



Food Careers

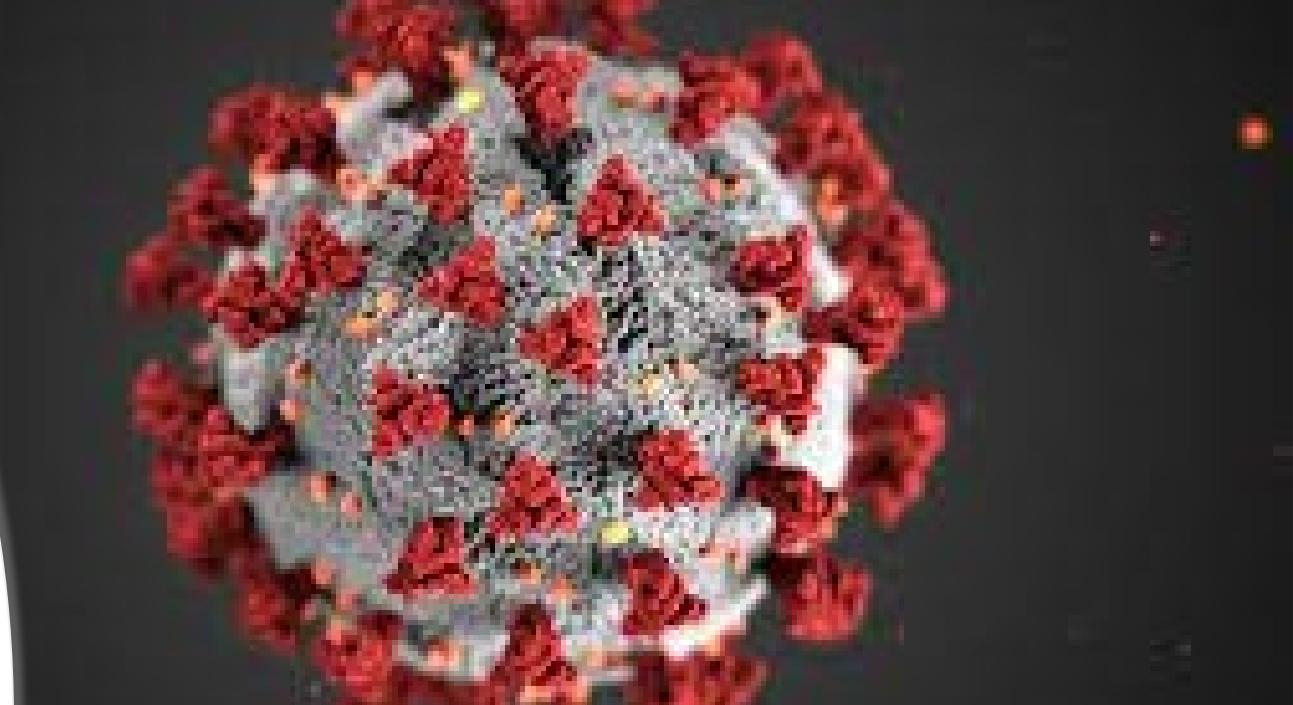
Dr. Caroline Millman

Senior lecturer in Food and Nutrition

Course Leader - Food Technical Degree Apprenticeship

Research Theme Lead: Food Engineering for Health

Sheffield Hallam University



Aims of the session

- Connecting food careers in schools
- Current challenges in the food system
- Careers in food
- Resources

‘Access to sufficient amounts of safe and nutritious food is key to sustaining life and promoting good health. Unsafe food containing harmful bacteria, viruses, parasites or chemical substances can cause more than 200 different diseases – ranging from diarrhoea to cancers’





It's BIOLOGY

Where do micro-organisms come from and do they need to be controlled?

What is DNA and how can it track pathogens?



It's CHEMISTRY

How can pH help food last longer?

Why does cut iceberg lettuce turn pink?

How and why should you limit contaminants?



It's PHYSICS

How much energy is needed to heat and chill soup safely?

What affects heat transfer to a food?

How does the way you cook food affect the energy that gets into food?

Why is this so important?



