

STEC-CAP News

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

Update from the Director

Greetings STEC CAP Colleagues, and welcome to our inaugural monthly newsletter! We hope you find these newsletters to be informative and helpful as you participate in the project. We are also open to your suggestions for making improvements to our newsletter. This STEC CAP Newsletter and the imminent launch of our new Web portal (for both internal and external communications and management) are major tools to serve our STEC CAP team, stakeholders, and the world! Thanks to Jill Hochstein, our new program manager, for her great energy and expertise in leading these two important developments. We also need to thank Dr. Kastner and his team for getting our first group of STEC-STEP interns moving forward (read more about this herein). I am pleased to announce that my appointment as project director was approved by the USDA-NIFA on September 6, and that we now have a total of 50 collaborators from 12 institutions participating on our STEC CAP team.



Rodney Moxley

We formally welcome our newest collaborators, Dr. Steven Graves from the University of New Mexico, focusing on objective 1 research, Dr. Gary Acuff from Texas A&M University, Dr. Anna Porto-Fett from USDA-ARS, and Drs. Nigel Harper and Natalia Cernicchiaro from Kansas State University, to the team focusing on Objectives 2 and 3 research. We also are excited that Dr. Curtis Kastner is a new Co-PD and will serve as co-leader of Objective 5 with Dr. Dan Thomson, replacing Dr. Beth Montelone who resigned due to increased obligations as associate dean in the College of Arts and Sciences at Kansas State University. I am also pleased to give you a positive update on funding: a total of 33 of 40 collaborators expecting to receive funding in Years 1 and 2 of the project have now received their funds. Those that have not yet received their expected funds are either waiting on their respective sponsored programs offices to complete the approvals, or need to submit revisions or original versions of their Statements of Work. If you ever have a question or need help with something on the project, always feel free to contact me (rmoxley@stecbeefsafety.org). Thank you for being a part of this important STEC CAP initiative.

We look forward to learning about your many and valued accomplishments and the associated tangible impacts.

Best, Rod

Anna Porto-Fett Receives a Secretary's Honor Award as Member of the USDA STEC TEAM

On September 12, 2012, Dr. Anna Porto-Fett, a collaborator on our STEC CAP team, was part of a group of United States Department of Agriculture (USDA) and other government scientists that received a USDA Secretary's Honor Award.

"The USDA STEC Team" was nominated by the USDA Food Safety and Inspection Service, Office of Public Health Science for this award under the category of "Ensuring that all of America's children have access to safe, nutritious, and balanced meals." The award citation reads "For excellence in leadership to protect the U.S. food supply through timely development and implementation of a robust science-based program for controlling non-O157 Shiga toxin-producing *E. coli* in beef."

Congratulations to Anna and the entire USDA STEC Team!



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Mark your Calendar! STEC CAP Annual Meeting, May 28–30, 2013, Lincoln, NE

STEC-STEP Internship Program Underway

The next generation of food safety scientists will include wonderful representatives from the STEC Student Training and Education Program (STEP) of our CAP grant. This STEC-STEP internship program is now underway with the first collaborator internship project proposals accepted and students, both undergraduates and graduates, starting for the Spring 2013 term. We received eight intern project proposals from CAP collaborators in our first call, which actually funded nine student interns. Please visit our website to see a list of projects currently underway. The next round of collaborator proposals for the Summer and Fall 2013 time period will be due by 02/04/13 so please be thinking about STEC-related internship projects you may want to supervise if you are a STEC CAP collaborator.

In case you are not entirely familiar with the STEC-STEP program, which is a key element of the education component of our STEC CAP grant, we have posted all of the details, guidelines, and proposal and application forms under the Education/Outreach section of our new website (www.stecbeefsafety.org). In short, we plan to fund approximately

25 STEC-STEP interns per year, which includes 6 internships for students from minority serving institutions (MSIs), to work on STEC CAP related projects (research, education and/or outreach focused) across all participating STEC CAP institutions. The student stipends that cover living arrangements are enticing (\$4,500 plus up to \$1,000 to attend and present at the STEC CAP annual meeting). Students can receive up to an additional \$1,000 to cover their travel expenses to and from the host institution.

Dr. Curtis Kastner and his Food Science Institute team at KSU oversee the STEC-STEP program. Particularly, we welcome Sarah Reasoner (sreasoner@stecbeefsafety.org) and Megan Kulas (mkulas@stecbeefsafety.org) within his group who will manage day-to-day activities.



Above: Dr. Curtis Kastner, Sarah Reasoner, Right: Megan Kulas



Standard Strain Set for STEC CAP Experiments

Based on input from our various collaborators and advisory panels, and on agreement from the USDA-NIFA review panel during our competition for the STEC CAP award, each investigator is asked to use a standard/core set of strains to facilitate direct and facile comparison of data among our coordinated experiments/investigators, both within and across the objectives. To this end, we will share a set of 8 strains (STEC-8 strain set) with each collaborating team on our STEC CAP.

Please use these strains for key experiments. If you want to include additional STEC strains in your studies, that is fine since it will add to the data we compile through our research in support of a quantitative microbial risk assessment (QMRA), which is the framework of our STEC CAP.

Details on how to obtain this STEC-8 standard isolate set can be obtained from Dr. Luchansky's group at USDA-ARS (john.luchansky@ars.usda.gov). The STEC-8 strain set will

consist of genetically-marked derivatives of *E. coli* O157:H7 strain USDA-FSIS 380-94 and seven non-O157:H7 Shiga toxin-producing *E. coli* strains [(i) JB1-95 (serotype O111:H-), (ii) CDC 96-3285 (serotype O45:H2), (iii) CDC 90-3128 (serotype O103:H2), (iv) CDC 97-3068 (serotype O121:H19), (v) 83-75 (serotype O145), (vi) H30 (serotype O26:H11), and (vii) ATCC BAA-2326 (serotype O104:H4)].

