Current Issues in Food Safety Culture
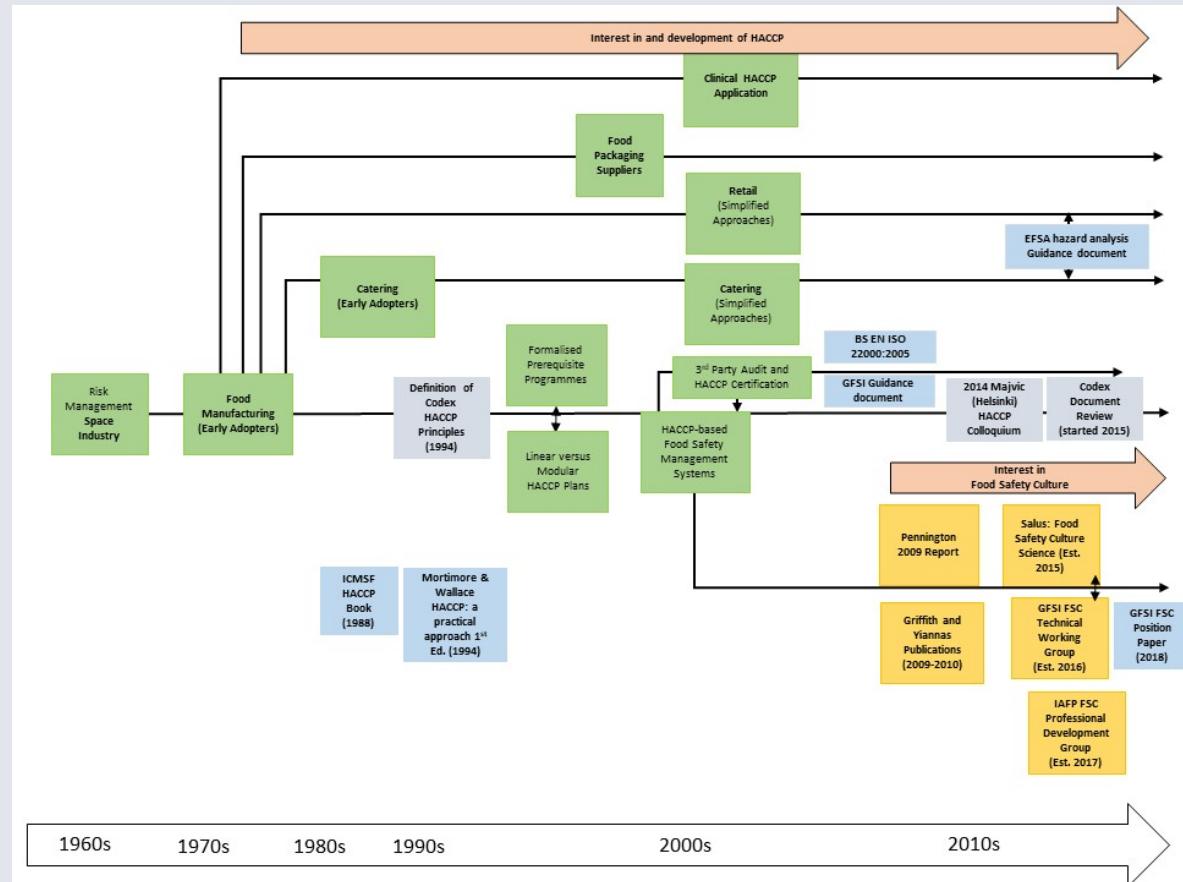
Professor Carol Wallace

