of Service

Heidi Fearn  
Fatima W. Khan  
Scott Hewitt  
Diane Clemens-Knott



### 15 Years of Service

Alfonso Agnew  
Jeffery Knott  
Kathy J. Lewis

### 10 Years of Service

Nicole Bonuso  
Alain Bourget  
Marcella J. Gilchrist  
Lisa L. Guillory  
Wayne Henderson



### 5 Years of Service

Joel K. Abraham  
Shovit R. Bhari  
John Haan  
Tonnie A. Newton  
Kevin Nichols  
Jeannie L. Pedersen  
Angela Sardan  
Lynn R. Washatka

See more at: <http://news.fullerton.edu/2017sp/Faculty-Staff-Achievements-Honored>.

## NSM in the News

### CNSM Faculty and Staff Awards 2017

The CNSM faculty 2017 awardees were acknowledged at the College Awards Reception, Thursday, April 20, 2017. A sincere thanks to the CNSM Faculty Awards Committee for a job well done.

The awardees for 2016/2017 are:  
**Congratulations !**



Outstanding Teaching:  
Cherie Ichinose  
Mathematics



Outstanding Untenured  
Faculty Member:  
Geoffrey Lovelace, Physics



Outstanding Staff:  
Brian Killeen  
Geology



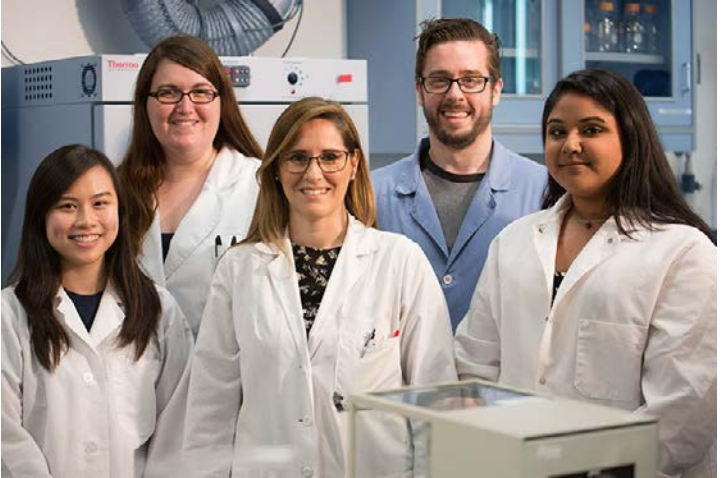
Distinguished Faculty Member:  
Michael Loverude, Physics



Outstanding Lecturer:  
Kelly Ruppert, Geology

## NSM in the News

# ‘Kissing Bug’ Parasite Study Searches for Drug Therapy Funded by NIH, American Heart Association



Biological science faculty mentor Veronica Jimenez, center, with student researchers Kristy Nguyen, from left, Heather Lynch, Christopher Skorka and Noopur Dave, who starts her doctoral studies this fall.

Parasite researcher Veronica Jimenez in her campus lab.

Graduate student Noopur Dave is often asked why she studies the parasite “*Trypanosoma cruzi*” that causes an infection called Chagas disease.

The disease, spread by insects called triatomine bugs or “kissing bugs,” was once endemic only in Latin America, but today, it is spreading to the U.S. and Europe, said Dave’s faculty mentor, Veronica Jimenez, assistant professor of biological science.

“The threat of this infectious disease is here in the United States,” Dave adds. “It’s important to study this parasite to pinpoint a potential drug therapy because currently, there is no FDA-approved drug to cure Chagas.” With over 300,000 cases in the U.S., it is considered a preventable infection, yet it can cause heart diseases and has been associated with increased risk of stroke, Jimenez explained. Due to the lack of research on such tropical diseases, Chagas disease is one of five parasitic diseases targeted by the Centers for Disease Control and Prevention for public health action.

“Its spread is raising concerns regarding its globalization and epidemiological importance,” Jimenez said.

