

AUTUMN 2019

UCD Veterinary Community News

Nuacht Phobal Tréidliachta UCD



Celebrating Success



The Newsletter of the
UCD School of Veterinary Medicine

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About the UCD School of Veterinary Medicine

The UCD School of Veterinary Medicine is the only school of Veterinary Medicine on the island of Ireland. Accredited by the European Association of Establishments for Veterinary Education (EAEVE) and the Veterinary Council of Ireland (VCI), our MVB degree programme is one of only six in Europe fully accredited by the American Veterinary Medical Association (AVMA). We have a track record in education that is second to none and our excellence in teaching & learning, research and clinical endeavour is internationally recognised. In 2019, the School received an Athena SWAN bronze award for its commitment to gender equality.

Contributors

Many thanks to the following: Atiyah Bagha, Jenny Caffrey, Simon Coate, Daniel Collins, Joseph Crispell, Steve Gordon, Gemma Howorth, Aidan Kelly, Donal Linehan, Simon More, Finbar Mulligan, Catherine McCarney, Niamh Nestor, Ellen Nugent, Anne O'Hanlon & family, Alison Reynolds, Eoin Ryan, Torres Sweeney. Images from the Veterinary Sporting Greats event were taken by Inpho Photography.

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Dean's Welcome



→ **A chairde, cuireann sé gliondar croí orm an dara leagan de Nuacht Phobal Tréidliachta UCD a sheoladh.**

Dear Colleagues,

It gives me great pleasure to introduce the 2nd edition of UCD Veterinary Community News. Recently returned from the European Bovine Conference in the Netherlands, I arrived back to discover, to my delight, that work had already commenced on the installation of state-of-the-art MRI for both large and small animal patients in our UCD Veterinary Hospital

Following a busy summer period when we held our popular annual Veterinary Hospital Conference and celebrated veterinary sporting achievement in style, we look forward with great excitement and anticipation to academic year 2019-20.

A year that in addition to the ACOVENE accreditation of our veterinary nursing programme, will herald in November 2020, accreditation visitations by the Veterinary Council of Ireland, the European Association of Establishments for Veterinary Education (EAEVE) and the American Veterinary Medical Association (AVMA); but on a lighter note, a year that will see us celebrate the 40th anniversary of our wonderful school Christmas Carol Concert!

As Dean and Head of School, I am very proud of a School of Veterinary Medicine that sits proudly ranked 26th in the world in the QS World University Subject ranking, with veterinary science the highest QS-ranked subject in UCD; proud of a flourishing veterinary school, positively impacting health, animal welfare, and the environment

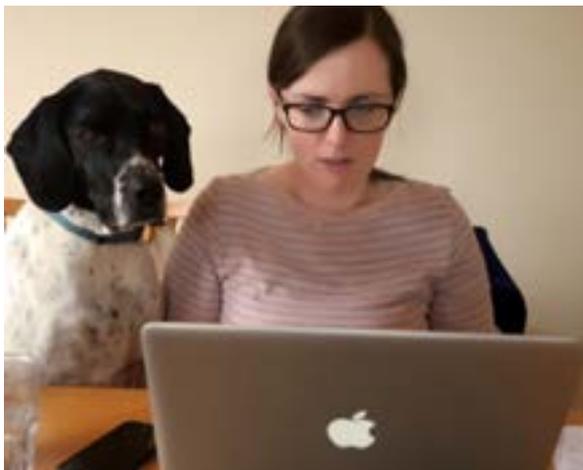
Best wishes
le gach dea-ghuí

A handwritten signature in black ink, appearing to read 'Michael Doherty'.

Professor Michael Doherty
Dean & Head of School

Follow the Dean on Twitter: [@DohertyVetDean](#)

Message from the Communications Manager



Dr Helen Graham, Communications Manager

In this, the second edition of UCD Veterinary Community News, we're celebrating a range of successes from across our community - from student research awards here in the School to the QS World University Rankings by Subject. There's a strong collaborative theme running through much of this success, with colleagues and students working together and international visitors from Australia and the USA.

Sporting achievement was celebrated at our UCD Veterinary Sporting Greats event in July, and the School's commitment to gender equality, diversity and inclusion was recognised in the awarding of a bronze Athena SWAN award in April.

Research activities are also a focus of this edition - from UCD Lyons Farm to student projects, and from the UCD Centre for Veterinary Epidemiology and Risk Analysis to postgraduate successes.

We look at the life and career of Thomas O'Hanlon and the Memorial Award which bears his name, and we also feature a piece on Joseph Lynch, one of our first graduates, whose medals have recently been gifted to the School.

We look to the future with the development of our Strategic Goals and we also see how our Clinical Skills Centre is inspiring the next generation of veterinary professionals.

It has certainly been another busy year in the UCD School of Veterinary Medicine and we're delighted to be able to bring you some of our success stories - we hope you enjoy reading them.

Dr Helen Graham
Communications Manager

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News In Brief

→ External Advisory Board



The annual meeting of the School's External Advisory Board took place on 19 July. Pictured (l to r) are: **Donal Connolly, Frank O'Sullivan, Rory Breathnach, Sue Rackard, Michael Doherty, Sean O'Laoide, Mike Magan, Simon More, Tanis Turley and John Buckley.**



→ Joseph Crispell

Post-Doctoral Research Fellow **Joseph Crispell** won the 'Best Oral Presentation' award at the 40th European Society of Mycobacteriology Congress in Valencia for his talk '**Using genomics and epidemiology to study the transmission of Mycobacterium bovis between cattle and wildlife.**'



→ QSWUR

The School continued its strong showing in the **QS World University Rankings by Subject**, with Veterinary Science at UCD placing 26th in 2019, making it the highest ranked subject in UCD.