Biology in Food Safety



Physics in Food Manufacturing/Food Safety

- Soft matter physics, materials and characterisation, instrumentation, measurement and imaging, thermodynamics, modelling, fluid mechanics and rheology - just some of the physics disciplines important to food manufacturing.
- Control of chocolate rheology with electric fields to enable fat reduction, the role of sound in food appreciation and characterisation and modelling of foods for food safety, physics of heating and cooling



Chemistry in Food Safety



GOOD HEALTH
20 PAGE SPECIAL

Daily Mail
London, April 10, 2020

The good news? Newsagents to stay open
- and CAN deliver the Mail to your door...

**FREE
DELIVERY
FOR 6 WEEKS**
Weekend & Sunday editions

PM's historic stay-at-home plea to beat virus

LOCKDOWN BRITAIN

Astonishing restrictions on daily life ++ NO travel unless essential ++ Don't see friends or family ++ Only one exercise outing a day ++ Fines if you don't obey ++ Mass closures of shops ++ All for at least 3 weeks

Puzzles Plus
Delightful new puzzles section with four extra pages of puzzles to keep you mind active

HOME DELIVERY
From the 12th of April, delivery services will be available to deliver your news to your door

The Daily Telegraph
End of freedom

Sun
London, April 10, 2020

SUN DELIVERY 12 WEEKS

Get the Guardian sent to your home, with no delivery charge

HOUSE ARREST

PM: Brits must stay home
Police fines up to £1,000
Gatherings over 2 banned
Only shop for basics

COVID-19 CRISIS

BRITAIN ON LOCKDOWN

The Guardian
London, April 10, 2020

PM: 'Stay at home, this is a national emergency'



Inside

THE  **TIM**

Alex Salmond: not

Scotland's former leader cleared of sex ch

‘You must stay at

Working to feed the nation.

To our customers,

We know that many of you are worried about the spread of coronavirus (Covid-19). We want to let you know that we are doing everything we can so that you and your families have the food and essentials you need.

We are working closely with Government and our suppliers to keep food moving quickly through the system and making more deliveries to our stores to ensure our shelves are stocked. Those of us with online delivery and click-and-collect services are running them at full capacity to help you get the products you need when you need them.

We thank all our colleagues in stores and supply chains who are working day and night to keep the nation fed.

But we need your help too.

We would ask everyone to be considerate in the way they shop. We understand your concerns but buying more than is needed can sometimes mean that others will be left without. There is enough for everyone if we all work together.

Together we can make sure we are looking out for family, friends, neighbours. Together we will care for those around us and those who are elderly, vulnerable or choosing to remain at home.

We are doing all we can to rise to this challenge. Serving you and keeping you and everyone who works with us safe will always be our priority.

Sainsbury's
live well for less

co
op

LIDL

TESCO
Every little helps

ALDI

WAITROSE
& PARTNERS

M&S
EST. 1864

ASDA

Iceland

Morrisons
Since 1899

Ocado

Costcutter
Independents Group



Covid-19 priority shopping times and restrictions

Sainsbury's	Monday-Saturday 7:30-8:00 anyone with NHS ID Monday, Wednesday & Friday 8am-9am elderly customers, disabled customers and carers	Max 3 per person of most items, Max 2 per person on popular items inc toilet paper, soap and UHT milk
TESCO	Sunday (1 hour before the tills open) NHS workers Monday, Wednesday & Friday 9am-10am elderly & most vulnerable	Max 3 per person of most items
ASDA	Monday, Wednesday & Friday 8am-9am NHS workers (larger stores only)	Max 3 per person for food items, toiletries and cleaning products
M&S	Monday & Thursday (1 st hour) – older and vulnerable customers Tuesday & Friday (1 st hour) NHS & emergency service ID holders	Max 3 per person of grocery items (in-store only)
Morrisons	Monday – Saturday 7am-8am NHS badge holders	Limits instore vary by store Max 3 per items per customer online
co op	Dedicated shopping hour for those at higher risk and the people who care for them (times vary by store)	Max 2 per person of selected products
Waitrose	1 st hour of trading (times vary by store) Elderly, vulnerable & those who look after them	Max 3 per person of most items, Max 2 per person on toilet paper
Iceland	1 st hour of trading (times vary by store) Elderly & Vulnerable	Limit (varies by item) on anti-bacterial soaps, wipes and high demand items
ALDI	Check each store as they are setting their own rules	Varies by store
LIDL	Check each store as they are setting their own rules	Varies by store