To advance her faculty-student investigation on Chagas disease, Jimenez has received multiple grants, totaling more than \$1 million. Most recently, she has been awarded over \$550,000, including a \$404,813, three-year grant from the National Institutes of Health. The American Heart Association has awarded her \$154,000 over two years, including first-year funding of \$77,000.

See more at: <http://news.fullerton.edu/2017sp/parasite-researchers.aspx>

## Chemistry / Biochemistry in the News

# 253rd National Meeting of the American Chemical Society, April 2 – 6, 2017 - San Francisco, CA

The Department of Chemistry and Biochemistry was well represented at the 253rd National Meeting of the American Chemical Society, April 2 – 6, 2017 in San Francisco, CA with 4 faculty members, 5 graduate students, and 8 undergraduate students participating or presenting. A summary of activities is listed below.

(≠ undergraduate student; ± graduate student; presenting author underlined).

### Oral Presentations:

“Enjoyment and anxiety: Exploring students’ academic emotions in general chemistry” by Dr. Sachel Villafane (Chemistry Education - Research in Chemistry Education)

“Improving undergraduate education through innovative research experiences” by Dr. Nicholas Salzameda (Chemistry Education – The Role of Research Experiences in the ACS Certified Degree)

“Continuous Processing approaches for tunable asymmetric photochemical synthesis” by Dr. Amanda Evans (Organic Chemistry - Flow Chemistry & Continuous Processes)

“Continuous bioprocessing (Enz-Flow) approaches towards levomilnacipran synthesis” by Christian Ayoub (graduate student in Dr. Amanda Evans’ lab)

### Poster Presentations:

“Characterization of short-chain, dicarboxylic acids in the infrared region using Beer’s Law” *Nhu Q. Vu*, ≠ Cameron Hooper≠ and Paula K. Hudson\* (Analytical Division Poster Session)

“Optimization and Characterization of Oxidative Cyclization Reactions of Benzaldehyde Oximes and Oxime Ethers with Built-In Heteroaromatic Rings” *Catherine Taylor*, ≠ Abdullah Alshreimi, ± Mimi Le≠ and H. J. Peter de Lijser\* (Organic Chemistry – Physical Organic Chemistry: Calculations, Mechanisms, Photochemistry & High-Energy Species)

“Intramolecular Oxidative Cyclization Reactions of Oximes and Oxime Ethers using Alkenes as a Potential Nucleophiles or Radical Traps” *Sarah Baker*, ≠ Nicholas R. Armada, ≠ Emmie Ho, ≠ Andrew S. Petit\*, and H. J. Peter de Lijser\* (Organic Chemistry – Physical Organic Chemistry: Calculations, Mechanisms, Photochemistry & High-Energy Species)

“A Comparison of the Efficacy of Ester Substituents in their Specificity and Effectiveness for Reducing Cell Growth in Certain Cancer Cell Lines” *Romie Nguyen*, Aneta Jelowicki, ≠ Montgomery Young, ≠ Jesus Flores, ≠ Christopher Bunye, ≠ Emil Guglielmo, ≠ Kim Soriano, ≠ Elika Lavassani, ≠ Alan Nguyen, ≠ Nilay V. Patel\*, and H. J. Peter de Lijser\* (Medicinal Chemistry – General)

## Chemistry / Biochemistry in the News

### 253rd National Meeting of the American Chemical Society, April 2 – 6, 2017 - San Francisco, CA

“Structure-based Discovery of Novel Small Molecule Wnt/ $\beta$ -catenin Signaling Inhibitors” *Stacy Guzman*,  $\neq$  Alan Nguyen,  $\neq$  [Nilay V. Patel](#)<sup>\*</sup>, and [H. J. Peter de Lijser](#)<sup>\*</sup> (Medicinal Chemistry – General)

“Continuous bioprocessing (enz-flow) approaches towards levomilnacipran synthesis” *Matthew Nguyen* $\pm$ , Christian Ayoub,  $\pm$  and [Amanda Evans](#)<sup>\*</sup> (Organic Chemistry – Flow Chemistry and Continuous Bioprocessing)

