



**UNIVERSITY OF KENTUCKY
ASSOCIATION OF EMERITI FACULTY, INC.**
www.uky.edu/UKAEF

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UKAEF NEWSLETTER

April 2024

**CHALLENGES TO OUR ELECTRICAL GRID: Re-
newables Delivering Power, Charging More Cars, Storms
Shutting Down Cities, Black Hats Hacking Systems, and
Attacks on Substations**
By Tom Janoski

Electric vehicles challenge the electrical grid, but there are many ways to meet that challenge. And there are many other issues related to our electric grid, ranging from sabotage and hacking to environmental concerns. Five points are essential to our electrical future.

1-Grid Capacity: Will the electrical grid be able to handle increased pressures? And will the increased demand result in higher electricity prices? About ten years ago, the electric grid had brown-outs in the Northeast and California. Texas has its own grid that often goes down during major storms. Is the electric grid still in as bad a shape as the rest of our infrastructure? The Department of Energy invested \$330 million in 2016 and another \$38 million in 2023 to fortify the electrical grid. Is this enough?

2-Grid Safety and Defense: The electric grid has been hit by terrorists or vandals who fired bullets at several substations around the country. The attack on two electrical substations in North Carolina caused power outages for 40,000 customers. The North Carolina legislature is considering 24-hour protection of all sub-stations. The FBI has a \$25,000 reward for information leading to capturing the culprits, but they are still at large. Russian and Chinese hackers may also attack the grid.

3-Sources of Electricity: What issues need to be addressed to help us get to a more sustainable energy grid? In 2023, electricity sources were 43% natural gas, 15.8% coal, and 23% from renewable sources. This means over half came from fossil fuels. What will the future bring with growing solar, nuclear, wind, hydrogen, geothermal, and hydroelectric sources?

4-New Technologies? What technological breakthroughs can revolutionize energy delivery systems? To deal with threats, the Pentagon hired Raytheon to create a wireless airborne relay system to build “webs” that transmit energy from ground sources for long-range delivery (i.e., make the grid like the internet). Antora Energy sells long-lasting thermal batteries the size of shipping containers powered by solar and wind for industrial use.

5-Additional Issues:

- * Can solar and wind power expand significantly to reduce pressure on the grid?
- * Will there be more and faster charging stations for cars in public places?
- * What is the possibility of hydrogen cars and hydrogen energy in general?
- * How dependent are we on solar panels and rare earths for batteries from China?

APRIL LUNCHEON MEETING

Date: Tuesday, April 9, 2024

Place: E.S. Good Barn
1451 University Dr., Lexington, KY 40526

Social Time: 11:30 a.m. - 12:00 p.m.

Program 12:00 p.m.

Speaker: Aaron Cramer, PhD, Kenneth Graham, PhD, Kevin Butt, BS

Topic: “CHALLENGES TO OUR ELECTRICAL GRID: Renewables Delivering Power, Charging More Cars, Storms Shutting Down Cities, Black Hats Hacking Systems, and Attacks on Substations”

Business Meeting: 1:00 p.m.

**APRIL 9 BOX LUNCHEON MENU FROM
McALLISTER’S DELI**

Your choices include:

- **Reuben Box Lunch:** Corned beef, sauerkraut, Swiss cheese, thousand island dressing, marbled rye bread, with a side of fresh fruit and cookie
- **French Dip Box Lunch:** Roast beef, Swiss cheese, *au jus*, with a side of Caesar salad and cookie
- **BLT Box Lunch:** Bacon, lettuce, tomato, and avocado, with a side of potato salad and cookie
- **Savannah Chopped Salad:** Grilled chicken, cranberries, gorgonzola cheese, honey almonds, tomato, and cucumber sherry shallot dressing on mixed greens with a side of fresh fruit
- **Garden Salad:** Cheddar jack cheese, tomato, cucumber, croutons on lettuce, with a side of fresh fruit and a cookie. Please pick your dressing: Honey mustard, balsamic vinaigrette, or ranch dressing. The default will be a balsamic vinaigrette.

Each box will include drinks (lemonade and sweet tea or unsweetened tea with ice)

*Please submit your choice by the deadline of
Friday, March 29.*

Our distinguished speakers will comment on many of these issues.



