PTC
POLYMER TECHNOLOGY CENTER
TEXAS A&M ENGINEERING EXPERIMENT STATION
TEXAS A&M UNIVERSITY
First Quarter 2014
NEWSLETTER

Mark Your Calendars for PTC'S upcoming events:

* APPEAL Consortium = April 10 at Texas A&M University, College Station, TX
* PTIC Consortium = April 10 -11 at Texas A&M University, College Station, TX
* SCRATCH Consortium = April 30, 2014 in Las Vegas

Inside the Newsletter...

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Newest Members to Consortia

PTC is proud to present and welcome our newest members to the Consortia. We welcome Heritage Bag Company to the Polymer Technology Industrial Consortium and AVERY DENNISON to the Scratch Behavior of Polymers Consortium.

HERITAGE
Your can liner experts.

AVERY DENNISON

Gov. Perry Announces TETF Investment in Center for the Advancement of Non-Metallics in Energy Sectors

The Center for the Advancement of Non-Metallics in Energy Sectors (CANES) has been awarded a $1 million grant from the Texas Emerging Technology Fund (TETF). The funds will be used to accelerate research programs and commercial developments focused on the application of high performance polymers in energy sector applications. CANES is a collaboration between Texas A&M University, the Consortium for Advancing Performance Polymers in Energy Applications (APPEAL) at the Texas A&M Polymer Technology Center, and Element Materials Technology Hitchin. CANES will ensure that members of the consortium will have access to the most advanced, state-of-the-art technology research in the field of high performance polymers.

Dr. Tim Bremner, Chairman of the CANES Board of Directors, said, "Receiving this award is further indication of Texas' commitment to research excellence and commercial expansion in energy sector markets. We could not ask for better synergies or more direct contact amongst the key players in this field of research. We are additionally grateful for the support of the Research Valley Partnership, the Texas A&M Energy Institute and Hoerbiger Corporation of America through this application process, which was truly a collective effort."

The TETF is an initiative created by the Texas Legislature in 2005 to support the development and commercialization of promising new technologies across the state.

READ MORE: http://governor.state.tx.us/news/press-release/19054/

Kaneka Corporation celebrate the opening of their R&D Lab in College Station, TX

On October 24th, 2013, Kaneka Corporation, represented by many of their VIPs from Japan and domestic offices, celebrated the opening of their R&D lab at Texas A&M University.

Kaneka Americas Holding, Inc. has generously funded a scholarship supporting junior faculty, visiting scholars, and students involved in materials science-related research and academics at Texas A&M University. The $60,000 fund is set to be given through 2014-2016, with the possibility for extension.

Dr. Lei Fang, Assistant Professor,
Chemistry Dept.
Polymers, Organic Energy Materials

The multidisciplinary research programs in the Fang Group focus on the bottom-up synthesis and processing of novel organic polymer materials — namely, ladder and coplanar polymers, as well as microporous polymer networks — for the applications of electronics and energy conversion/storage. Our thrust will be to gain profound understanding of the structure-property relationship of these materials at both the molecular and the macroscopic levels by employing the toolboxes of synthetic chemistry and device engineering. With this knowledge, we aim to establish a series of synthetically feasible, high performing, processable organic carbon-based material systems for field effect transistors, light emitting diodes, solar cells, supercapacitors, and batteries, and to be at the forefront in the enhancement of their efficiency.

Milestones for these projects are identified as:

1.Feasible bottom-up synthesis and unambiguous characterization of 1D covalently bridged ladder polymers, noncovalently coplanarized polymers, 2D polymers, and 3D cross-linked microporous polymer networks/covalent organic frameworks.

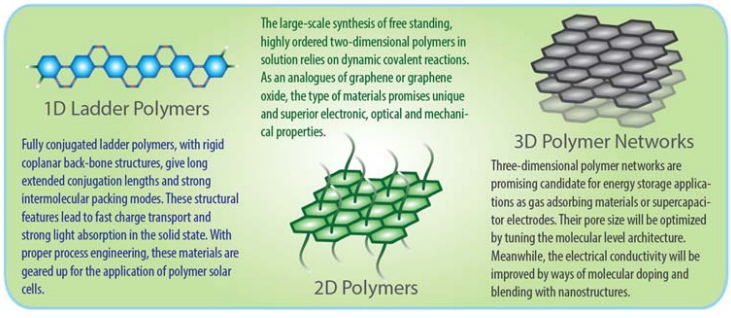
2.Successful processing of these materials into application-related forms. Fabrication and test of the functional devices.