“Towards a novel synthesis of levomilnacipran under continuous processing/bioprocessing conditions – reduction of the ester intermediate” *Desiree Sarmiento*,  $\neq$  Christian Ayoub,  $\pm$  and [Amanda Evans](#)<sup>\*</sup> (Organic Chemistry – Flow Chemistry and Continuous Bioprocessing)

“Structure activity relationship study of amino acid sulfonamide hydroxamic acid inhibitors for the botulinum neurotoxin LC” *Sandra Rodriguez-Beltran*,  $\neq$  Thanh Lien,  $\neq$  and [Nicholas Salzameda](#)<sup>\*</sup> (Organic Chemistry – Peptides, Proteins & Amino Acids)

“New helix mimetics targeting the E6 protein in the human papillomavirus” *Ernest Armenta* $\pm$  and [Alexandra Orchard](#)<sup>\*</sup> (Medicinal Chemistry – General)

“Alpha-helix mimetics as potential drugs for Human Papillomavirus (HPV)” *Van Do* $\neq$  and [Alexandra Orchard](#)<sup>\*</sup> (Medicinal Chemistry – General)

“Design and synthesis of alpha-helix mimetics for treatment of high-risk human papillomavirus infection” *Stephanie Rendon* $\neq$  and [Alexandra Orchard](#)<sup>\*</sup> (Medicinal Chemistry – General)

#### Other Contributions:

[Dr. Barbara Gonzalez](#) served as a member of a committee that will compose a new first semester general chemistry examination that will be released by the ACS Examinations Institute in Fall 2018. The GCF18 Committee met all day on April 1st and will meet for two days in August 2017 and for another day at the spring 2018 ACS National Meeting.

[Dr. Sachel Villafane](#) co-organized the “Using Chemistry Education Research to Inform the Design and Use of Assessment Materials” symposium.

[Dr. Amanda Evans](#) chaired the session “Flow Chemistry & Continuous Processes” in the Division of Organic Chemistry.

*Sandra Rodriguez-Beltran* received a travel award from the Division of Organic Chemistry of the ACS to attend the conference.

*Nhu Vu* was invited to go to the ACS Conference because of the Student Poster Presentation Award for Chemistry award she won at SACNAS. At ACS, she attended a number of different events, including, the Diversity & Inclusion Luncheon, Diversity Reception and Sister Organization Student Winner Poster Session, and Division of Analytical Chemistry Poster Session.

## Geology in the News

### Cal State Fullerton students take virtual field trips on their phones



CSUF assistant professor Natalie Bursztyn developed an app that lets students take a virtual field trip to such places as the Grand Canyon and Yosemite. (Photo courtesy of Heather McFarland)

Students on various campuses, and in a range of weather conditions, use the Grand Canyon Expedition app, developed by Cal State Fullerton assistant professor Natalie Bursztyn, which simulates a geology field trip. (Photos courtesy of Natalie Bursztyn)

By Wendy Fawthrop | wfawthrop@scng.com | Orange County Register  
April 24, 2017 at 10:18 pm

Students walking around with their eyes on their phones might not be checking out Instagram or playing Pokémon Go. They could be on a field trip. A virtual one.

And according to their professors, they are learning as much as they would sitting in a classroom and are more engaged by it.

“In a class with 80-plus students, almost none of whom are science majors, this is the most effective way to give them an experiential learning experience that may likely be the thing that sticks with them after the class,” said Joe Carlin, Cal State Fullerton assistant professor of geological sciences, who has used virtual field trips in his classes.