Professor **Aaron Cramer** is the Department Chair of Electrical Engineering and the TVA Professor of Electrical and Computer Engineering at UK. He is also an Honors College faculty member. He specializes in simulations and control and optimizing power and energy systems. Cramer is a university leader, having served on the UK Board of Trustees (2020-2022) and as chair of the UK Senate Council (2020-2022). He received his BS in electrical engineering from UK (2003) and a doctorate in Electrical engineering from Purdue University (2007).



Associate Professor **Kenneth Graham** is from the UK Chemistry Department. He specializes in solar energy, interface science, organic electronics, thermoelectrics, and photoemission spectroscopy. Much of his work involves solar energy in the performance of devices and materials. He focuses on energy technologies using modeling systems. His BS in Chemistry is from the University of North Carolina at Chapel Hill (2006), and his Ph.D. in Chemistry is from the University of Florida (2011). An avid cyclist, he rode in two long trips: East-to-West from Maine to California and North-to-South from Alaska to California.



Kevin Butt is the Regional Environmental Sustainability Director and is responsible for “Environmental Sustainability Programs and Regulatory/Legislative Development” for Toyota -North America. He was the general manager for environmental and safety and a manager of Body Production Engineering (welding, stamping, and painting) for Toyota. He is on the boards of the National Wildlife Habitat Council, Kentucky Fish & Wildlife Foundation, World Wildlife Fund National Council, North American Great Plains Advisory Board, and the Yellowstone Park Foundation Board. He received his B.S. degree in Environmental Science from Georgetown College.

IN MEMORIAM

- ◆ Dan Breazeale – Philosophy
- ◆ E. Randolph “Randy” Daniel-History
- ◆ William “Bill” Fortune-Law
- ◆ Anne Gabbard-Spouse of Fletcher Gabbard-Physics
- ◆ J.W. Patterson-Communications/Debate Coach
- ◆ E. Genevieve Patterson-Spouse of John Patterson-Chemistry
- ◆ Judith Rouch-Spouse of Keith Rouch-Mechanical Engineering
- ◆ Patricia Sineath-Spouse of late Tim Sineath-Communications
- ◆ Marian Soule -Spouse of Donald M. Soule-Economics
- ◆ Eddie Van Meter-College of Education Department of Educational Leadership

“Good teaching is forever and the teacher is immortal.”
–Jesse Stuart

NEWS BRIEFS:

- **DONATIONS**-A brief reminder that donations to UKAEF Organization and/or Scholarship funds are tax free if made from your 401K (not your 403b)
- **FREE COMBINATION BAND AND ORCHESTRA PERFORMANCE**
New Horizon Band featuring our very own Tom Janoski on Tenor Saxophone and composed of students, faculty, and retirees will present a concert with the UK Orchestra on Tuesday, April 16th at the Singletary Center Rehearsal Hall. Doors open at 7:00 PM and Concert starts at 7:30 pm
- **UK CANCER AND ADVANCED AMBULATORY BUILDING**
By Kristi Willett from UK NOW
The University of Kentucky will soon begin a major construction project to build an eight-story, 550,000-square-foot cancer and advanced ambulatory facility that will also call for the reconfiguration of Elizabeth Street, a street that parallels South Limestone in that area. The plan includes a complete replacement of Elizabeth Street to ultimately provide a major thoroughfare to better serve and improve traffic flow.
- **A MAGICAL NIGHT ON BROADWAY featuring UK Choristers**
Singletary Recital Hall-March 23, 2024 at 3 pm and 7:30 pm
\$34 Adults / \$17 Students (additional online processing fees may apply)

FROM YOUR PRESIDENT

I hope you can attend the TUESDAY, April 9th luncheon. Tom Janoski has organized another interesting discussion. I thank Tom for his hard work in organizing the luncheon food and successful presentations this past year. I’m sure he will enjoy moving to the President position. Thanks also go to the rest of the Executive Officers and Committee Chairs. Their commitment to keeping this Association in working order is appreciated. Behind the scene we have one paid member, Casie Clements, whose organizational skills have been recognized by the board and members alike. It takes a lot of dedicated individuals and UKAEF is fortunate to be in good hands.

