

# STEC CAP News

CONTROLLING SHIGA TOXIN-PRODUCING *E. coli* TO IMPROVE BEEF SAFETY

## EMT Update

**G**reetings from Souderton, PA! I hope that summer 2014 is already off to a great start for everyone both personally and professionally. There is much to update you on since the last edition of our newsletter. For starter's we had another informative and highly successful STEC CAP annual meeting a couple weeks back in Lincoln, NE. The 2014 meeting was held in combination with the 4th Nebraska Governors Conference on Ensuring Food Safety. There were at least 160 food safety professionals in attendance, from PI's, post-docs, graduate students, and undergraduate students, to technology providers, industry representatives, regulators, and the lay media. Dr. Prem Paul from UNL welcomed everyone during a very special social mixer at the Pinnacle Bank Center in Lincoln, NE, the evening before the conference. We also were privileged to have Governor Dave Heineman of Nebraska open the conference and to have Drs. Ronnie Green and Archie Clutter of UNL welcome our guests and make some introductory remarks. The scientific component of this joint conference was convened by Dr. Jeanette Thurston, USDA-NIFA National Program Leader, and our own Dr. Rod Moxley, STEC CAP Project Director, who separately addressed the attendee's and laid the groundwork for the science talks that followed. Leading experts in the field, including several STEC CAP Collaborators, updated us on the



John Luchansky

latest developments on recovery-characterization, and control of STEC along the beef chain continuum during the 2-day event. I want to make special note of our highly

successful and very interactive poster session. I continue to be very impressed by the scientific contributions and career development of our interns, students, and post-docs, they are indeed the future of food safety and they are off to a super start. On behalf of the EMT and all who attended this meeting, I/we extend our collective appreciation to Jill Hochstein, Paula Adams, and Carol Farnham for a job very well done at organizing and hosting the 2014 conference. Additional details about the conference can be found on our webpage ([www.stecbeefsafety.org](http://www.stecbeefsafety.org)) and in the "Proceedings of the 2014 STEC CAP Annual Meeting" which will be published and distributed later this summer, details to follow.

**NOTE: mark your calendars now for June 4-5 for the 2015 STEC CAP Annual Meeting to be held in "The Little Apple" – that being Manhattan, KS!**

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## Partnership with Souderton Area High School – Examples of Externship Opportunities

**A** primary objective of our STEC CAP is to mentor student interns and externs. Although much has been accomplished and communicated about our student interns, we still have some work ahead of us to provide opportunities for student externs. As one example of going about this, Drs. John B. Luchansky and Anna Porto-Fett made a phone call to a nearby high school in Souderton, PA, to inquire about the possibility of discussing externship opportunities for their students. As it turns out, both the administrators and faculty of Souderton Area High School (SAHS) were keenly interested in learning more about our STEC CAP Externship Program and, in fact, they were perhaps even more interested in finding sponsors and opportunities for students to participate in their "Career Pathways Program", an experiential learning program recently instituted by SAHS. After reciprocal visits and

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## Secret shoppers share insights on how well risk is communicated by wait staff when ordering burgers

I've always ordered my burgers medium well. There have been a few times that a server (or menu) has tried to convince me to order a more rare burger, because "it just tastes better." I always ignore this recommendation, but I'm a food safety nerd. Servers miss an important opportunity to share risk information with a consumer if they are making these recommendations.

The FDA Food Code stipulates that the restaurant menu and server must disclose risk information and remind the customer of this when ordering.

Our research addresses whether this process of disclosure and reminding actually occurs when patrons order hamburgers in restaurants, and, if so, how it is communicated. The server's role is important because she/he acts as the only source of communication between what is happening in the kitchen and the consumer. A consumer should be able to make as informed a decision as possible, which can only happen if they are reminded of the risks.

Other aims of our study are to determine if there is a difference in risk messages communicated at chain versus independently owned restaurants, and to determine how often medium rare burgers can be ordered. This information, in turn, will help to define what reminders should be provided by the server (or menu) to the consumer when ordering. The goal is to add a component to server training that focuses on food safety, and ultimately to make recommendations to the Conference for Food Protection regarding how server communication is addressed in the FDA Food Code.

As part of this project, secret shoppers snapped pictures of the menu to capture all printed risk information. After eating a meal at a restaurant, usually lunch, secret shoppers ordered two

hamburgers to go from the server: one medium rare and one well done to serve as the control. If the server did not proactively provide any risk information, one secret shopper interjected to ask the server if the medium rare burger was safe, as well as how they measured burger doneness. These responses will be coded and analyzed based on method of doneness, mention of safety, whether the information shared was correct, and the appearance of server confidence.



Forty-four secret shoppers associated with the STEC CAP grant were trained to collect data in seven locations: NC State University, Virginia Tech, Texas A&M, Kansas State, University of Nebraska-Lincoln, University of California-Davis, and the USDA ARS in Philadelphia. Approximately 80% of the data has been collected to date. Approximately 250 restaurants will be visited upon completion of the study.

