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The Royal (Dick) School  
of Veterinary Studies

```
Pop = randCross2(males = Sires,  
                females = Dams,  
                nCrosses = 750,  
                nProgeny = 100)  
Dams = selectInd(Pop,  
                nInd = 750,  
                sex = "F")  
Sires = selectInd(Pop,  
                nInd = 25,  
                sex = "M")
```

# An introduction to Data-Driven Breeding and Genetics

```
Variety = selectInd(EYT, nInd = 1)  
EYT = selectInd(AYT, nInd = 10)  
AYT = selectInd(PYT, nInd = 50)  
PYT = selectInd(HDRW, nInd = 500)  
HDRW = makeDH(F1, nDH = 100)  
Parents = c(EYT, AYT)  
F1 = randCross(Parents, nCrosses = 100)  
}
```



# MSc Data-Driven Breeding and Genetics

For the next generation of breeders and geneticists from a range of industries and academic fields.

Flexible options – standalone courses, certificate, diploma or masters.

Starts September 2025.

Applications open.



<https://vet.ed.ac.uk/global-agriculture-food-systems/study/data-driven-breeding-and-genetics>

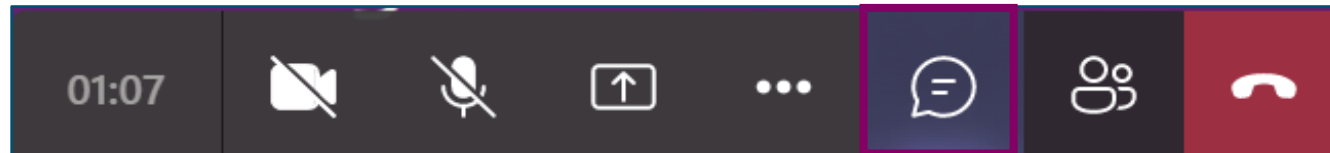


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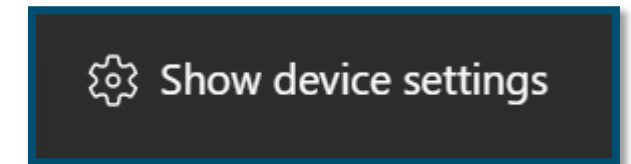
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# Audio check

- Can you hear the presenter speaking?
- Please type “no” in the Chat area if you cannot hear the presenter



- If you can't hear:
  - Check your settings by clicking on the three little dots on the options bar and then 'show device settings'. Here you can check and change your speakers.
  - Try signing out and signing back into the session
  - Don't worry, the session is being recorded



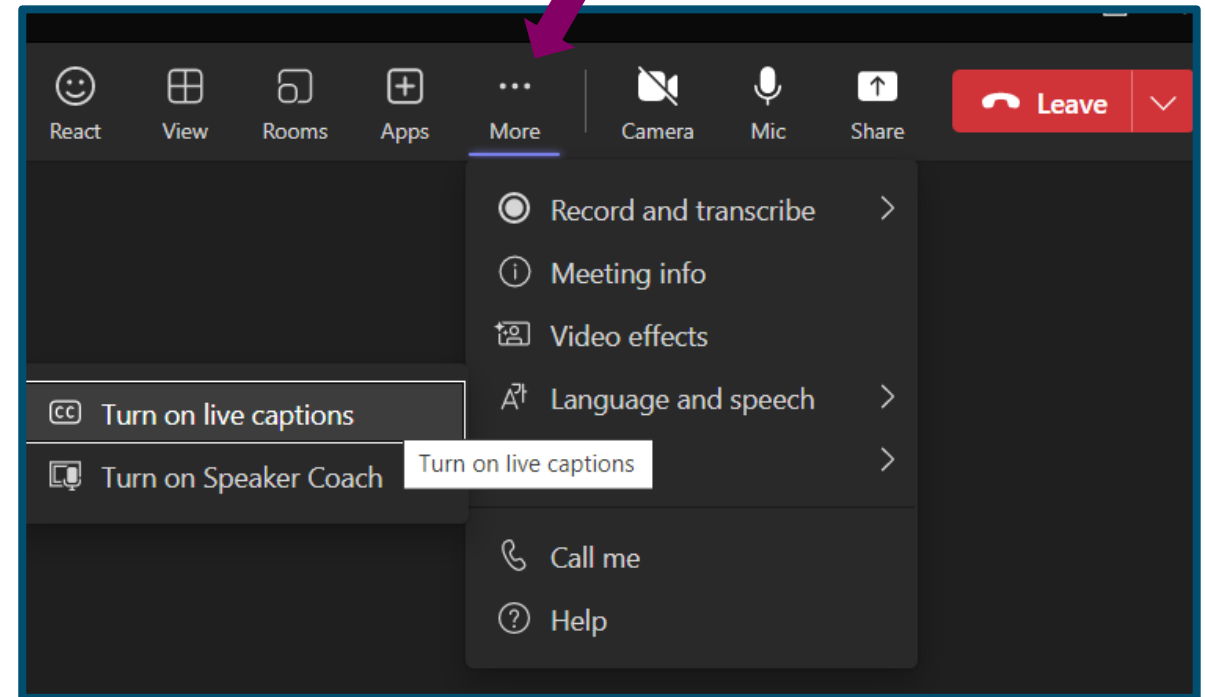


# Live captions

You can turn on automated live captions as follows:

- More > Language and speech > Turn on live captions

These are automated therefore won't be 100% accurate



# Recording



- Today's session is being recorded
- Any information that you provide during a session is optional and in doing so you give us consent to process this information
- If you don't want your question or name read out in public, you can email your question to [futurestudents@ed.ac.uk](mailto:futurestudents@ed.ac.uk)
- Please note - a few attendees' names may be visible in the recording, if it is important that your name not be visible in the recording, please exit the session and re-enter using an incognito browser and typing in a pseudonym for yourself
- The session will be stored by the University of Edinburgh and published on our website after the event on a non-indexed web page
- ***You will be emailed with a link to watch the session recording by the end of next week***





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“Innovation through genetics, data science, and technology can provide a route out of poverty through sustainable improvement of crops and livestock”



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# Programme Aims

- Address the shortage of data scientists in the Agri-Tech sector
- **Train** the next generation of breeders and geneticists in the **statistical & computational skills** to design & implement **sustainable genetic improvement** programmes across **global systems**
- Cover **plants and animals** to deliver gain at scale



Source: Tom Fisk (pexels)



Source: <https://www.scottish-blackface.co.uk>





# Why study Data-Driven Breeding and Genetics at the University of Edinburgh?

- Led by the Roslin Institute and the Division of Global Agriculture and Food Systems



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**Global Agriculture and  
Food Systems**



- World-leading expertise in genetics, breeding and agriculture
- Emphasis on application
- Global perspective

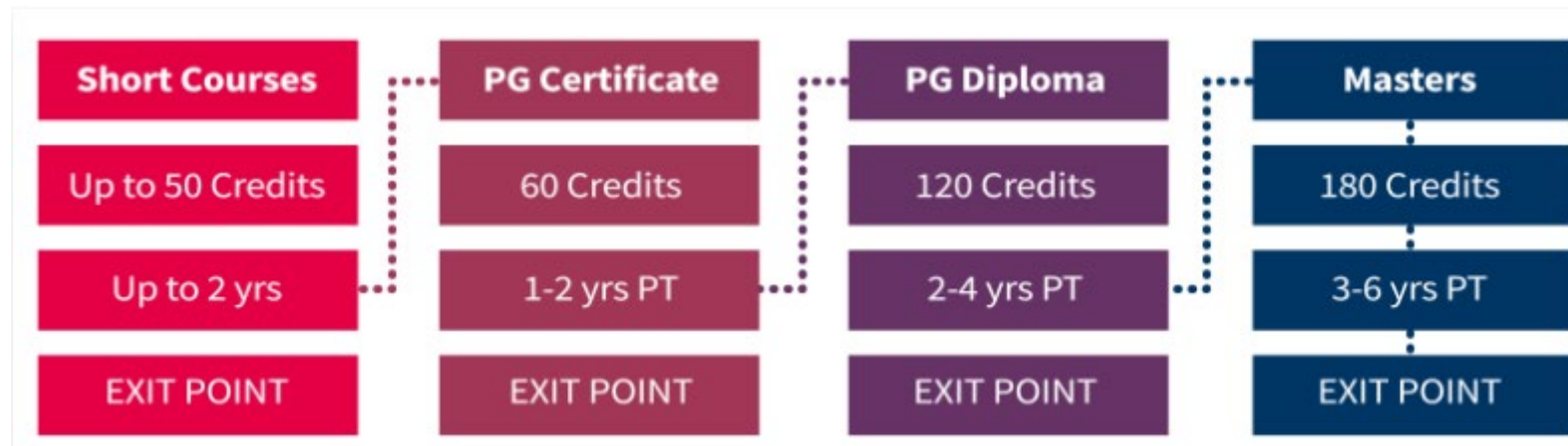


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# Launching September 2025!