Other challenges in the food systems

War...and supply
shortages

Brexit –
labelling/legislation
changes, imported
goods and NI

Inflation and cost of
living crisis

Poverty and food
insecurity

Traceability

Allergens

Health – National
Food Strategy

Education

Skilled workers and
labour shortages

Drivers for
consumer choice

.....and of course
Climate change

The food and drink industry is the **biggest UK manufacturing sector**, larger than automotive and aerospace combined

Over 97% of the 11,675 food and drink manufacturing businesses are **SMEs**

Industry Insights

Industry's **output** was valued at £30bn **▲ 4.2%**

with a total turnover of £112bn **▲ 4.8%**



and domestic sales of £100bn **▲ 4.5%**

The food and drink industry provided 468,000 **jobs** **▲ 3.4%**



across every region and nation, with 4.2m workers in the farm-to-fork food chain

◆ Percentage Increase/ Decrease from 2020 to 2021



The industry's **total business investment** was £4bn **▲ 7.9%**

Over half of our members identified new products and healthy food as investment opportunities



Food and drink **exports** were valued at £20bn **▼ 4.0%**

Sold to over 220 **export countries**, of which the top export **markets** are Ireland, France, USA

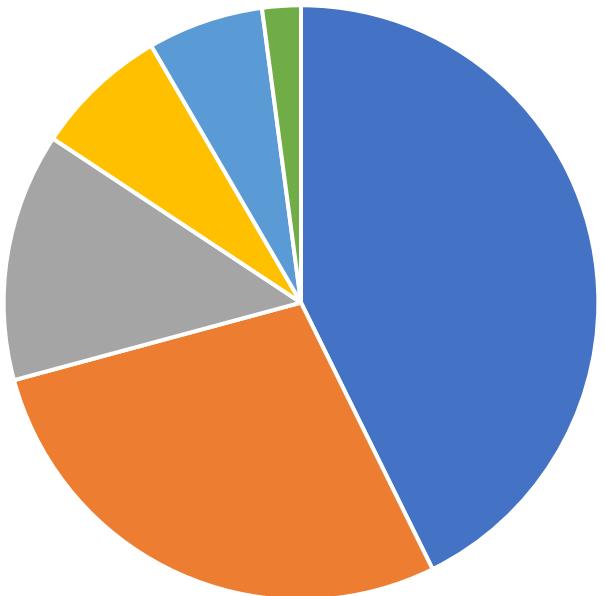


Role models for food careers



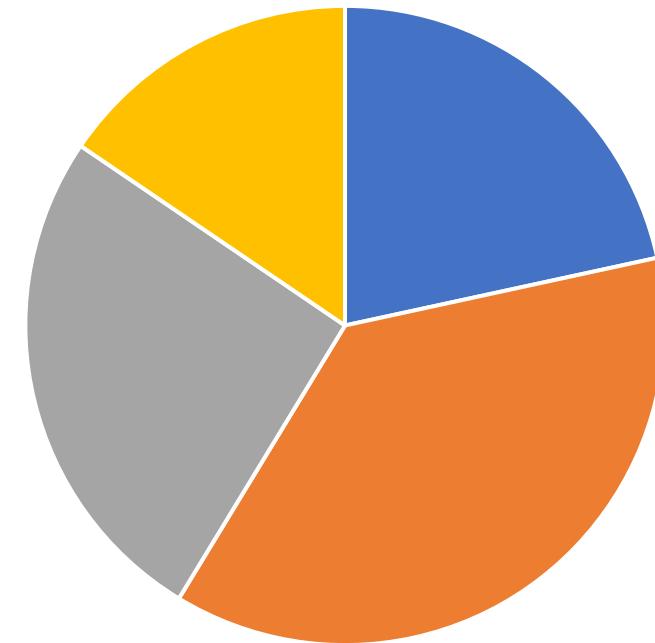
Career choices.....