5th February 2021

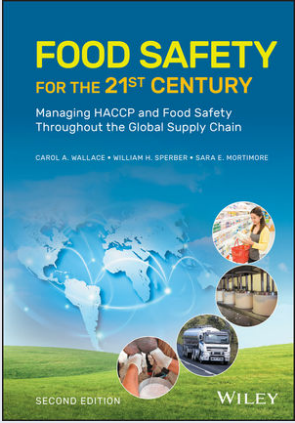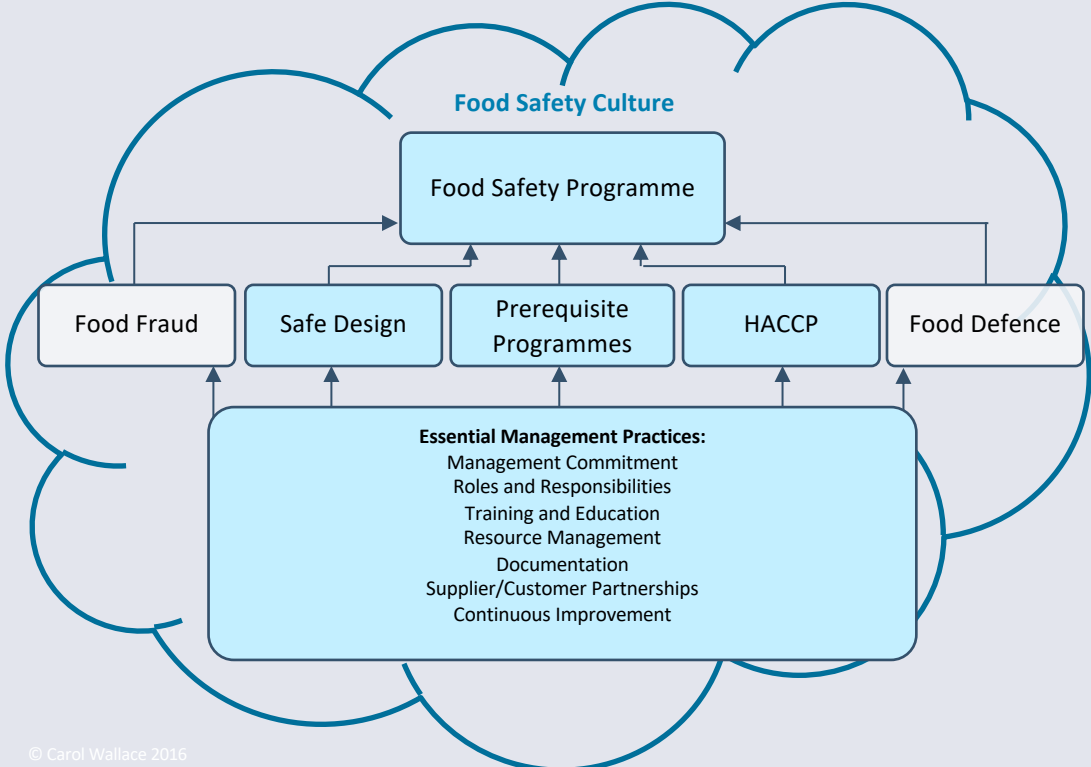Where opportunity creates success

Agenda

- Evolution of food safety management and culture

- Tools to measure food safety culture

- Requirements from public and private standards owners

- Approaches to strengthening culture

- Knowledge gaps and work needed by industry and academia

- Working together to move the field forward.

Food Safety Management and Culture Development at the International Level

Interest in and development of HACCP

- Clinical HACCP Application
- Food Packaging Suppliers
- Retail (Simplified Approaches)
- EFSA hazard analysis Guidance document
- Catering (Early Adopters)
- Catering (Simplified Approaches)
- Risk Management Space Industry
- Food Manufacturing (Early Adopters)
- Definition of Codex HACCP Principles (1994)
- Formalised Prerequisite Programmes
- Linear versus Modular HACCP Plans
- 3rd Party Audit and HACCP Certification
- HACCP-based Food Safety Management Systems
- BS EN ISO 22000:2005
- GFSI Guidance document
- 2014 Majvic (Helsinki) HACCP Colloquium
- Codex Document Review (started 2015)