- Online, Part-time: 3 years min, up to 6 years intermittent study (MSc)
- Exit routes: MSc, PG Diploma, PG Certificate, individual courses (PPD)



- URL [Data-Driven Breeding and Genetics](#)



# Courses

## Years 1 and 2

- 10 credits = 100 hours of teaching and learning of which c. 35 hours lectures/ practicals (7h/week)
- Independent learning (guided) and assessment
- Mostly asynchronous
- Discussion boards

## Year 3

- Research project (dissertation, 60 credits)



Source: pickpic



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Programme Name: Data-Driven Breeding and Genetics							Curriculum					
Degree Type : Postgraduate Taught Masters/Diploma/Cert							Online Distance Learning					
							Term 1		Term 2		Term 3	
							Weeks		Weeks		Weeks	
Yr	Course Name	PgCert	PgDip	MSc	PPD		1 to 6		7 to 12		1 to 6	
		Compulsory (C) or Elective (E)			Y/N	Credits						
1	Sustainable breeding and genetics	C	C	C	Y	10						
	Population and quantitative genetics for breeding	C	C	C	Y	10						
	Various	E	E	E	NA	10						
	Principles of genetic evaluation	C	C	C	Y	10						
	Genomics and phenomics in breeding	C	C	C	Y	10						
	Breeding programmes and their modelling	C	C	C	Y	10						
2	Advanced modelling in genetic evaluation	NA	C	C	Y	10						
	Future breeding and genetics	NA	C	C	Y	10						
	Applications of data-driven breeding and genetics to real-life challenges	NA	C	C	Y	10						
	Research and professional skills for data-driven breeding and genetics	NA	C	C	N	10						
	Various	NA	E	E	NA	10						
	Various	NA	E	E	NA	10						
3	Data-driven breeding and genetics dissertation	NA	NA	C	N	60						



# Programme Team

## Core Academic Team

Programme Director: Pau Navarro

Programme Coordinator: Smaragda Tsairidou

Course Leads: Steph Smith, Smaragda Tsairidou, Ivan Pocrnica, Gregor Gorjanc, Pau Navarro

## Professional Service Colleagues

Programme administrator: Stavriana Manti

Student Advisor: Moreen Watson

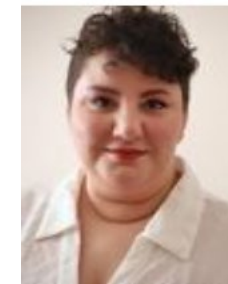
Learning Developer: Seda Battilani



Stavriana



Moreen



Seda



# Academic Team



Pau



Smaragda



Steph



Ivan



Gregor



Hellen Mbaya



Chrissy Rochus



Geoff Simm



Christian Tiambo

...and many others



Centre for  
Tropical Livestock  
Genetics and Health



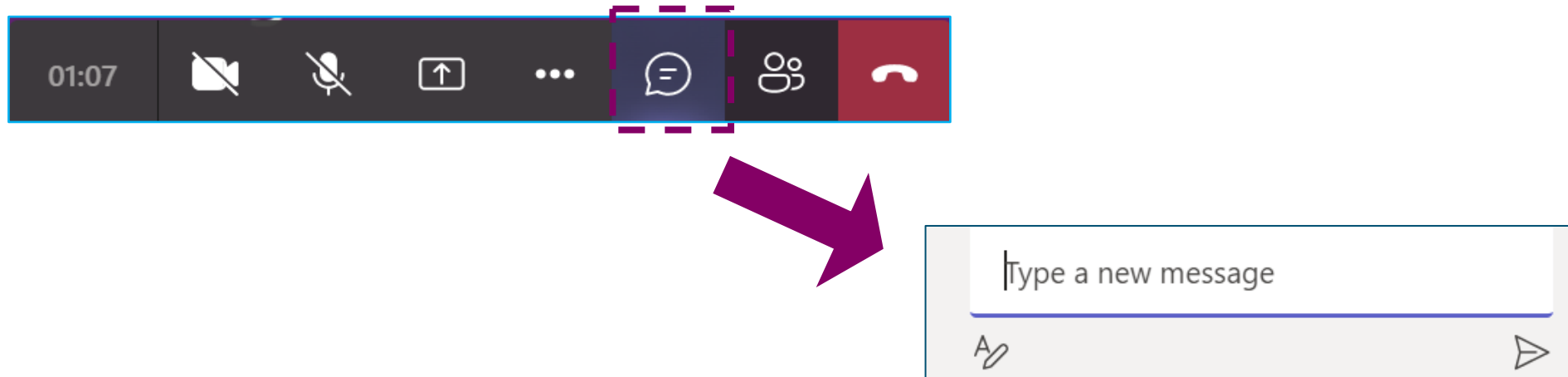
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# Asking questions

- Type your question into the Chat Area



# Contact details for follow-up questions

We apologise if we did not get through all of your questions in the time allotted for this session.

If you have further questions that have not been answered, please email:

**DDBG@ed.ac.uk**



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# Thank you

Pau Navarro

[Pau.Navarro@ed.ac.uk](mailto:Pau.Navarro@ed.ac.uk)