



# FLASH POINTS

FIRE PROTECTION ENGINEERING

## Message from the Chair



The first quarter of 2014 contained several newsworthy items in the department.

**Faculty Activities.** In the annual reports of activity filed by each faculty member, it's clear that all are incredibly busy and very productive. For the seven of us in the department, last year faculty published or had accepted 39 articles in refereed journals, 3 chapters in edited books, 1 book, 25 archived conference papers and 57 other presentations and publications. Total research expenditures were approximately \$1.6M.

**Staffing.** Ms. **PAT BAKER** retired from the department in January. For faculty, staff and students, she was the 'go to' person when needing assistance with forms and university policies. She also was always willing to listen when someone simply needed to vent. She's already been missed, and it's hard to imagine that we'll ever replace her.

I am pleased to announce that we've added two individuals from the Dean's office who are now formally assigned to the department on a part-time basis. They include Ms. **ALLISON CORBETT** and Ms. **FAYE LEVINE**. Allison assists us with our fundraising activities and has been a significant help over the last year with the Legacy Campaign. Faye is our communications coordinator who will help with the website, newsletter, recruiting materials and any other forms of outreach from the department. She's already been helpful in revising our website and this newsletter is the first with her assistance.

**Fire Protection Engineering Open Houses.** The recent addition of Assistant Director **NICOLE HOLLYWOOD** to the department has enabled us to appreciably increase and improve our recruiting activities. We have created and now offered three open houses to showcase the department, the major and what students can study in the major. We're happy to report that these sessions have attracted a number of applicants and interested students, exponentially growing in size from the first offering. The largest session was presented to 35 participants (12 interested students and their family and friends). We will continue to offer these sessions each term.

**Legacy Campaign.** We've had some exciting new developments in the The Legacy Campaign for a professor of the practice, please check the campaign update section of this newsletter for details.

**Career Fair.** The department's career fair was held in February. It was great to see so many alumni coming back, representing their companies. If you have not attended the event in the past and would like to do so (next fall), please let me know.

**Coming Events.** Please consider coming to campus on April 26 for Maryland Day. The department will have several demonstrations (including the famous fire tornado and one involving sprinklers). I hope to see all of you at the alumni dinner this June in Las Vegas.

**JIM MILKE**, Ph.D., P.E., FSFPE  
B.S. '76, FPE

## Wood Stove Team Featured in *Popular Mechanics*; Members Spin off Company

Team Mulciber, a group of students from Fire Protection Engineering (FPE), Mechanical Engineering (ME), and Environmental Science & Technology, was highlighted in the March 2014 issue of *Popular Mechanics* for its production of a wood-burning stove with emissions described by the magazine as "so low, they were almost unmeasurable."

The team was the only university-based group entered in the 2013 Wood Stove Decathlon. Sponsored by the Alliance for Green Heat, the international competition challenged entrants to design and build low cost, low emission, and highly efficient wood stoves in the hope of improving a much neglected, but still widely used, technology.

"Presently [wood stoves are] mostly used by people in low-to-mid income rural communities," explains team captain and ME Ph.D. student **TAYLOR MYERS** (B.S. '12, fire protection engineering). "These are people who don't necessarily have access to natural gas."

Considered an underdog, Team Mulciber ultimately took home the Wood Stove Decathlon's Lowest Emissions Award for putting out a mere 0.2 grams of particulates per hour, the lowest emissions ever recorded for a wood-burning stove, according to Myers.

The Mulciber Stove is 93% efficient and costs approximately \$1200 a year to heat a home in the northeastern United States. Its innovations include a forced air system, pressurized combustion chamber, and self-cleaning filter. The stove's chimney-within-a-chimney simultaneously warms incoming air and cools exhaust, improving efficiency while reducing emissions and heat waste. Some of the stove's heat is converted into the electrical energy that powers its fans.

This is the third time Team Mulciber has been featured in *Popular Mechanics*. The team has also been profiled by the *The New York Times* and *National Geographic*.

Myers and his teammate, FPE alumnus **RYAN FISHER** (B.S. '12, M.S. '13), have incorporated a new company called MF Fire with the goal of producing and marketing stoves based on the Team Mulciber concept. MF Fire was recently a finalist in the ACC Clean Energy Challenge and is currently a semifinalist in the competition for the MIT Clean Energy Prize. The young company has also received a TEDCO Maryland Innovation Initiative (MII) grant to develop its next prototype.

"The ACC Clean Energy Challenge really helped us to get an understanding of our place in the renewable energy world and get in touch with a number of experts who have given a lot of help," says Myers. "We received a lot of positive feedback about the value that we could offer to the public."

In addition to Fisher and Myers, Team Mulciber included **ANITA ALEXANDER** (B.S. '13, environmental science and technology), Ph.D. student **MARK MCKINNON** (ME), and FPE students **MATTHEW OSTROFF** (B.S. '13), senior **JOE PRAYDIS**, **MOLLIE SEMMES** (B.S. '12, M.S. '13), and senior **JOSH SWANN**. Assistant Professor **STANISLAV STOLIAROV** (FPE) advised the team.



## FPE at IAFSS

FPE faculty and students were notable participants in the 11th International Symposium on Fire Safety Science, held at the University of Canterbury, New Zealand in February 2014. The symposium, hosted by the International Association of Fire Safety Science (IAFSS), is one of the premier events in the field.