Interest in Food Safety Culture

- ICMSF HACCP Book (1988)
- Mortimore & Wallace HACCP: a practical approach 1st Ed. (1994)
- Pennington 2009 Report
- Salus: Food Safety Culture Science (Est. 2015)
- Griffith and Yiannas Publications (2009-2010)
- GFSI FSC Technical Working Group (Est. 2016)
- GFSI FSC Position Paper (2018)
- IAFP FSC Professional Development Group (Est. 2017)

1960s 1970s 1980s 1990s 2000s 2010s

Evolving understanding of Food Safety Management Systems Complexity

© Carol Wallace 2016

Food Safety Culture Evolution

- FSC builds on work from:
  - Organisational Culture
  - Organisational Psychology
  - Human Factors research
  - Safety Science
  - Social cognitive science
  - National Culture
- These are very well developed fields in their own right
- FSC needs input from a number of perspectives,
  - not just food safety people but social scientists, psychologists, ethnographers, behavioural specialists
  - Quantitative and qualitative perspectives both important.
- But what actually is Food Safety culture?....

Food Safety Culture: Icebergs, onions and trees!

Metaphors for Food Safety Culture and impact on its assessment

...culture is not visible on the surface

Food Safety Culture Evolving Definitions

- Griffith, 2010 – FSC = '*The aggregation of the prevailing, relatively constant, learned, shared attitudes, values and beliefs contributing to the hygiene behaviours used within a particular food handling environment*'

- GFSI TWG, 2018 – FSC = Food Safety Culture: *Shared values, norms, and beliefs that affect mindset and behaviours towards food safety across/in/throughout an organisation.*

- *Sharman et al, 2020 - A long-term construct existing at the organisational level relating to the deeply rooted beliefs, behaviours and assumptions that are learned and shared by all employees, which impact the food safety performance of the organisation.*

Food Safety Culture – all businesses have one!

How good is your FS-Culture?

| Weak Negative | Maturing Food Safety Culture → | Strong Positive |

Measurement is not enough…
Apply improvement interventions and tools

↑

Identify position and level of maturity

↑

Food Safety Culture Measurement Tools
Criteria being assessed (varies by tool)

UCLan and Food Safety Culture Research – Dimensions, maturity and measurement methods

- Collaboration with Guelph University and Lone Jespersen

Values and Mission · People Systems · Adaptability · Consistency · Risk Awareness

- UCLan Cultivate – Food Safety Culture for business performance – current ongoing project

Food Control 79 (2017) 371–379
Contents lists available at ScienceDirect
Food Control
journal homepage: www.elsevier.com/locate/foodcont

Comparative analysis of existing food safety culture evaluation systems

Lone Jespersen [a,*], Mansel Griffiths [a], Carol A. Wallace [b]

[a] University of Guelph, 50 Stone Road East, Guelph, ON N1G 2M7, Canada
[b] University of Central Lancashire, International Institute of Nutritional Sciences and Applied Food Safety Studies, Preston, Lancashire PR1 2HE, United Kingdom

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journal homepage: www.elsevier.com/locate/foodcont

Measurement of food safety culture using survey and maturity profiling tools

Lone Jespersen [a,*], Mansel Griffiths [a], Tanya Maclaurin [a], Benjamin Chapman [b], Carol A. Wallace [c]

[a] University of Guelph, 50 Stone Road East, Guelph, ON N1G 2M7, Canada
[b] North Carolina State University, Raleigh, NC 27695, United States
[c] University of Central Lancashire, Preston, Lancashire PR1 2HE, United Kingdom

Food Control 98 (2019) 367–379
Contents lists available at ScienceDirect
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journal homepage: www.elsevier.com/locate/foodcont

The impact of maturing food safety culture and a pathway to economic gain

Lone Jespersen [a,*], John Butts [b], Greg Holler [c], Jeff Taylor [d], Dave Harlan [c], Mansel Griffiths [a], Carol A. Wallace [e]

