



*Society for the
Advancement of
Material and Process
Engineering*

SAMPE

Los Angeles Chapter

News and Information



**November
2020**

Smart Textiles for Biomedical Monitoring and Personalized Diagnosis

By

Dr. Jun Chen

**Assistant Professor in the Department of Bioengineering,
University of California, Los Angeles**



Date:

11-17-20 (Tuesday)

Time:

6:00 PM PST

Reservations:

Not needed – just go to the link.

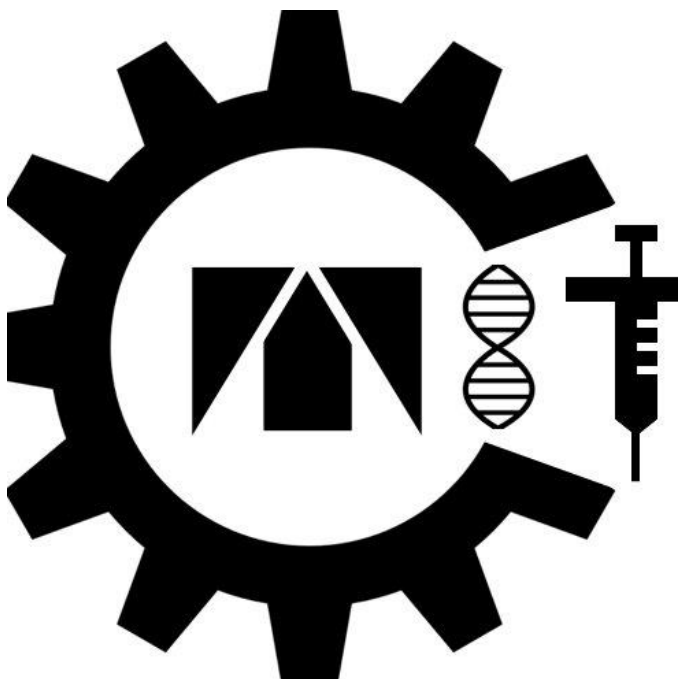
LINK:

Sign up ahead of time to see Dr. Chen at the link below. You will be asked to fill out a short form and then you will receive the actual link to see the presentation one hour before time.

https://docs.google.com/forms/d/e/1FAIpQLSe9cR3DySb0ldp_EutG8iDrtCG4CHbgTkbX_6PIBixtN1Kbqg/viewform?usp=sf_link

Presentation by Dr. Jun Chen

There is nothing more personal than healthcare. Healthcare must move from its current reactive and disease-centric system to a personalized, predictive, preventative and participatory model with a focus on disease prevention and health promotion. As the world marches into the era of Internet of Things (IoT) and 5G wireless, technology renovation enables industry to offer a more individually tailored approach to healthcare with more successful health outcomes, higher quality and lower costs. However, empowering the utility of IoT enabled technology in personalized health care is still significantly challenged by the shortage of cost-effective and wearable biomedical devices to continuously provide real-time, patient-generated health data. Textiles have been concomitant and playing a vital role in the long history of human civilization. In this talk, I will introduce our current research on smart textiles for biomedical monitoring and personalized diagnosis, textile for therapy, and textile power generation as an energy solution for the future wearable medical devices.