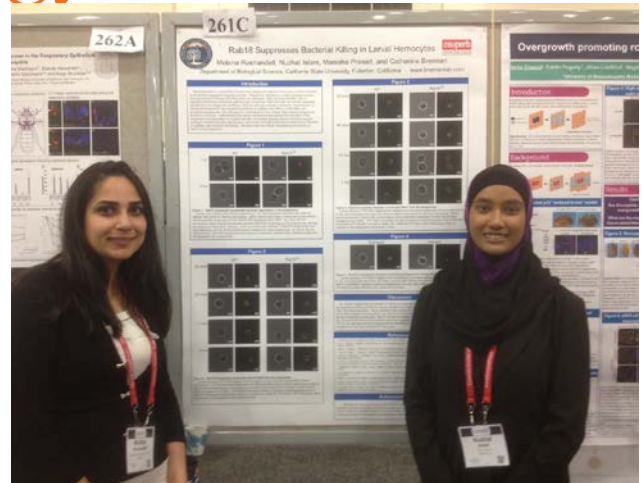
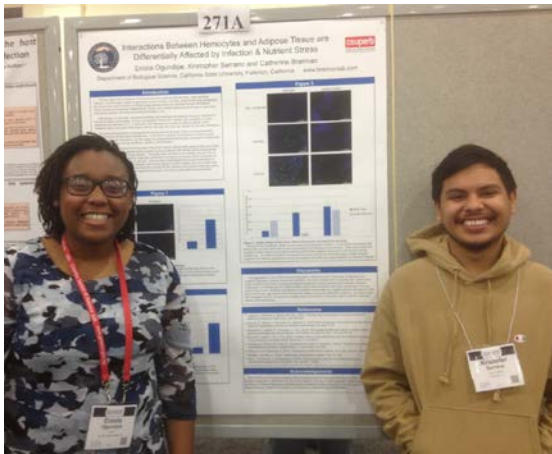
Field trips attract a lot of students to geology, but as class sizes grow nationwide, the cost and transportation required to mount a field trip has put the experience out of reach for many schools.

Natalie Bursztyn, CSUF assistant professor in geological sciences, set out to find an alternative. As part of her doctoral thesis at Utah State University, she developed an app, released in 2013, that attempts to replicate the field trip experience. The app, Grand Canyon Expedition, takes undergraduates on three virtual tours of a scaled-down Grand Canyon to teach them geoscience concepts using GPS technology.

See <http://www.ocregister.com/2017/04/24/cal-state-fullerton-students-take-virtual-field-trips-on-their-phones/>

## Publications and Presentations

### Biology



Four students from Dr. Catherine Brennan's lab presented their research at the 58th annual Drosophila Research Conference, an international meeting that was in San Diego this year.

One poster was presented by undergrads *Eniola Ogundipe* and *Kristofer Serrano*. The other poster was presented by grad student *Mobina Roshandell* and undergrad *Nuzhat Islam*. Both posters reported on findings from investigations into the mechanisms governing phagocytic cell behavior during infection. Both posters reported on findings from investigations into the mechanisms governing phagocytic cell behaviour during infection.

On April 8, 2017, four students from Dr. Joshua Der's lab (3 undergrads, 1 masters) presented their research at the California Botanical Society's 26th Graduate Student Symposium at the Santa Barbara Botanical Garden.

The presentations were:

*#Gunther K, JP Der.* 2017. Preferential parasitism of the desert mistletoe *Phoradendron californicum* in the Mojave Desert. Oral paper at California Botanical Society's 26th Graduate Student Symposium, Santa Barbara Botanical Garden, Santa Barbara, CA.

*#Vega N, JP Der.* 2017. Next-generation population genetics in California rare plants. Oral paper at California Botanical Society's 26th Graduate Student Symposium, Santa Barbara Botanical Garden, Santa Barbara, CA.

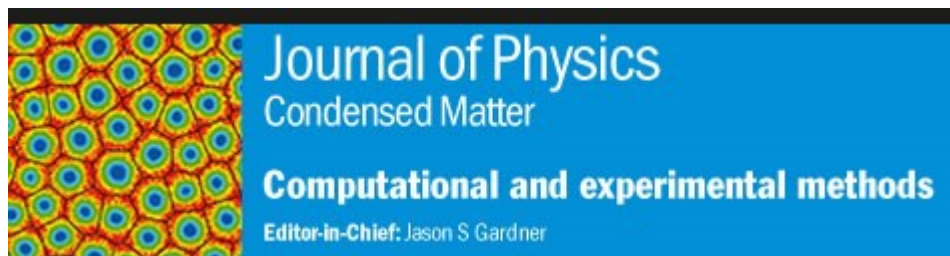
*\*Simenc MC, N Koppers, S Cheng, GK-S Wong, A Brautigam, H Schlupepmann, K Pryer, F-W Li, JP Der.* 2017. A window into land plant evolution through the first complete annotated fern genomes of *Azolla filiculoides* and *Salvinia cucullata*. Oral paper at California Botanical Society's 26th Graduate Student Symposium, Santa Barbara Botanical Garden, Santa Barbara, CA.