[a] Department of Food Science, University of Guelph, 50 Stone Road East, Guelph, ON N1G 2M7, Canada
[b] Land O'Frost, 911 Hastings Ave, Searcy, AR, USA
[c] Cargill Incorporated, PO Box 9400, Minneapolis, MN, 55440, USA
[d] Bush Brothers, 122 Perimeter Park Rd., Knoxville, TN, 37922, USA
[e] University of Central Lancashire, International Institute of Nutritional Sciences and Applied Food Safety Studies, Preston, Lancashire, PR1 2HE, United Kingdom

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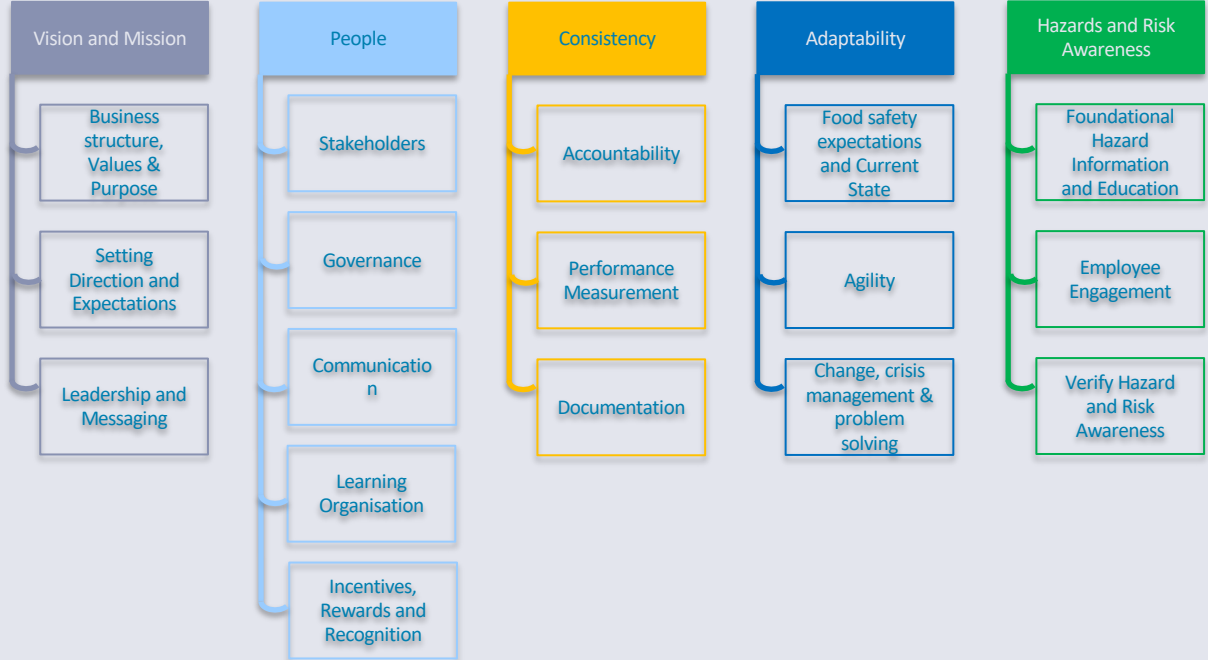journal homepage: www.elsevier.com/locate/foodres

Triangulation and the importance of establishing valid methods for food safety culture evaluation

Lone Jespersen [a,*], Carol A. Wallace [b]

[a] University of Guelph, Department of Food Science, 50 Stone Road East, Guelph, ON N1G 2M7, Canada
[b] University of Central Lancashire, International Institute of Nutritional Sciences and Applied Food Safety Studies, Preston, Lancashire PR1 2HE, United Kingdom

GFSI Food Safety Culture Position Paper

A CULTURE OF FOOD SAFETY

A POSITION PAPER FROM THE GLOBAL FOOD SAFETY INITIATIVE (GFSI)

V1.0 - 4/11/18

Vision and Mission
- Business structure, Values & Purpose
- Setting Direction and Expectations
- Leadership and Messaging

People
- Stakeholders
- Governance
- Communication
- Learning Organisation
- Incentives, Rewards and Recognition