Meet Dr. Jun Chen



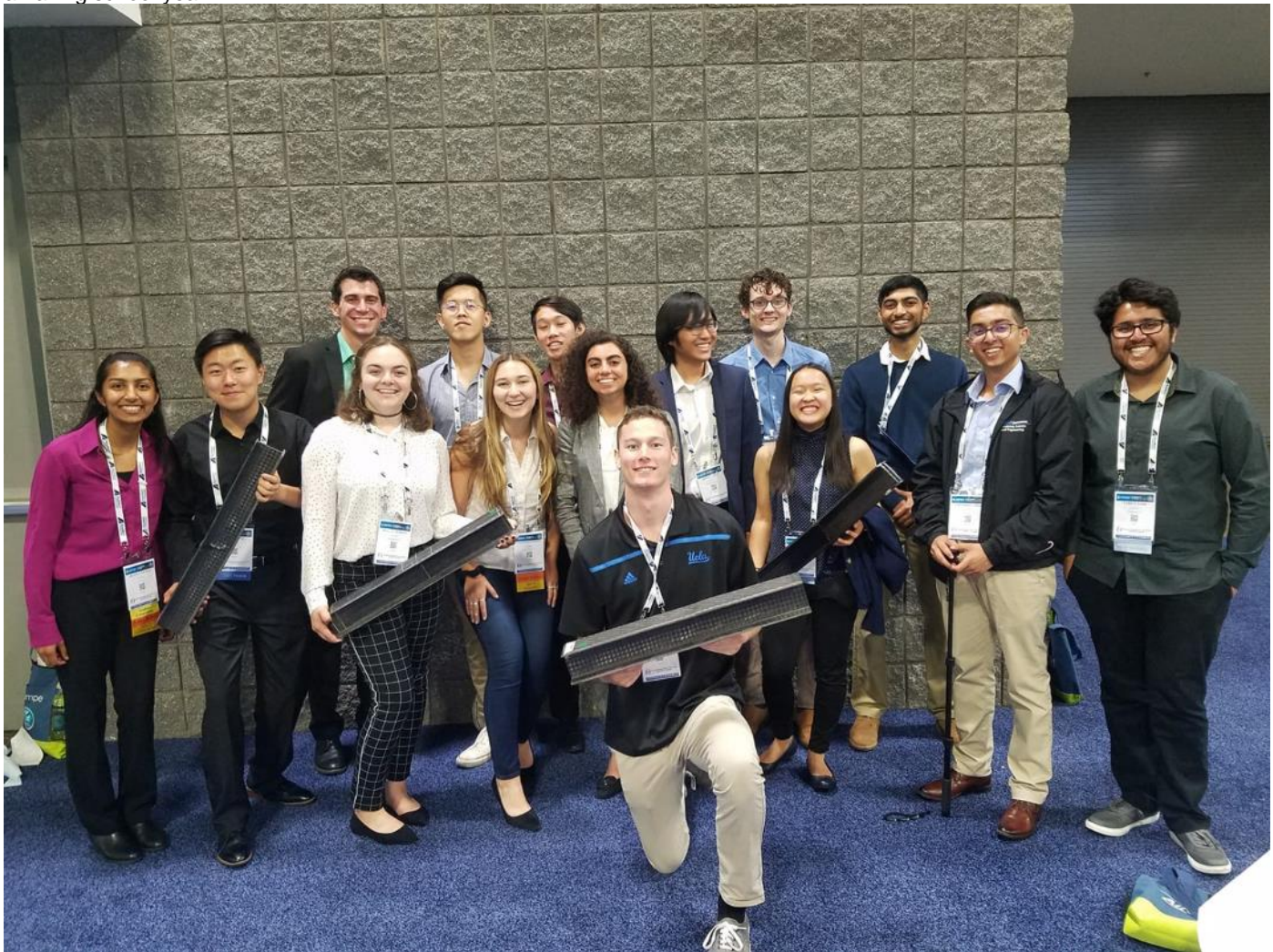
Dr. Jun Chen is currently an assistant professor in the Department of Bioengineering, University of California, Los Angeles. His current research focuses on nanotechnology and bioelectronics

for energy, sensing, environment and therapy applications in the form of smart textiles, wearables, and body area sensor networks. He has already published 2 books, 130 journal articles and 85 of them are as first/corresponding authors in *Chemical Reviews*, *Nature Energy*, *Nature Electronics*, *Nature Sustainability*, *Nature Communications*, *Joule*, *Matter*, and many others. His works were selected as Research Highlights by *Nature* and *Science* 6 times and covered by world mainstream media, including *NPR*, *ABC*, *NBC*, *Reuters*, *CNN*, *The Wall Street Journal*, *Scientific American*, and *Newsweek*, for over 1,000 times in total. He also filed 14 US patents and licensed 1. Beyond research, he is currently an Associate Editor of *Biosensors and Bioelectronics*, and an Editorial Board Member of *Advanced Fiber Materials*, *Nano-Micro Letters*, *Frontiers in Pharmacology*, *Frontiers in Chemistry*, *Textiles*, *Biosensors*, and *Smart Materials in Medicine*. With a current h-index of 65, he was identified to be one of the world's most influential researchers in the field of Materials Science by the Web of Science Group, and on the global list of The Highly Cited Researchers 2.