*#Angarita S, \*Simenc MC, F-W Li, JP Der.* 2017. Characterizing centromere and telomere sequences in the genomes of the aquatic ferns *Azolla filiculoides* and *Salvinia cucullata*. Poster at California Botanical Society's 26th Graduate Student Symposium, Santa Barbara Botanical Garden, Santa Barbara, CA.



## Publications and Presentations

# Chemistry Biochemistry



Dr. Michael Groves co-authored the following:

Guillaume Goubert, Yi Dong, Michael N. Groves, J.-C. Lemay, Bjørk Hammer & Peter H. McBreen. Monitoring interconversion between stereochemical states in single chirality-transfer complexes on a platinum surface. *Nature Chemistry* (2017) doi:10.1038/nchem.2753

Ask Larsen, Jens Mortensen, Jakob Blomqvist, Ivano Castelli, Rune Christensen, Marcin Dulak, Jesper Friis, Michael Groves, Bjørk Hammer, Cory Hargus, Eric Hermes, P Jennings, Peter Jensen, James Kermode, John Kitchin, Esben Kolsbjerg, Joseph Kubal, Kristen Kaasbjerg, Steen Lysgaard, Jon Maronsson, Tristan Maxson, Thomas Olsen, Lars Pastewka, Andrew Peterson, Carsten Rostgaard, Jakob Schiøtz, Ole Schütt, Mikkel Strange, Kristian Thygesen, Tejs Vegge, Lasse Vilhelmsen, Michael Walter, Zhenhua Zeng, Karsten Wedel Jacobsen. The Atomic Simulation Environment — A Python library for working with atoms. *Journal of Physics: Condensed Matter* (2017) DOI:10.1088/1361-648X/aa680e

Esben L Kolsbjerg, Michael N Groves, Bjørk Hammer. An automated nudged elastic band method. *The Journal of Chemical Physics* (2017) 145, 094107 doi: [10.1063/1.4961868](https://doi.org/10.1063/1.4961868)



The Editor's Choice Collection website:

[http://scitationinfo.org/p/1XPS-38/jcpeditorschoice2016?dm\\_i=1ZJX,4R4MN,NLBHYQ,I8UQ5,1](http://scitationinfo.org/p/1XPS-38/jcpeditorschoice2016?dm_i=1ZJX,4R4MN,NLBHYQ,I8UQ5,1)

# CAREER CENTER



## TITAN CONNECTION

Titan Connection is your one stop shop to look for on campus, full/part time, internship and research positions available to Cal State Fullerton students and view/register for Career Center workshops and events.

Go to ([www.fullerton.edu/career](http://www.fullerton.edu/career)) and click on “Students” and then “Jobs & Internships” to get started.

## NSM DROP IN HOURS

**Tuesday: 11:00am – 12:30 pm**  
Opportunity Center MH488

## UPCOMING EVENTS

**Writing a Statement of Purpose for Graduate School**  
May 1st, 3pm-4:30pm, LH-210G

**Say Goodbye to Interview Nerves**  
May 2nd, 3pm-4:30pm, LH-210G

To check out all of the Career Center’s workshops and events click here:

<http://www.fullerton.edu/career/students/workshops-info-sessions.php>

Visit the Opportunity Center to meet with Michelle Ajemian Levy, NSM College Career Specialist , for a quick 10 minute walk in appointment. Topics can include but are not limited to résumé and cover letter review, starting your Statement of Purpose, exploring graduate and professional school, quick job search and interview help, and referrals for additional resources.