Consistency
- Accountability
- Performance Measurement
- Documentation

Adaptability
- Food safety expectations and Current State
- Agility
- Change, crisis management & problem solving

Hazards and Risk Awareness
- Foundational Hazard Information and Education
- Employee Engagement
- Verify Hazard and Risk Awareness

University of Central Lancashire UCLan
1828

GFSi Global Food Safety Initiative

Some Food Safety Culture Measurement Tools

- Cultivate Food Safety Culture Maturity Survey and Pulse – uses Jespersen et al tools and is validated based on published research https://cultivatefoodsafety.com/
- BRC Culture Module – uses TSI tool https://www.brcglobalstandards.com/brc-global-standards/food-safety/additional-modules/food-safety-culture-module/
- Campden Food Safety Culture Excellence – partnership with TSI https://www.campdenbri.co.uk/culture-excellence.php
- De Boeck et al food safety climate survey – validated based on published research at Ghent University but not currently commercially available.
- NSF Culture Maturity Model
- Gartner (CEB) Quality Culture Maturity Model
- FSA Toolkit for Inspectors https://www.food.gov.uk/sites/default/files/media/document/803-1-1431_FS245020_Tool.pdf
- Enlighten 4C Food Safety Culture model https://enlighten.team/documentation/undertake-food-safety-culture-survey/
- Others….

Advice:
- Challenge providers to show how their tools are validated
- Look at how data is being collected and analysed, e.g. single survey, survey plus interviews, observation, document analysis, etc., continuous survey cycle
- Research shows that triangulation of data provides more accurate picture

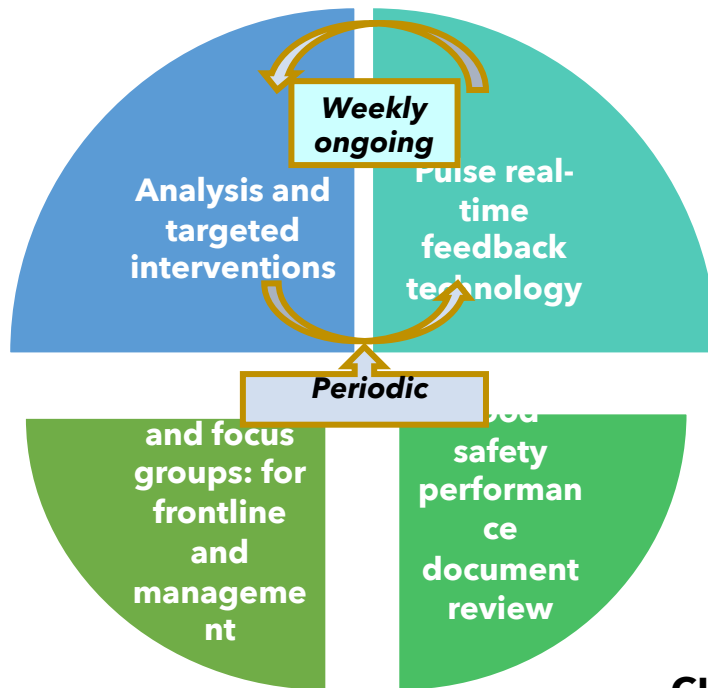# Food Safety Culture for Business Performance (UCLan-Cultivate)