Confided in about careers



- Subject teacher
- Career advisor
- I can't remember
- Family member
- Year or course head
- Nobody or no single person

When did you develop an interest in a food career?



- 12-14 Years old
- 15-16 Years old
- 17-18 Years old
- After 18 Years old



IDEAS & OPEN FOOD PROJECTS

Apprenticeships



Samworth Brothers

17,900 followers
5d • 

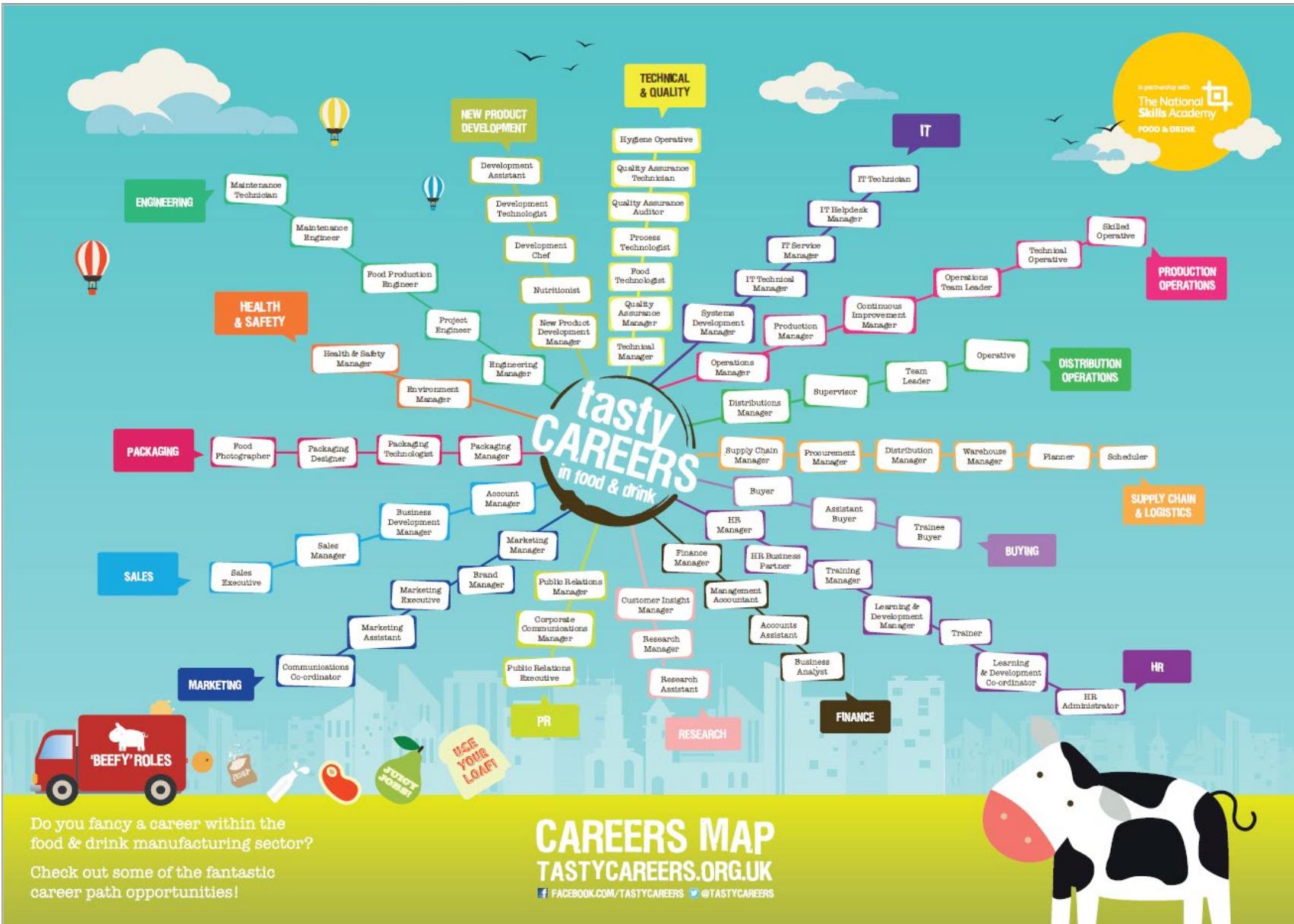
+ Follow

Good luck to Samworth Brothers Higher Level Apprentice Matty Desforges - shortlisted for Apprentice of the Year in this week's [Food and Drink Federation Awards](#) <https://lnkd.in/eRHC-gw>
#apprentices #fdfawards #awards