In order to achieve these benchmarks, the following strategies will be employed:

1.Utilizing synthetic versatility of the core structures of the polymers to meet the specific requirements and to avoid potential synthetic challenges.

2.Engineering the side-chains to address the challenges regarding solubility, characterization and process engineering.

3.Incorporating techniques such as (a) in situ processing, (b) post-casting reaction, and (c) grafting from the substrate, to process these materials and to fabricate the devices.



Spencer Hawkins wins prestigious NASA Harriett G. Jenkins Graduate Fellowship

Spencer A. Hawkins, a Ph.D. materials science and engineering student researching epoxy nanocomposites in the Polymer Technology Center under the direction of Dr. H.-J. Sue, has been awarded a fellowship through the NASA Harriett G. Jenkins Graduate Fellowship Program, a program funded by NASA's Office of Education Minority University Research and Education Project (MUREP) for students studying STEM (science, technology, engineering, and mathematics) disciplines. Along with other Jenkins fellows, Spencer will participate in a 10-week research experience at the NASA Glenn Research Center in Cleveland, Ohio. Ph.D. students are awarded $45,000 (research grant, stipend, and tuition offset) for one academic year, with options for renewal in two successful academic years.

This fellowship pays homage to Harriett G. Jenkins, who, during a 20-year tenure at NASA, implemented programs for minorities and women, including recruitment of the agency's first astronauts of color. Ms. Jenkins subsequently served as director of the Office of Senate Fair Employment Practices in the U.S. Senate, ensuring that the tenets of the U.S. Civil Rights Act were implemented.

2015 PTC Calendar in the making...

Example of finished product

PTC would like to promote PTC faculty research accomplishments by featuring the micrographs and plots they generate in the 2015 PTC calendar.

If you would like to showcase your research and contribute to the PTC calendar for 2015, please e-mail your best resolution micrographs and plots to: icantu@tamu.edu The deadline for submission for the 2015 PTC Calendar is September 15, 2014.

TEXAS A&M UNIVERSITY

CHICK-FIL-A BOWL

On December 31, 2013 at the Georgia Dome, Atlanta, Georgia, the Texas A&M Aggies played in the Chick-fil-A Bowl against the Duke Blue Devils with a VICTORY of 52-48.

WHOOP! WHOOP!

Johnny Manziel declares for NFL draft, but says he'll 'always be an Aggie'

Johnny Manziel is taking his talents to the next level.

Full story: http://www.theeagle.com/news/local/article_de907305-3679-594f-9333-a4b4f559fd67.html

Farewell, President Loftin

On January 8, 2014, President Loftin sent out his last weekly email: "And now, in my final weekly email as your president, I want you to know that this has been the highest honor and privilege in serving as your president, and the source of my fondest memories: watching our students mature into leaders poised to do great things in their professions and communities; interacting with former students, Aggie Moms and others who care deeply about our university; and working with faculty and staff who help make Texas A&M one of the nation's very best universities."

Mark Hussey Named Interim President Of Texas A&M University, Effective Jan. 14

The Texas A&M University System (TAMUS) Board of Regents has named Dr. Mark A. Hussey as interim president of Texas A&M University, effective Jan. 14.

Full story: http://tamutimes.tamu.edu/2013/12/14/mark-hussey-named-interim-president-of-texas-am-university-effective-jan-14/#.Uq9w5tJDtZo?utm_source=tamutimes&utm_medium=email&utm_campaign=2013-12-17

Texas A&M Kicks Off Commencement Ceremonies With Convocation Thursday

More than 3,700 Texas A&M University students were scheduled to receive diplomas with three commencement exercises set for Friday (Dec. 13) at Reed Arena. The university's graduation ceremonies formally kicked off Thursday, December 12th with a commencement convocation address by President R. Bowen Loftin.

Full story: **http://tamutimes.tamu.edu/2013/12/09/texas-am-kicks-off-commencement-ceremonies-with-convocation-thursday/#.UqccevSX-ix?utm_source=tamutimes&utm_medium=email&utm_campaign=2013-12-10**

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EAP research gets Lutkenhaus on the cover of ASC Macro Letters

A recent issue of ASC Macro Letters features research cover images from Assistant Professor Jodie Lutkenhaus and her post-doctoral researcher, Jared Mike of the Artie McFerrin Department of Chemical Engineering at Texas A&M University.