- Dr. **ARNAUD TROUVÉ**, who served as the event's Program Co-Chair, was elected to the IAFSS Management Committee and to the position of Vice-Chair of IAFSS, representing America. Patrick van Hees from Lund University was elected Chair.
- Dr. **MICHAEL GOLLNER** was also elected to the IAFSS Management Committee.
- Dr. **ANDRE MARSHALL**, Dr. **PETER SUNDERLAND**, and students **JAMES WHITE**, **ERIC LINK** and **TAYLOR MYERS** won the Best Fire Science Image Award for "Oxidizer Dilution Quenching of a Turbulent, Methane Line Flame." To learn more, visit: [ter.ps/iafssphoto](http://ter.ps/iafssphoto)
- Marshall, Trouvé and Dr. **STANISLAV STOLIAROV** presented current research.
- Dr. **MELANIE ROCHOUX**, who recently received her Ph.D. at Ecole Centrale Paris, presented a paper she co-authored with Trouvé, her former co-advisor. She also won a Travel Award and received an honorable mention in the Best Thesis Award competition.



The IAFSS was "founded with the primary objective of encouraging research into the science of preventing and mitigating the adverse effects of fires and of providing a forum for presenting the results of such research." Learn more at [www.iafss.org](http://www.iafss.org), or visit [www.iafss.org/symposium/11th-symposium/](http://www.iafss.org/symposium/11th-symposium/) for information about the symposium.

## Campaign Update

ALLISON CORBETT, DEVELOPMENT OFFICER



I'm delighted to report that in December, **UNDERWRITERS LABORATORIES (UL)** committed to a \$250,000 investment in the Legacy Campaign for a professor of the practice. This gift, the largest single donation in the department's history, brings us about halfway to our \$2.5 million dollar goal. With the substantial progress that has been made toward our goal, Dean **DARRYLL PINES** agreed to allow us to initiate a search for the professor of practice position, formally labeled "Clinical Professor." The Dean's office will provide some funding for the initial years of the

position until the campaign reaches its goal. Our search committee, chaired by Dr. **PETER SUNDERLAND**, has started to review applicant credentials and schedule interviews of qualified candidates.

We are in a good place, and we need your support to reach our goal. If you have not already, please consider your own investment in this campaign for an endowed professor of the practice. Endowed funds require a sustained donor commitment, many of our donors (see [fpe.umd.edu/legacy-donor-list](http://fpe.umd.edu/legacy-donor-list)) have chosen to make multi-year pledges and planned gifts in order to help reach this goal. If you would like to talk about your own pledge to this campaign, you can reach me at [acc@umd.edu](mailto:acc@umd.edu) or 301-405-5841.

For more information, visit: [fpe.umd.edu/legacy-campaign](http://fpe.umd.edu/legacy-campaign)

## The Long-Term Cost of Wildfire Emissions

The ability to accurately track and characterize wildfire emissions will enable us to understand exactly how they contribute to air pollution and affect the absorption or scattering of solar radiation, locally and globally, long after the smoke has cleared. It's no easy task, because wildfires are complex phenomena. They are affected by climate change but also influence it. They exhibit complex behaviors simultaneously at multiple scales due to interactions among vegetation properties, combustion and heat transfer, the terrain, the weather, and the atmosphere.

FPE professors **MICHAEL GOLLNER** and **ARNAUD TROUVÉ** are part of a new team ready to take on the challenge, which requires expertise in fire physics and modeling, satellite observation systems, data assimilation, and geographical and atmospheric science. The pair and their collaborators are among the first to receive the support of a University of Maryland Council on the Environment's (ConE) Seed Grant for Interdisciplinary Environmental Research.

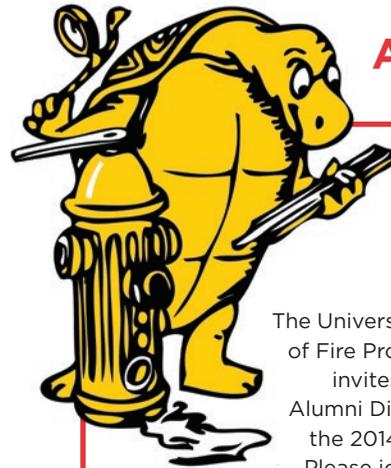


Arnaud Trouvé (L) and Michael Gollner (R)

The team will combine computer-based fire models with air- and spaceborne remote sensing systems using data assimilation, an advanced method of estimation, monitoring and prediction which until recently has not been applied to wildfire research. The project will incorporate the use of FIREFLY, a data assimilation algorithm created by Trouvé with collaborators in France used to reduce uncertainties in estimating fire dynamics. The goal is to develop and demonstrate the feasibility of a new system capable of quantifying the atmospheric pollutants and aerosols produced by wildland fires, at scales ranging from vegetation/flame to regional and global.

For the full story, see: [ter.ps/fpecone](http://ter.ps/fpecone)

## SAVE THE DATE! ALUMNI DINNER JUNE 10, 2014



6:00 p.m.-9:00 p.m.

**Border Grill Las Vegas**

lower level bar & dining room

\$40 per person

The University of Maryland's Department of Fire Protection Engineering cordially invites all of its alumni to its annual Alumni Dinner, held in conjunction with the 2014 NFPA Conference and Expo. Please join us for a cocktail hour from 6:00-7:00 p.m. (cash bar), followed by a 3 course plated dinner from 7:00-9:00 p.m.

To learn more about our venue, visit:

[www.bordergrill.com/bg\\_lv/bg\\_lvwel.htm](http://www.bordergrill.com/bg_lv/bg_lvwel.htm)

### To RSVP:

Please e-mail Tisha Overman at:

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and

Make checks payable to Tisha Overman and mail to:  
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