

Research and Development on *Campylobacter* – Collaborative research with industry call

CALL FOR PROPOSALS

SUMMARY

1. The Biotechnology and Biological Sciences Research Council (BBSRC)¹, the Department for Environment, Food and Rural Affairs² (Defra) and the Food Standards Agency (FSA)³ are pleased to announce a joint funding call to support research which will underpin the needs of policy makers and industry aimed at reducing levels of *Campylobacter* in the food chain and ultimately the incidence of *Campylobacter* infection in humans.
2. This collaborative research with industry call is one of several calls supporting delivery of the recently launched cross-government *Campylobacter* Research and Innovation strategy⁴. The aim of this call is to help deliver several of the key priorities in the strategy, focussing on a) Modelling approaches to increase understanding of the organism and the impact of interventions, and b) Practical, cost-effective control of *Campylobacter*.
3. It is anticipated that applications will be funded across the research spectrum, from basic underpinning science to more applied research, providing excellent science to support industry and policy needs.
4. It is expected that engagement and collaboration with industrial partners across the food supply chain will be required to ensure that the outputs of the research are translated to maximum benefit.

BACKGROUND

5. Food security is an increasing priority for the UK Government and food safety is a key component of this. *Campylobacter* is the most common cause of food poisoning in the UK and is responsible for an estimated 321,000 cases in England and Wales in 2008, with over 15,000 hospitalisations and 76 deaths⁵. *Campylobacter* accounts for a third of the cost of food-borne illness in England and Wales, costing the economy an estimated £583 million in 2008. It is found mainly in poultry but also in red meat, unpasteurised milk and untreated water. Although it does not normally grow in, or on, food it can transfer easily. With a low infective dose, illness can arise from only a few bacteria in undercooked chicken, or in ready-to-eat-foods which have been cross-contaminated from raw chicken.
6. To meet the complex challenge of reducing the incidence of *Campylobacter* infection in humans, the main funders of *Campylobacter* research have developed a joint strategy⁴ which seeks to address the problem of *Campylobacter* infection by reducing the level of bacterium in animal hosts and the potential for growth and contamination throughout the food chain.

¹ www.bbsrc.ac.uk

² www.defra.gov.uk

³ www.food.gov.uk

⁴ www.bbsrc.ac.uk/web/FILES/Publications/100717_campylobacter_strategy.pdf

⁵ www.food.gov.uk/multimedia/pdfs/board/fsa100310.pdf

7. This joint approach is in keeping with the UK Cross-Government Food Research and Innovation Strategy⁶, which provides an overarching framework for research and innovation across the UK to address the key challenges in the food system in a coordinated way, among them food safety and, in particular, the reduced incidence of food borne pathogens such as *Campylobacter*.
8. The funding partners in this call also contribute to the Global Food Security programme⁷ – a multi-partner programme that brings together the food-related research interests of Research Councils, Government Departments and Executive Agencies, including research on food safety and the control of food-borne pathogens.

SCOPE

9. The funders have identified a list of research priorities for this call, under two topic areas (a and b), which are outlined in paragraph 13. It is anticipated that a balanced portfolio of excellent research, from basic underpinning science to more applied research, supporting industry and policy needs and addressing the overall objectives of the joint research strategy⁴, will be supported across the research priorities.
10. Within the scope of one of these topic areas (b), some more immediate specific applied research requirements have been identified by FSA and Defra and where it is likely that FSA or Defra would be a lead funder (Annex 1). Expressions of interest submitted to the call that meet these requirements, and are eligible for funding by FSA and Defra, will be invited to submit full applications to the FSA at an earlier closing date (see paragraph 25) and will be assessed at a separate panel meeting.
11. However, all funders would encourage submission of proposals addressing other aspects within this topic area (b).
12. Due to the nature of the research required, industry participation in, co-funding of and/or in-kind contributions to funded projects is anticipated.

13. Research priorities:

a) Modelling⁸ approaches to increase understanding of:

- **1) The organism** - Improved understanding of the growth, survival and spread of *Campylobacter* (e.g. on-farm, during transport, in the slaughter house during food processing, at retail in catering and in the home).
- **2) The impact of interventions** - Modelling to assess the impact of single and multiple interventions and human behaviour on the growth, survival and spread of *Campylobacter*.

⁶ www.bis.gov.uk/assets/biscore/goscience/docs/c/cross-government-food-research-strategy

⁷ www.foodsecurity.ac.uk

⁸ Modelling, for the purpose of this call, involves the use of mathematical techniques to understand *Campylobacter* as an organism and interventions to control it. It does not include generation of standard risk assessment models but does include predictive modelling.

These modelling approaches should include the use of high quality data, using data from real production systems where possible. Where appropriate, funding will also be available for new intervention studies to underpin modelling approaches. Any modelling projects must not duplicate previous or ongoing studies.

b) Practical, cost-effective control of *Campylobacter*:

- **1) On farm:** Increased understanding of the efficacy of existing and novel interventions to control *Campylobacter* on farm, including current application and improvement of biosecurity, and aspects of animal health and welfare which have implications for the colonisation and spread of *Campylobacter*. Breeding of *Campylobacter* resistant poultry is excluded from this call.
- **2) In the slaughter house:** Increased understanding of the efficacy of existing and novel interventions to control *Campylobacter* contamination of carcasses during the slaughter process (e.g. UV light, electrolysed water, temperature/humidity/pH modifications and antimicrobial treatments).
- **3) At retail:** Increased understanding of the efficacy of existing and novel interventions to reduce *Campylobacter* (e.g. the use of different packaging).