The nominations for 2024-25 Executive Board positions are listed in the newsletter. The membership will vote to elect these individuals at the April luncheon.

Sincerely,
Sue Fosson, AEF President 2023-24
(859) 753-0379
sandafosson@windstream.net

**UK ASSOCIATION OF EMERITI FACULTY
BOX LUNCHEON RESERVATION for TUESDAY, APRIL 9, 2024**

In the future would you prefer to receive your newsletter via email only? Yes No

I plan to attend the luncheon. Enclosed is \$ _____ for # _____ reservation(s) at \$15.00 each.

NAME _____ GUEST'S NAME _____

Box Lunch Choice(s): _____ Reuben _____ French Dip _____ BLT

_____ Savannah Chopped Salad _____ Garden Salad

FOR SALADS -- CHOICE OF DRESSING: _____ Honey Mustard _____ Balsamic Vinaigrette _____ Ranch

Is transportation to UK's E.S. Good Barn a problem for you? _____ Yes _____ No

If "Yes", what is your address: _____

Phone Number: _____ Email address: _____

**Make check for luncheon reservation payable to UK Association of Emeriti Faculty (UKAEF).
Mail form and check to: UKAEF, c/o Casie Clements, 4812 Trillium Pl., Lexington, KY 40514-1410
(call or email if close to deadline) 859-523-3460 or e-mail: casie.ukaef@gmail.com*

Note: Deadline for making reservations or to cancel reservations is Friday, March 29, 2024.

Nominations for the Executive Board for 2024-25 are listed below and will be voted on at the April luncheon.

The Executive Committee Chairs have all agreed to serve for 2024-25 at the pleasure of the Board.

UKAEF OFFICERS Proposed 2024-25 Executive Board			
Tom Janoski	President	859-321-7259	t.janoski@uky.edu
Ron Hustedde	Vice President	859- 351-3991	rhusted@uky.edu
Claudia Heath	Treasurer	859-229-4619	cjheath@uky.edu
Michael Reed	Recording Secretary	859-559-1330	mreed@email.uky.edu
Janet Cabaniss	Executive Secretary	859-276-1243	jcabaniss@gmail.com
Sue Fosson	Past President	859-753-0379	sandafosson@windstream.net
EXECUTIVE COMMITTEES			
Mike Tearney	Benefits Chair	859-873-7590	Tearney@email.uky.edu
Sheila Woods	Newsletter, Service	859-539-7829	sheila.woods57@gmail.com
Lee Edgerton	Fellowship Committee	859-223-3992	leeaedgerton@gmail.com
Sue Effgen	Membership Committee	859-271-3904	seffgen@uky.edu
Ron Hustedde	Program Chair	859-351-3991	rhusted@uky.edu
Michael Kennedy	UK Senate Council	859-230-0191	kennedy@uky.edu
Casie Clements	Administrative Consultant	859-523-3460	casie.ukaef@gmail.com

**UK ASSOCIATION OF EMERITI FACULTY
MEMBERSHIP APPLICATION, 2023-2024*
(Dues for 2023-2024 should be paid in
September 2023) -
IF NO CHANGES YOU MAY
SIMPLY WRITE "NO CHANGES"**

NAME _____

SPOUSE'S NAME _____

College _____

Department _____

Address _____

Zip+4 _____

Tel. _____

E-mail address (please include, if you have one) _____

2023-24 Dues are* \$25 (includes spouse or partner)

CHECK ONE:

New member _____ Renewal _____

**MY CONTRIBUTION TO THE
FELLOWSHIP FUND*\$ _____**

(CHECK ONE) in memory of _____ in honor of _____

Name: _____

**Make check for membership dues and /or fellowship donation payable to UK Association of Emeriti Faculty (UKAEF).*

*Mail form and check(s) to: UKAEF, c/o Casie Clements,
4812 Trillium Pl., Lexington, KY 40514-1410
(Many folks have already paid their 23/24 dues. **PLEASE
BE SURE TO CHECK YOUR MAILING LABEL, ON
THIS NEWSLETTER, TO SEE IF YOU HAVE
PREVIOUSLY PAID YOUR 23/24 DUES**)*



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Lexington, KY 40533-8245

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