These strains should be confirmed, cultured, and/or maintained as described previously [*Journal of Food Protection*: i) 71:2190-2197, ii) 74:1054-1064, and iii) 75:62-70]. Please make sure you use these strains within your laboratory and do not share them with others outside of the STEC CAP project and collaborators. If others require the strain set, they need to separately request Dr. Luchansky's permission.

By John Luchansky

OEIE Evaluation Update

As a member of the STEC CAP team, the Office of Educational Innovation and Evaluation (OEIE) at Kansas State University provides evaluation support for the program, tracks program progress, and assists in report writing. OEIE also provides feedback from evaluation activities to the Executive Management Team (EMT) to assist them in guiding the program. Currently, OEIE sends out monthly emails to remind collaborators to submit achievements (aka “points on the board”) and manuscript documentation. OEIE has also completed phone interviews with collaborators involved with Objective 5 (Education and Outreach) to gather information about their planned education and outreach activities and to discuss the possibilities for their evaluation. OEIE will use this information to determine how best to coordinate their evaluation work with those working in these Objective 5 areas.

To complement the achievement and manuscript documentation that OEIE has collected each month, OEIE will soon be contacting the objective leads to learn more

about progress made and the next steps in each objective. OEIE did conduct a brief survey of all STEC CAP members in December to gain insight about the collaborative experiences of members and perceptions of the program thus far. OEIE will use this information to prepare the upcoming reports and to assist the EMT in guiding the program in the second year. **The EMT asks you to make time for these evaluation activities. The CRIS report was submitted on December 15 and the first Food Safety CAP Supplemental Report is due January 31st.**



If you have any questions regarding the role of OEIE or their evaluation activities please feel free to contact:
Amy Hilgendorf, Lead Evaluator

Ph: 785-532-5538 or
Kate Van Winkle, Evaluation Projects Coordinator,
Ph: 785-532-0640 or steccap@ksu.edu.

By Amy Hilgendorf



Ben Chapman

Trust is Built on More than Just Hope: Tragic Death of Toddler Needs to Spur Change

I'm a sensitive guy, but I got even more sensitive when I became a dad. I know my emotions aren't unique, but sappy movies, especially those focused on parent/kid relationships, make me cry. I'm a nervous flyer (I wasn't before), irrationally thinking the plane is going down with every bump (leaving my kids fatherless).

Reading about Gage Lefevers funeral made me cry. (<http://www.charlotteobserver.com/2012/10/17/3602731/funeral-for-e-coli-victim-today.html>) Two-year-old Gage passed away on Oct 12 after acquiring *E. coli* O157:H7 at the Cleveland Co. fair. There are at least 105 others who have been ill. Most of them kids just like mine. Reading about these illnesses creates a pit in my stomach. The seriousness of the tragedy and how something like this might happen shouldn't be a surprise to anyone who works with food—farmers, processors, food handlers (commercial or domestic)—or the folks who run petting zoos and animal events.

Fairs have animals, food, and food handlers; lots of places to mess up and move pathogens around. As a patron of a fair or any food business, I need to trust that the folks who are running the show know what hazards to focus on and how to reduce the risk. The trust isn't built just on hope and wonder though—it comes from asking questions, and getting the right answers about controls. And looking for indicators that the folks are actually doing what they say.

I buy fresh produce from places that require their suppliers to implement GAPs and send their own folks on the farm to check. I eat products from businesses (large and small, local and multi-national) who are players in the food safety community—and don't just say food safety is really important. I ask lots of questions at restaurants, stuff like cooking my burger to 160°F, and continue to eat there when I get answers like “sure, the cook has a thermometer back there.”

“These tragedies happen often, but it's not enough to just understand why; operators need to actually do something...”

...continued on page 4

...Tragic Death of Toddler (continued from page 3)

All of this makes me feel like someone is paying attention, increasing the chance that the folks on the front lines will get it right—that's the trust I'm looking for. It's no guarantee though. I'm an insider, how is a mere mortal to do it without frank discussions about risks and consequences? Build trust by showing the systems, practices and data. Let patrons make an informed decision instead of saying just trust us.

These tragedies happen often, but it's not enough to just understand why; operators need to actually do something to reduce risks. Good fair operators are watching this case closely and evaluating whether their current strategies would have avoided the outbreak. Changes might mean adjusting a process, increased training, testing and better communication of risks to patrons. The focus needs to be on how to reduce the chances that a tragedy like Gage's passing doesn't happen again.

Dr. Ben Chapman is an extension specialist at NC State and involved with Objectives 3 and 5 of the STEC CAP grant. Ben leads the STEC CAP consumer and retail component of these objectives.

STEC CAP Annual Meeting

The STEC CAP Team will kick off the first annual meeting May 28-30, 2013 in Lincoln, Nebraska. The meeting will be held at the Embassy Suites in downtown Lincoln. Attendance for all STEC CAP collaborators who receive funding is mandatory. More details on the annual meeting will be provided in the next newsletter and on our website. Just a reminder that all interns of the program are required to attend the annual meeting and present posters of their research. Interns are reimbursed up to \$1,000 each for expenses to attend the annual meeting. More information is posted on the STEC CAP website <http://www.stecbeefsafety.org>.

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