University of Central Lancashire UCLan | Cultivate Partners in Culture & Food Safety
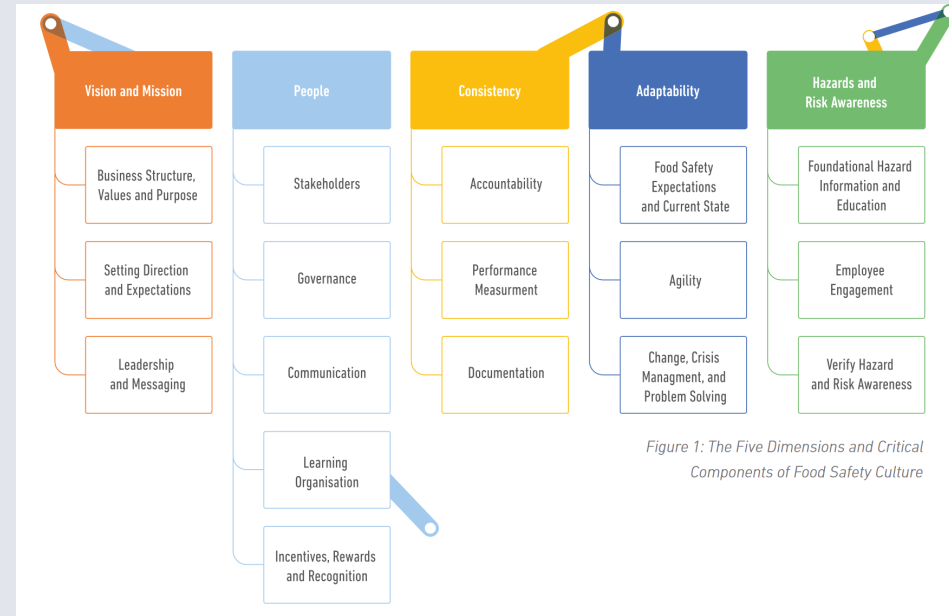
- **Strengthen food safety culture** in UK food manufacturing businesses towards better food safety, economic gain and success

- **Technology-based, low-effort**, daily dialogue with frontline teams, weekly feedback and continuous leadership engagement

- **Establish networks and increase knowledge transfer** by connecting industry, regulators, academia, and general public to our online knowledge base

Weekly ongoing

Analysis and targeted interventions

Pulse real-time feedback technology

Periodic

and focus groups: for frontline and management

food safety performance document review

Project email: CUCLanCultivate@uclan.ac.uk

Recent Food Safety Culture Developments

- Global Food Safety Initiative Position Paper (2018) A Culture of Food Safety, V1.0, https://www.mygfsi.com/news-resources/news/news-blog/1419-a-culture-of-food-safety.html

- BRC Global Standard Food Safety Issue 8 - senior management to develop a comprehensive, company-wide food safety culture

- BRC Whitepaper – BRC Issue 8 Creating a Food Safety Culture

- GFSI, 2020, Benchmarking requirements version 2020. https://mygfsi.com/news-and-resources/?type=publications&lang=english

- Food safety culture picked up in IFS and FSSC 22000 Standards
  - FSSC 22000 v5.1

- New draft of EU852/2004 also includes Food Safety Culture

- BSI PAS Food Safety Culture – expected 2021

Figure 1: The Five Dimensions and Critical Components of Food Safety Culture

Codex HACCP (2020) and Food Safety Culture

Roles of Competent Authorities, Food Business Operators, and Consumers

15. FBOs should apply the hygienic practices and food safety principles set out in this document to:

- develop, implement and verify processes that provide food that is safe and suitable for its intended use;
- ensure personnel are competent as appropriate to their job activities;
- build a positive food safety culture by demonstrating their commitment to providing safe and suitable food and encouraging appropriate food safety practices;

Management Commitment to Food Safety

17. Fundamental to the successful functioning of any food hygiene system is the establishment and maintenance of a positive food safety culture acknowledging the importance of human behaviour in providing safe and suitable food. The following elements are important in cultivating a positive food safety culture:

- commitment of the management and all personnel to the production and handling of safe food;
- leadership to set the right direction and to engage all personnel in food safety practices;
- awareness of the importance of food hygiene by all personnel in the food business;
- open and clear communication among all personnel in the food business, including communication of deviations and expectations; and
- the availability of sufficient resources to ensure the effective functioning of the fod hygiene system.