Applications may focus on interventions at a specific point in the food chain or across the chain (on the farm, in the slaughter house, at retail). Fundamental understanding of the microbiological control of *Campylobacter*, where improved understanding could lead to realistic interventions, is also included in this call.

Applications should take into account the cost-benefit of potential interventions and be fully grounded in current processes used in poultry production, processing and retail. Only interventions currently allowed by UK regulations, or which require minimal new regulatory approval, will be considered in this call.

ELIGIBILITY

14. At the outline stage, applicants and institutions must be eligible to apply for either BBSRC, Defra, or FSA funding.
 - Standard BBSRC eligibility rules apply, as described in the BBSRC grants guide (http://www.bbsrc.ac.uk/web/FILES/Guidelines/grants_guide.pdf),
 - Standard FSA and Defra eligibility rules – Open to all research organisations (UK or non-UK) which can demonstrate the necessary skills and resources to address requirements.
15. For guidance on eligibility, please contact campy@bbsrc.ac.uk and your query will be dealt with by the appropriate funder(s).

If a full application is invited, further guidance on eligibility will be provided. Applications submitted by institutions and/or applicants that are not eligible to

apply for BBSRC funding may be invited to submit full applications to the earlier October deadline (see below)

FUNDING

16. Total funding of up to £2M will be available for the main and directed call for proposals.
17. Awards will be made at 80% FEC except where they have been invited to address the specific applied research requirements identified by FSA and Defra in Annex 1 or are made by an institution not eligible for BBSRC funding.
18. Awards to successful proposals that meet the specific applied requirements of FSA and Defra or that are made to institutions not eligible for BBSRC funding will be awarded through FSA/Defra contracts and will be on a fixed price basis according to their normal terms and conditions. **Note** – There will be a requirement for work on these projects to commence before the end of the current financial year (2010/11).

APPLICATION AND ASSESSMENT PROCESS

The application and assessment process for the calls comprises **two stages**: an open call for expressions of interests, followed by invitations to selected applicants to submit full proposals. Applicants invited to submit full applications will be informed as to whether their proposal fits within the specific applied research requirements identified by FSA and Defra in Annex 1.

Expressions of interest

19. All Expressions of interest must be submitted to BBSRC (campy@bbsrc.ac.uk) by **4pm on 13 September 2010**.
20. Expressions of interest must be no longer than two sides of A4 (Arial, font size 11) and include the following information:
 - Project title (together with a clear indication of which priority in paragraph 13/annex 1 the proposal is intended to address)
 - Principal investigator and Co-investigators
 - Proposed industry partners and indication of level of support
 - Main objectives of the work
 - Potential impacts (industry and policy)
 - Duration of project
 - Proposed budget
 - Four referee nominations – for use at the full application stage⁹
21. Expressions of interest will be assessed by representatives from BBSRC, Defra and FSA against the following criteria:
 - Eligibility

⁹ Nominees must not be recent collaborators, or members of any of the applicants' own institutions. Applicants must not nominate more than one referee from an institution.

- Fit within the scope of the call.
 - Relevant project partners
 - Potential impacts (industry and policy)
22. Applicants whose expressions of interest meet the above criteria will be invited to submit full proposals. There will be two separate assessment streams for full proposals with different deadlines. Applicants invited to submit full applications will be notified which stream to apply to. The first stream will include full applications invited to meet the specific applied research requirements identified by FSA and Defra in Annex 1. Further guidance about the requirements for the full applications and the assessment process for both streams will be provided at this stage.
23. Invited full proposals in both streams will be assessed by a specially convened Panel of experts against the following criteria:
- Scientific excellence
 - Relevance to the overall objectives of the joint research strategy⁴
 - Timeliness and promise
 - Economic and societal Impact
 - Cost effectiveness

TIMETABLE

24. The timetable for the call is expected to be as follows:
- | | |
|--------------------------|--|
| mid July 2010 | Launch of call |
| 13 September 2010 | Closing date for Expressions of Interest |
| see paragraph 25 | Closing date for Full Applications |
25. Applicants will be informed of the appropriate closing date for full applications after assessment of their expression of interest. The first closing date will be **20 October 2010** and will include applications invited to meet the specific applied research requirements identified by FSA and Defra in Annex 1. The closing date for all other proposals will be in November 2010.

CONTACTS

26. General queries about the application process should be directed to: campy@bbsrc.ac.uk

Queries about specific funders requirements:

BBSRC requirements: Sharon Fortune	sharon.fortune@bbsrc.ac.uk
Defra requirements: Andrea Patterson	andrea.patterson@defra.gsi.gov.uk
FSA requirements: Mary Howell	mary.howell@foodstandards.gsi.gov.uk

For further information about the joint UK Research and Innovation Strategy for *Campylobacter* please contact:

BBSRC contact: Adam Staines	adam.staines@bbsrc.ac.uk
Defra contact: Andrea Patterson	andrea.patterson@defra.gsi.gov.uk
FSA contact: Mary Howell	mary.howell@foodstandards.gsi.gov.uk