Our News | Samworth Brothers

samworthbrothers.co.uk • 1 min read





HOW DO YOU MAKE
A CHICKEN SALAD?



FARMERS invest time, money and expertise to produce chickens for us to eat. **ANIMAL WELFARE OFFICERS** rigorously check that the poultry is farmed and its meat produced to the highest standards before the chicken is prepared then cooked in production facilities using equipment designed and maintained by **FOOD INDUSTRY ENGINEERS** using processes developed by **FOOD PROCESS TECHNOLOGISTS**. Crispy salad crops are produced by **GROWERS** to standards developed, overseen and audited by **AGRONOMISTS** and harvested using equipment designed by **AGRICULTURAL ENGINEERS**.

BUYERS carefully select the best grade crops which are harvested when the quality is just right and they are then cooled for to keep them fresh. The crispy salad and cooked chicken are sent to the salad manufacturer where they are checked by, the **QUALITY TEAM** to ensure they are the right quality. Tasty dressings are developed by **FOOD SCIENTISTS AND TECHNOLOGISTS** who work with the **PRODUCT DEVELOPMENT TEAM** which creates new recipes with **NUTRITIONISTS**. The Product Developers also work with **FOOD PACKAGING RESEARCHERS** to present the chicken salad in a way that appeals to potential consumers. The **PRODUCTION MANAGER** works with **TEAM LEADERS** to ensure that

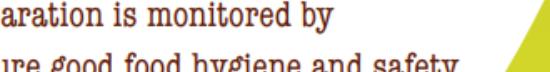
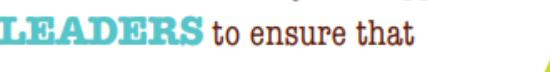
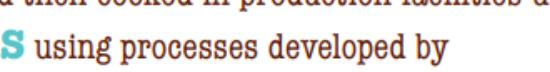
PROCESSING OPERATIVES prepare the chicken salad appropriately. Preparation is monitored by **QUALITY TEAMS** working for the **QUALITY ASSURANCE MANAGER** to ensure good food hygiene and safety procedures are being maintained. The whole process is managed by the **TECHNICAL MANAGER**.

Finally **SALES AND MARKETING** using **THE INFORMATION TECHNOLOGY DEPARTMENT** say when the chicken salad needs be despatched to the shop by the **DISTRIBUTION TEAM** using **CHILLED LOGISTICS SPECIALISTS**.

This is normally on the same day that it is made to make sure that when it gets into your shopping basket it is fresh, wholesome and tasty!



HOW DO YOU MAKE
FRUIT JUICE?