There has been a wide array of server responses. Color is the most frequently cited indicator of doneness (48%), followed by temperature (19%). Somewhat surprisingly, about 51% of servers provided some type of incorrect information. Perhaps one of the most telling server responses was, "I'm just the server- I don't know what the cooks do." Other responses have included, "As long as the outside of the burger is cooked it is safe because that is where most of the bad bacteria is." Another server told a story about their sister eating a burger raw in the middle when she was pregnant- "she is just fine." A complete analysis of these data will be presented at IAFP 2014 in Indianapolis.

- Ellen Thomas and Ben Chapman



## Partnership with Souderton Area High School – Examples of Externship Opportunities

### ...Externship ...continued from page 1

a few email exchanges, John and Anna, along with Brad Shoyer and Laura Shane from the STEC CAP team in Wyndmoor, PA, visited SAHS in March and made a presentation to about 9 faculty and 9 students about career opportunities and paths in Agriculture. They also shared STEC CAP related research and conducted hands on activities related to the “microbiology of meat, milk, and soup”, “science of cooking hamburgers”, and “communicating food safety risks at restaurants”. Likewise, in early April John, Anna, Brad, and Laura hosted some 60 students and 7 faculty members from SAHS for “Career Day” at the Eastern Regional Research Center (ERRC) as part of a STEC CAP Externship Experience. After providing the visitors with an overview of the STEC CAP mission and select research accomplishments, as well as highlighting the STEC CAP internship

and externship programs, the visitors from SAHS participated fully in the annual Career Day activities while touring the ERRC. As “one of our very best partners” in late April John was subsequently invited to SAHS to highlight the STEC CAP internship/externship programs and share his experience and interest in training the next generation of food safety professionals with administrators and invited guests from the academic and business communities. Besides the obvious benefits of feeling awesome about enlightening young minds, making new contacts, and enhancing ones knowledge, skills, and abilities, additional benefits as a mentor resulting from the interactions with SAHS include the hiring of a Class of 2014 SAHS graduate, that being Ms. Nicki Baccala, to work this summer under the direction of John and Anna at ERRC. Another outcome

is a STEC CAP Teacher workshop this coming October in Souderton, PA, being organized and conducted by Dr. Dann Hussmann and colleagues at UNL in collaboration with Assistant Principal Kyle Longacre and colleagues at SAHS. The take home message of the above verbiage is – pick up the phone and talk with someone from a local school or related organization, you’ll be pleasantly surprised at what can result!

**NOTE:** Special thanks to our friends at SAHS, especially Dr. Sam Varano (Principal), Kyle Longacre, Amy Tarlo, Allyson Fitzpatrick, and Cheryle Radcliff, for entrusting their students to our care. We are already looking forward to and planning ahead for mentoring student interns and externs with our colleagues at SAHS in the 2014-2015 academic year.

## Welcome Alexander Mueting

Welcome to Lincoln, NE, Alexander Mueting! Alexander is a new Research Technician in the laboratory of Dr. Rodney Moxley. Alexander comes to us from Visalia, CA, where he has worked as a laboratory technician performing microbiological and chemical analyses at a wastewater treatment plant. Prior to that, he was a quality assurance technician at a large food company, analyzing food goods during production and ensuring and documenting food safety and quality. Alexander has a BS degree in Molecular Biology and Biological Chemistry from the University of California-Davis. We are very happy to have Alexander on board as part of the STEC CAP team. His efforts will address Objectives 1, 2 and 3 of the grant.



## OEIE Evaluation Update

The Office of Educational Innovation and Evaluation (OEIE) is currently administering a post-conference survey to all conference participants of the Governor's Conference/STEC CAP Annual Conference recently held in Lincoln, NE. If you have not already done so, please take the opportunity to complete the survey. Your responses will assist the Executive Management Team (EMT) in planning future annual conferences.

As always, we also encourage you to continue to report your recent achievements or POBs using the survey link below. You may also use this survey link to report

any prior achievements that have yet to be reported: [https://kstate.qualtrics.com/SE/?SID=SV\\_6fhkSh75h2Yj4Tb](https://kstate.qualtrics.com/SE/?SID=SV_6fhkSh75h2Yj4Tb)

Please remember if you have a STEC CAP-related manuscript (e.g., journal articles, book chapters, conference proceedings, etc.), the EMT has also requested that collaborators prepare and submit a "Manuscript Documentation Form" to ensure the USDA-NIFA-AFRI grant is properly cited.

In addition, we wish to thank the collaborators who shared their recent STEC CAP-related accomplishments. We learned of an additional 94 notable

achievements during March through May 2014, including scholarly talks, publications, educational media, partnerships, media contacts, research progress, and other activities.