Full story: http://engineering.tamu.edu/news/2013/09/23/eap-research-gets-lutkenhaus-on-the-cover-of-asc-macro-letters

2013 Outstanding Young Faculty Awards

These outstanding young faculty have been recognized for demonstrating exceptional poise in performing creative research:

Dr. Mustafa Akbulut, Chemical Engineering DARPA Young Faculty Award

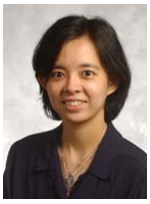
Dr. Jodie Lutkenhaus, Chemical Engineering AFOSR YIP Award

Dr. Perla Beatriz Balbuena named AAAS fellow

Dr. Balbuena is the GPSA Professor in the Artie McFerrin Department of Chemical Engineering. Her research focuses on understanding and predicting thermodynamic, transport and kinetic properties of materials using state-of-the-art first principles computational chemistry and physics methods. Her work centers on design of nanomaterials used as catalysts and electrolytes in power sources devices. She has contributed to an improved design of power sources, such as lithium-ion batteries and fuel cells, and to the development of new materials for catalytic processes.

Full story: http://engineering.tamu.edu/news/2013/11/26/amato-balbuena-named-aaas-fellows

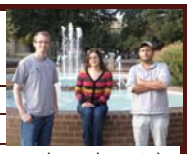
Dr. Anastasia Muliana co-edits book, "Smart Composites: Mechanics and Design"



The book addresses the current progress in the mechanics and design of smart composites and multifunctional structures. Divided into three parts, it covers characterization of properties, analyses, and design of various advanced composite material systems with an emphasis on the coupled mechanical and nonmechanical behaviors.

Full story: http://engineering.tamu.edu/news/2013/11/25/news20131125dr-anastasia-muliana-co-edits-book-smart-composites-mechanics-and-design

Polymer Technology Industrial Consortium (PTIC) Student Poster Session Recipients



October 24th-25th, 2013

	Student Name	Poster Title
1	**Samantha Kristufek**	"High modulus and fluorescent poly(quercetin carbonate) designed for advanced engineering applications"
2	**Kyle J. Cluff**	"Nickel Tripod Complexes: Synthesis, Characterization, and Catalysis"
3	**Ehsan Moghbelli**	"Annealing effect on Scratch Performance of Styrenic Copolymers"

Congratulations to these recipients, who received a 1st place prize of $500, 2nd place prize of $300, and 3rd place prize of $200. Remember, there will be another opportunity to showcase your research in the Spring.

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TAMU/SPE Student Chapter Upcoming Activities
BY Adriana Pavia

Howdy Ags!

I would like to thank everyone who has participated in our many events to make this semester a big success. We were lucky enough to have a variety of speakers during our monthly seminars ranging from environmental engineering and polymer manufacturing to ethical sciences and quality engineering. We also had the pleasure of touring the Chevron Phillips polymer division plant in Pasadena, Texas where we were able to experience and observe the production of polyethylene from raw materials to the pellets used to make everyday items.

Our organization also participated in both the Chemistry Open House and Expanding your Horizons in conjunction with the chemistry department and Women in Science and engineering, respectively.

Next semester we are looking forward to continuing our SPE Student Exchange Program with the University of Houston SPE chapter in late January and attending the Polyolefins Conference in Houston in February. Among our monthly seminar speakers, we will be hosting our own Dr. Melissa Grunlan from the Department of Biomedical Engineering in which she will be discussing some of the research that goes on in her laboratory.

We plan to start off 2014 with the following events:

1/20	SPE Student Exchange Program
2/5	Monthly seminar with Bill Howell
2/36-26	Polyolefins Conference
3/5	Monthly seminar with Dr. Melissa Grunlan
4/2	Monthly seminar with STP representative
4/4	Relay for Life volunteering
4/28-30	SPE ANTEC Conference
5/7	2014-2015 elections and end of the year banquet
5/8	STP Nuclear Power Plant Tour

Monthly seminars, as always, are open to everyone, but if you are interested in taking part in our plant tours or other events, you will need to become a national SPE Member. If you are interested, please email me at adriana.pavia@chem.tamu.edu for an application. The fee is $31 for student members, but we will subsidize part of the cost for you to bring the price down to $25.

If you have any questions or suggestions, do not hesitate to contact us at plastics@plastics.tamu.edu. Also, be sure to visit our website, http://plastics.tamu.edu, for chapter news, seminar information, events, membership information, research highlights, and chapter photos.

Thanks and gig 'em,

Adriana Pavia-Sanders
SPE President, TAMU Student Chapter

Polymer Specialty Certificate Updates	
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For more information: http://ptc.tamu.edu/certificate.html	

TAMU/SPE Student Chapter

To find out more about the TAMU/SPE Student Chapter, please contact Adriana Pavia at:
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Visit the SPE Student Chapter website at:
http://plastics.tamu.edu

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