## CAREER CENTER HOURS

## UPCOMING EXPOS

Last Chance Expo

Tuesday, May 9th, 10am-2pm, TSU Pavilions, RSVP and check out employers attending by clicking here:  
[http://www.fullerton.edu/career/students/last\\_chance\\_fair.php](http://www.fullerton.edu/career/students/last_chance_fair.php)

Employers Include: Robinson Pharma, Peace Corps, Medatao Inc., Child Development Centers, Infosys, County of Orange Auditor-Controller and more!

Need help applying to graduate school, summer research experiences or internships? The Career Center is open Monday – Friday from 8am – 5pm. To make an appointment call 657.278.3121 or email Michelle Levy ([milevy@fullerton.edu](mailto:milevy@fullerton.edu)).

- Major/Career Exploration
- Graduate and Professional School Preparation
- Exploration Statement of Purpose
- Interview Preparation/Mock Interviews
- Resume/CV and Cover Letter Review
- Job/Internship Search Strategies
- Interview Preparation/Mock Interviews
- LinkedIn Set Up and Profile Review



## NSM CLUBS AND ORGANIZATIONS

[NSM.fullerton.edu/student-resources/get-involved](http://NSM.fullerton.edu/student-resources/get-involved)



Contact any of the organizations below to find out their meeting and activity information.

**American Medical Student Association (AMSA):** Is committed to improving health care and healthcare delivery to all people; promoting active improvement in medical education; involving its members in the social, moral and ethical obligations of the profession of medicine; assisting in the improvement and understanding of world health problems; contributing to the welfare of all pre-health professional students.

[AMSA@fullerton.edu](mailto:AMSA@fullerton.edu)

**Biology Graduate Club (BGSC):** Offers opportunities for association and interaction between students, faculty, and the administration of CSUF. [bgsc.csuf@gmail.com](mailto:bgsc.csuf@gmail.com)

**Chemistry and Biochemistry Club (CBC):** provides information pertaining to opportunities and careers with the fields of Chemistry and Biochemistry, familiarizes students with department opportunities, and conducts community outreach. [csuf.cbc@gmail.com](mailto:csuf.cbc@gmail.com)

**Geology Club:** Unites geology majors and others by providing related information and volunteer activities on and off campus. [geologyclub@fullerton.edu](mailto:geologyclub@fullerton.edu)

**Latino Medical Student Association Pre-Medical Latino - Undergraduate Society (LMSA PLUS):** For Anyone interested in medical school can join LMSA, you do not need to be of Latino/Latina heritage!

[lmsa.plus@exchange.fullerton.edu](mailto:lmsa.plus@exchange.fullerton.edu)

**Math Club:** Encourages students to start joint research projects with each Faculty and attend conferences nationwide for observation and / or presentation. [csufmathclub@gmail.com](mailto:csufmathclub@gmail.com)

**NSM Inter-club Council (NSM-ICC):** NSM clubs and students collaborates with each other and Associated Students (ASI) to provide events and travel funding to all NSM and CSUF students. The NSM – ICC organizes the NSM Symposium, Meet and Eat with the Deans and Chairs. [nsmicc.csuf@gmail.com](mailto:nsmicc.csuf@gmail.com)

**Physics Club:** organizes lecturers from guest speakers as well as several events a year. All CSUF students are welcome. [Physicsclub.csuf@gmail.com](mailto:Physicsclub.csuf@gmail.com)

**SMART Girls Support Group (Sisters in Mathematics and Academic Relations in Teaching):** holds monthly meetings, study sessions, and provides access to advisors. Learn how to be successful in math courses, relate undergraduate courses to high school teaching connect to school tutoring in schools and networking. Males may join as associate members. [csufsmartgirls@gmail.com](mailto:csufsmartgirls@gmail.com)

**STEM Outreach Club:** Build a community with your peers. Form study-groups. Get involved in the community. Help promote science. And much more! ALL MAJORS WELCOME! [csufmentor1@gmail.com](mailto:csufmentor1@gmail.com).

**SUCCESS (Students United with Community Collaborators to Enhance Success in Science):** consist of students from all STEM disciplines who are interested in undergraduate research who collaborate together to hold workshops and events for CSUF students. [SUCCESSatCSUF@gmail.com](mailto:SUCCESSatCSUF@gmail.com)