**Foster collaborations among NC1041 members**

NC1041 members have had a long history of collaboration. Sharing and collaboration are strongly encouraged and promoted by the committee. A number of current and future collaborations have been planned and the following are a few examples of our collaborative efforts.

Ohio has a current NIH U01 grant with KSU through 2013 to develop antivirals for noroviruses and screen them in germfree animals. OH plans to extend this project in the future to test additional viruses and antivirals. OH will continue to collaborate with NC 1041 members in soliciting samples from diagnostic labs (IL, KSU, MN, MSU, NB, SDSU, WSU, etc) to continue surveys of swine group A and non-group A rotaviruses, coronaviruses, and caliciviruses from swine and cattle. OH will share diagnostic reagents and techniques with these member labs. OH will continue to collaborate with NC1041 member states on studies, reagents and assays related to mucosal immunity in swine and studies of swine gut commensals. OH will collaborate with Iowa State University, University of Tennessee and Kansas State University by sharing reagents, techniques, bacterial strains and plasmids related to *Campylobacter* research.

Iowa State University, the Ohio State University, and University have teamed up to develop novel approaches for the control of *Campylobacter* in Poultry. This 5-year project is recently funded by USDA NIFA and will focus on development of practical and effective interventions to reduce *Campylobacter* contamination in live birds and poultry meat. ISU and Kansas State University also have a recently funded (by USDA NIFA) joint project on *Campylobacter* in ruminants, which will understand the epidemiology of *Campylobacter* in raw milk and examine milk-borne transmission of *Campylobacter*. Additionally, ISU and KSU have established a new collaboration on *Campylobacter* in feedlot cattle and ISU provides training of technical personnel in isolation and identification of *Campylobacter*.

Nebraska will collaborate with Kansas in the development and validation of tests for detection of non-O157 Shiga toxin-producing Escherichia coli (STEC) in cattle feces, cattle environmental samples (water, soil, feed, potentially other), hides, carcass surfaces, primal cuts, ground beef, and processed beef. Nebraska will collaborate with Kansas in the conduct of epidemiological studies of non-O157 STEC in cattle. Nebraska will collaborate with Kansas in the testing of pre- and post-harvest interventions for non-O157 STEC in beef. Nebraska will collaborate with Washington in the genotyping of STEC O157:H7 isolates from cattle. Nebraska will study factors controlling the expression of heat-labile enterotoxin in enterotoxigenic *E. coli* of swine, and the influence of these factors on bacterial adherence to intestinal epithelial cells and gut secretion

KSU will collaborate with Nebraska on the CAP STEC grant "Shiga toxin-producing Escherichia coli: prevention, recovery, characterization, and control across the beef chain". This CAP grant involves collaborators across many institutions and are led by University of Nebraska and KSU. The program (funded for 25$ M over 5 years) is very comprehensive with research, extension, and education components. KS and Washington will collaborate on *E. coli* O157 by sharing isolates for establishing a collaborative bank for research. In addition, KSU will collaborate with ISU on epidemiology and fluoroquinolone resistance of *Salmonella* and *Campylobacter* in feedlot cattle. Furthermore, KSU will collaborate with University of Minnesota and USDA-ARS on a new NC1041 project

Arizona will collaborate with Minnesota on the development of an efficacious vaccine to reduce *Campylobacter* in poultry. This is an integrated project recently funded by USDA NIFA and will last for 5 years. Arizona will be working with Washington State on the submission of an RO1 on the identification of a gene involved in intestinal fluid production in the piglet model following infection with certain *Campylobacter* strains. Arizona and Michigan State will exchange isolates of *C. jejuni* for the testing of Gullain Barré syndrome in the mouse and piglet model systems.