As always, the OEIE team welcomes your feedback and questions regarding STEC CAP evaluation activities. Please contact us at:

Office of Educational Innovation and Evaluation (OEIE)  
(785) 532-5930  
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## ...EMT Update ...continued from page 1

It was obvious from the presentations and posters shared by our STEC CAP collaborators at the 2014 annual meeting that we are hitting our stride and really starting to collect and publish an abundance of relevant and scientifically-sound data on STEC along the beef chain continuum that will have immediate and lasting impact across all sectors of academia, industry, and government. It is also evident that there are several other groups across the country and around the world who are conducting related research. Thus, we must continue to do our very best to seek out mutually beneficial collaborations and identify and tackle the most pressing problems that STEC pose to public health while disseminating results to the general public, our stakeholders/customers, and the scientific community in a timely and palatable manner. On a related topic, we have made considerable progress since the 1st STEC CAP annual meeting in 2013 to capture our various "points on the board" (aka POB), and we must continue to do so. More importantly, as we are approaching the halfway point of this project, we absolutely must capture and articulate the (potential) impact that our collective and respective POB have made to enhance the safety of beef and to improve public health. This will in large measure lead to further opportunities for funded research and foster the sustainability of our STEC CAP. High five for a job well done, please keep the momentum going!

In this edition of STEC CAP News I know you will find the article written by Ellen Thomas and Ben Chapman on the "Secret Shopper Project" of keen interest. Kudos to our colleagues at N.C. State for leading this effort and for shepherding us through it. High five as well to Mr. Nicholas Sevart for winning a prestigious Colvin Scholarship administered by the Certified Angus Beef Program. We look forward to hearing more from Nick as his M.Sc. research is defended and published later this year and as he continues on at K-State under the direction of Dr. Randy Phebus to pursue his

Ph.D. degree in Food Science. I also want to put in a plug for Nick, our new student representative on the Stakeholder Advisory Board (SAB), as he has agreed to serve as Editor for a new section within "[stecbeefsafety.org](http://stecbeefsafety.org)" dedicated to all things related to our STEC CAP interns, undergrads, grad students, and post-docs. Please help Nick make this a highly interactive addition to the webpage. Also, please let us know if you have any additional feedback or suggestions for the webpage so that we can continue to make it current, vibrant, and something that we can all be proud of.

On other topics, please make an extra effort during the remainder of 2014 to seek opportunities for mentoring student interns. This newsletter makes mention of a successful partnership with Souderton Area High School for hosting student externs, whereas additional details on our STEC CAP Externship Program can be found at [www.stecbeefsafety.org](http://www.stecbeefsafety.org) by clicking on the "Education and Outreach" tab. Lastly, for those of you attending IAFP-2014 in Indianapolis, please join us for our 3rd STEC CAP working breakfast from 7:00 AM – 8:30 AM on August 5th. Details will follow soon via an email blast from Jill Hochstein. Special thanks to Ernie Minton, Associate Dean of College of Agriculture at K-State, and Kelly Lichtenberg, Midwest Veterinary Service, for sponsoring this gathering. Also, please be sure to attend the numerous posters and talks being given by STEC CAP Nation at IAFP 2014, and especially plan on attending the STEC CAP Symposium on Monday, August 4th at 1:30 PM.

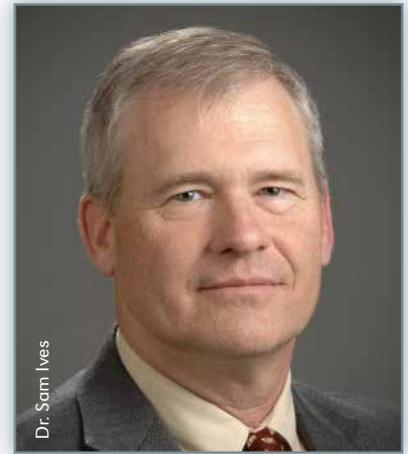
My sincere best wishes to our entire STEC CAP Family for a very enjoyable and productive summer. The EMT welcomes any and all comments and suggestions for improvement at any time. I look forward to our continued interactions in the months ahead.

Ever onward –  
*John Luchansky*



## New Collaborators

We are pleased to welcome two new collaborators to the STEC CAP Team, Drs. Sara Gragg and Samuel Ives. Sara works at Kansas State University Olathe, coming from Texas Tech University, where she earned her doctorate and was a post-doctoral research scientist. She earned her undergraduate degree from UNL before moving to Texas. Dr. Gragg's experience with industry complements her academic experience, working in Olathe's Animal Health Corridor. Sarah will be assisting Objective 5 team members with the development of curriculum and modules for educational purposes. Also with a Texas connection, Dr. Ives is currently an Associate Professor of Agriculture Sciences at West Texas A&M University in Canyon, TX. Sam has extensive experience in feedlot and fed beef research, and he has already worked extensively with Drs. Renter, Nagaraja, and Cernicchiaro at K-State on several beef safety



projects. Sam spent most of his career in the industry and private consulting roles before joining the faculty at West Texas A&M. He has mentored students during research sampling efforts in the past, and is now working with STEC CAP Objective 2 scientists to help arrange and perform sampling in Texas feed yards. Welcome aboard Sam and Sarah.

Check us out on the Web! Visit us at: [www.stecbeefsafety.org](http://www.stecbeefsafety.org)  
Subscribe to the listserv. Send an email to: [listserv@unl.edu](mailto:listserv@unl.edu) In the message field:  
subscribe stecbeefsafety



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