International Developments

- USA Food Safety Modernisation Act and Preventive Controls

- FDA Blueprint – New Era of Smarter Food Safety (FDA, 2020)

- 4 Core Elements
  - Tech-Enabled Traceability
  - Smarter Tools and Approaches for Prevention and Outbreak Response
  - New Business Models and Retail Modernization
  - Food Safety Culture

Knowledge gaps and work needed

- Understanding Food Safety Culture better will help us to strengthen food safety management systems including operation of HACCP
- Understanding cultural root causes of outbreaks and incidents can contribute to prevention and to strengthening systems and culture
  AND
- Culture improvement requires a toolkit of intervention options depending on existing state, e.g.
  - Team building approaches and people development
  - Application of behavioural theories and interventions
  - Application of systems theories and interventions
  - Clarification of vision and strategy and linking to what leaders actually do and say
  - Provision of necessary resources, structures, systems and equipment to enable an effective culture.
- Will require research and sharing of best practices
- Food supply chain networking is important

The Food Safety Culture Science Group

SALUS

International Academic Network:

Providing consensus on FSC based on science to assure rigour in the field
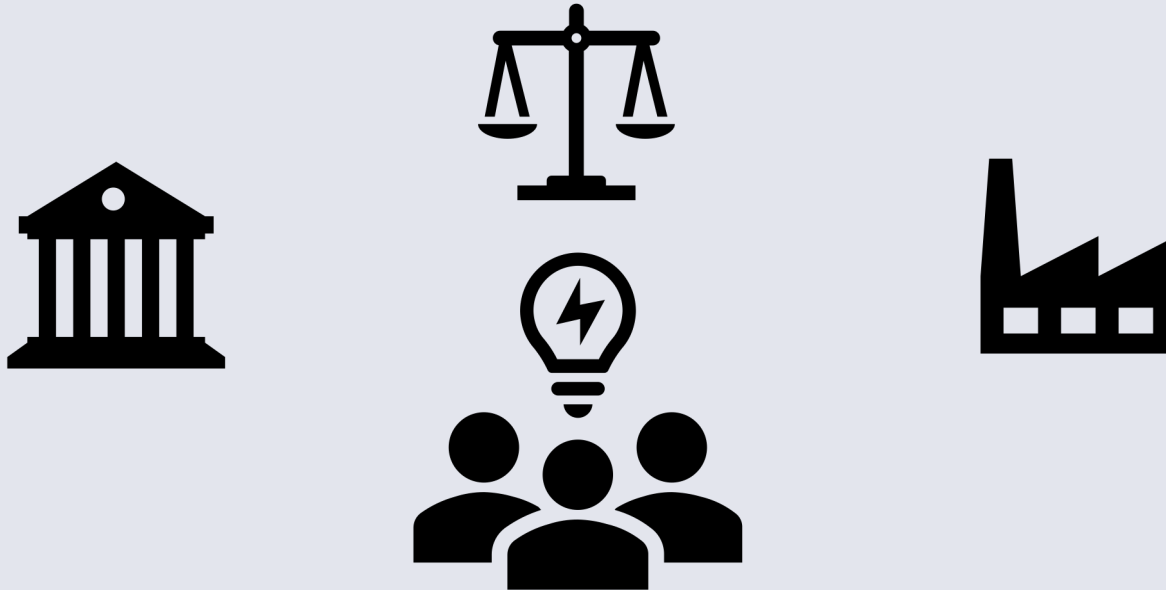
IAFP Food Safety Culture PDG

- Professional Development Group in Food Safety Culture established July 2017
- **Mission Statement:** To provide an international forum to advance food safety culture science and best practices
- The group will work to advance food safety culture as a science and not a slogan by reviewing existing content on the topic and publishing in scientific journals, engaging members, communicating best practices, and learning from other industries/disciplines
- Symposia proposals and work plans ongoing
- Next in-person meeting July 18-21 2021 Phoenix, Arizona (hopefully!)
- Look out for webinars

Academia-Governance-Industry Collaboration and Networks

Working together and Sharing Best Practice

Thank You!

Professor Carol A Wallace

Professor of Food Safety Management Systems

Nutritional Sciences and Applied Food Safety Studies Group

University of Central Lancashire

Preston

PR1 2HE

cawallace@uclan.ac.uk