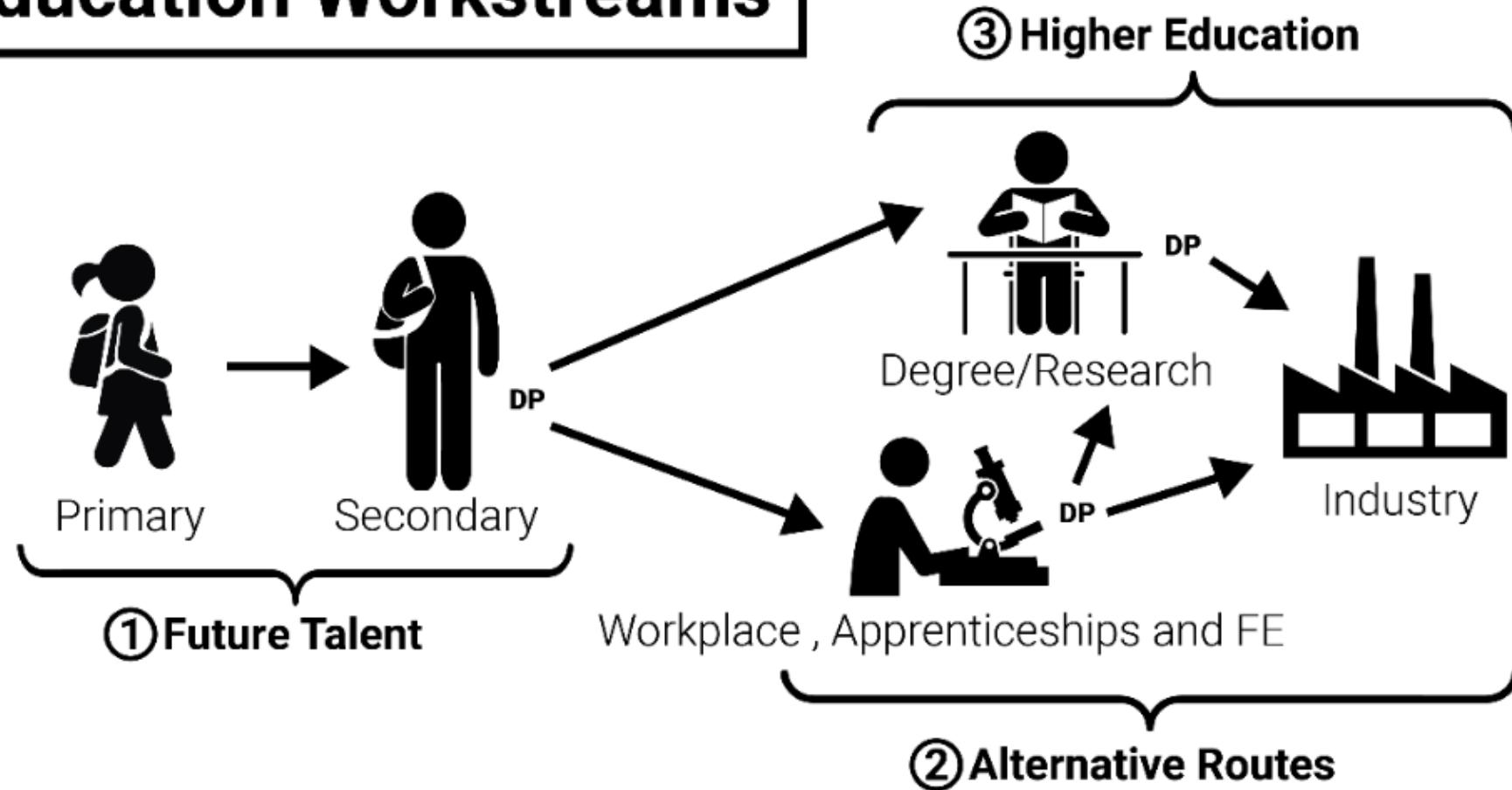


Project Inspire

Step up for skills and careers in the food sector

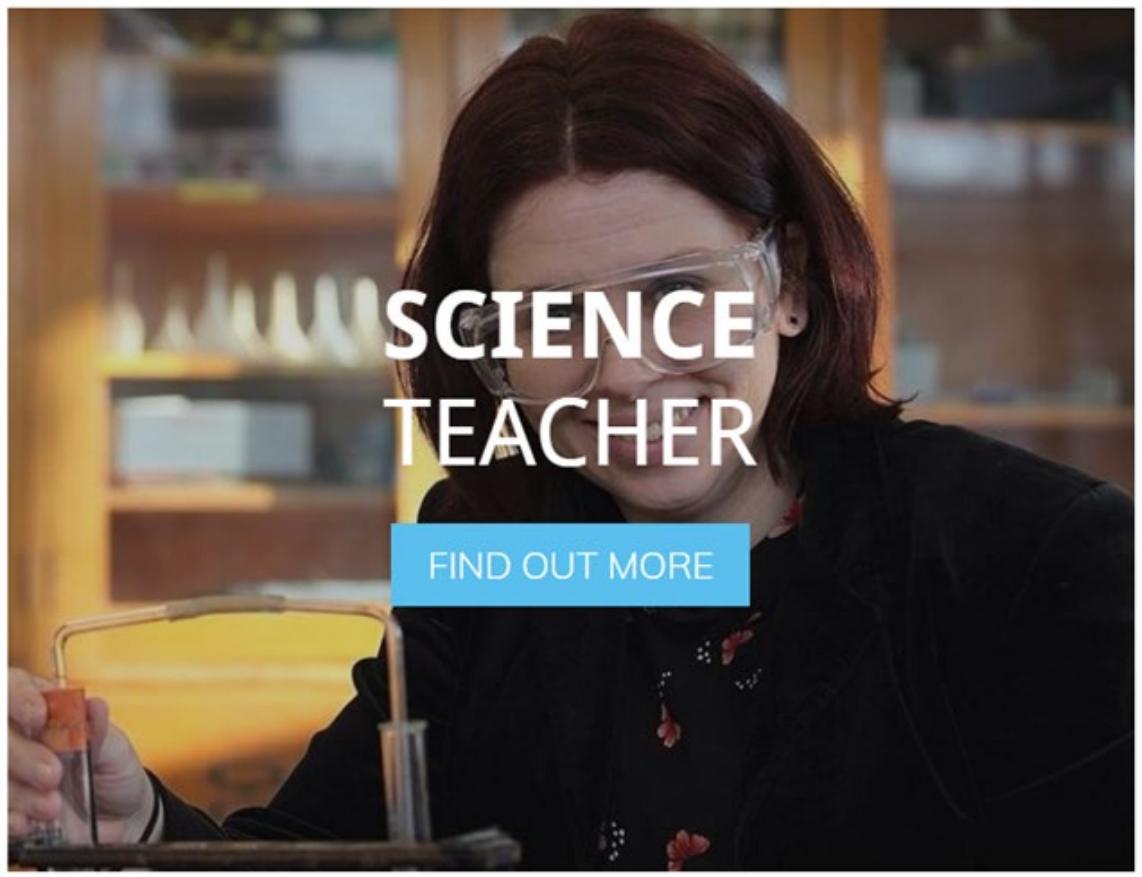
Institute of
Food Science
+ Technology **ifst**

IFST Education Workstreams





<https://www.ifst.org/lovefoodlovescience>



**SCIENCE
TEACHER**

[FIND OUT MORE](#)



**FOOD
TEACHER**

[FIND OUT MORE](#)

www.chillededucation.org

Imaginative teaching resources & inspirational career
ideas from the chilled food industry



Be inspired with a career in food

Careers are as diverse as the food we eat!

From farm to fork – careers that feed the nation



Producing

Agriculture
Agronomy (soil and crop science)
Animal husbandry

Aquaculture and fishing
Forestry and land management
Horticulture



Processing

Food safety and quality
Food science
Ingredient purchase and sales
New product development



Providing

Nutrition
Packaging
Primary processing and manufacturing
Technology and engineering

Events management
Hospitality and catering

Professional cookery
Retailing

From farm to fork – careers that inform the nation



Advising

Dietetics
Environmental health

Health care
Nutrition



Educating

Research
Resource production

Teaching
Training



Communicating

Advertising
Campaigning
Designing

Food styling
Food writing
Marketing

Read inspiring career journeys here:

www.foodafactoflife.org.uk/whole-school/careers



www.foodafactoflife.org.uk



- <https://www.foodafactoflife.org.uk/whole-school/careers-in-food/>

‘My teacher was an inspiration and a big advocate for food being a career and not just a hobby’.

‘There was no advertisement of jobs in the food industry or the fact you could even study it at university’!

Get in touch...

- [Dr Caroline Millman](#) PhD BSc (Hons) FIFST MSOFHT
- Senior lecturer in Food and Nutrition | Course Leader - Food Technical Degree Apprenticeship | Research Theme Lead: Food Engineering for Health
- <https://www.chillededucation.org/appreciating-apprenticeships/>
- College of Business, Technology and Engineering, Sheffield Hallam University
- [Email: c.e.millman@shu.ac.uk](mailto:c.e.millman@shu.ac.uk)
- Twitter: @foodbugclub