SAMPE-UCLA Student Chapter

SAMPE at UCLA started as an offshoot of the Materials Research Society at UCLA in 2015, and the SAMPE Student Bridge Project is now the primary technical project for undergraduate Materials Science and Engineering and Chemistry/Materials Science students at UCLA. Last year, more than 70% of the Materials Engineering undergraduate population was recruited into the SAMPE Student Bridge project for a total of ten teams, each led by a team lead who were led by SAMPE at UCLA's two technical directors. This fall, SAMPE's Technical Directors Sydney Chang and Theo Demangos are preparing students to join SAMPE teams in Winter Quarter and teaching composite science to freshmen in the MSE 10 Seminar class alongside Professor Amartya Banerjee.

In 2019, the last Student Bridge competition, all of the UCLA teams reached design load. One team's carbon fiber square beam won 3rd place, the first time that a UCLA beam ever placed in the international competition! Unfortunately due to the cancellation of the SAMPE 2020 Conference, last year's beams never got to be tested, but UCLA SAMPE is finding creative ways to up its composites game in the time of quarantine, including composite layup demonstrations and beam testing for the MSE 10 Freshmen Seminar and online Hyperworks tutorials to teach CAD and FEA. With the help of UCLA Faculty, MRS at UCLA, LA SAMPE, and our sponsors, we've been able to accomplish so much in just five short years! Thank you for your continued support as we look forward to another amazing school year!



Schedule of Upcoming Events

Event	Presented From	Date
BCAERO, Advanced Materials & Engineering	Rosanito, BC Mexico	November 13 & 14, 2020
Smart Textiles for Biomedical Monitoring and Personalized Diagnosis	UCLA Los Angeles, CA	November 17, 2020
Applied Aerospace Composites Manufacturing Facility	Stockton, CA	January 26, 2021
Airbus	Stade, Germany	February 23, 2021



Irene Epstein Scholarship

The Irene Epstein Memorial Scholarship Awards were initiated in 1996 shortly after the death of Irene Epstein, to honor her volunteer efforts on behalf of the Society for the Advancement of Material and Process Engineering (SAMPE), and to recognize her strong desire to assist financially-needy, academically-deserving students at Fairfax High School (Los Angeles) to attend college to study engineering, science, mathematics, or medicine.

The Irene Epstein Memorial Scholarship Awards program was initially funded by contributions from The Aerospace Corporation and SAMPE. It is also supported by the Air Force Space Systems Manufacturing Problem Prevention Program (MP3).

The program is administered by Dr. Howard A. Katzman, Senior Scientist at The Aerospace Corporation, and Education Chairman of the Los Angeles Chapter of SAMPE.

Many individuals and companies have generously contributed to help the fund grow so the amount of the scholarship awards has increased five-fold since it started. In addition, a special Book Awards was introduced three years ago to help selected students in the purchase of their college textbooks. If you would like to make a donation or learn more about the scholarship, please contact Dr. Howard A. Katzman at 310-336-5860 or e-mail him at Howard.A.Katzman@aero.org.

Thank you all for your sponsorship and support of SAMPE – LA!!!

Our list of sponsors is growing!!! Sponsors get monthly exposure in our mailing to over 500 members and associates of the local chapters of SAMPE. Sponsors also get a link to their corporate webpage via the SAMPE Los Angeles Chapter website.

For information on being a sponsor, please contact:

Howard A. Katzman

(310)336-5860

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Thank you all for your sponsorship and support of SAMPE-LA!!!