→ UCDVH Conference



The **14th Annual UCD Veterinary Hospital Conference** took place on 12 July and we were delighted to welcome colleagues to Belfield for a diverse range of talks across our Conference streams.

→ Please Talk Vet Community Garden project



One of the many harvests from the **Please Talk Vet Community Garden**. This project is coordinated by **Niamh Nestor, Marijke Beltman and Bridget Hogg** with contributions going to the Children in Hospital Ireland charity.

Skeleton Building Workshop with the University of Adelaide

→ The School was delighted to host **Dr Rachel Norris** and **Anthony Wilkes** from the University of Adelaide's School of Animal and Veterinary Sciences in July. Rachel and Anthony came to UCD to deliver a workshop on the art of articulation of a mammalian skeleton from prepared bones; the idea was developed with **Catherine McCarney** from our Veterinary Biosciences Section and the bones for the workshop were prepared in advance by **Marie Tumilson**, also from the Biosciences section.



→ **Rachel Norris and Anthony Wilkes with workshop participants**

Rachel and Anthony are both based in the Animal and Veterinary Bioscience Department, with a particular focus on anatomy. The purpose of their visit to UCD was two-fold - to deliver the skeleton building workshop to staff here and to learn more about our Clinical Skills Centre, as they are looking to develop a clinical skills suite in Adelaide. It's great to see such interest in our Clinical Skills Centre and Rachel and Anthony took many practical and innovative ideas away with them.



→ L - Rachel Norris working on putting the skeleton together → R - Marie Tumilson taking part in the skeleton building workshop

The highly interactive workshop was delivered over two days to staff in the School who work with bones as learning resources. The workshop was thoroughly enjoyed by all who took part, and attendees were able to develop a deeper understanding of and confidence in preparing learning resources of this type.

The workshop also proved to be an effective team building exercise as participants were tasked with working together to produce a reusable learning resource to a high standard. Attendees were really inspired by the work of Rachel and Anthony, and plans are already underway to put into practice the skills and ideas that have come out of this workshop. We would like to extend a huge thank you to Dr Rachel Norris and Anthony Wilkes who gave so generously of their time and their considerable expertise to staff in the School.

UCD Veterinary Sporting Greats Event - 19 July 2019

→ **UCD Veterinary Sporting Greats** – an event to celebrate veterinary sporting achievement took place in UCD's Astra Hall on Friday, 19 July. The Dean of Veterinary Medicine, **Professor Michael Doherty**, and colleagues from across the UCD Community were joined by a host of sporting stars – **Brian Dooher** (three-time All-Ireland Gaelic Football winner with Tyrone), **Ger Kelly** (member of Clare team that won the 1992 Munster Football Championship), **Susie Mitchell** (World Track Masters Champion), **Derek McGrath** (member of the 1987 Irish Rugby World Cup squad, Chief Executive of the European Rugby Cup and currently CEO of the Curragh), **Shane McGuckin** (double All-Ireland Hurling winner with Offaly), **Fiona O'Brien** (Six Nations winner with Irish Women's Rugby team in 2015), **Sue Rackard** (representing **Nicky Rackard**, Wexford hurling legend and top championship goal-scorer of all time) and **Dermot Weld** (legendary Race Horse Trainer - celebrated 4,000th winner of his career in 2016).

The event was hosted by RTE's **Evanne Ni Chuilinn**, with a panel discussion involving our veterinary sporting greats forming the centerpiece of the night. Guests were regaled with tales of sporting achievement and memories of studying in the Vet School, and there was also discussion on the benefits of getting involved in sports - all our contributors were in agreement as to the huge positive impact sport has had on their lives.



→ Our Sporting Greats panel with the Dean, Professor Michael Doherty (l-r: Derek McGrath, Fiona O'Brien, Dermot Weld, Michael Doherty, Sue Rackard, Susie Mitchell, Brian Dooher and Shane McGuckin; Ger Kelly not pictured)



→ The panel with RTE's Evanne Ni Chuilinn (l-r: Sue Rackard, Shane McGuckin, Susie Mitchell, Derek McGrath, Evanne Ni Chuilinn, Fiona O'Brien, Dermot Weld, Brian Dooher, Ger Kelly)



→ All of our very special sporting guests

There were also contributions from sporting guests in the audience, including **John Oxx** (Race Horse Trainer), **Mary Duane** (Dublin Football and Camogie), **Kevin Foley** (Double All Ireland Gaelic Football winner with Meath) and **Brian Mullins** (UCD's Director of Sport).

The School was very proud to have current staff and students among our sporting guests, including students **Alix Cunneen** and **Sarah Glynn** (UCD Women's Rugby Club) and staff members **Marijke Beltman**, who has represented Ireland in Triathlon at European level, and **Emma Golding** who competes in Horse Driving Trials and has represented Ireland at the FEI World Championships for Drivers with Disabilities.

The UCD School of Veterinary Medicine is proud of colleagues, students and alumni who have achieved so highly in their chosen sports, as well as all those who participate in sport at so many levels, as players and volunteers, making a huge contribution to the community in Ireland - we are delighted to have had this opportunity to celebrate their sporting achievements with them.

Thanks to our event sponsors **Bimeda Ireland**, **Zoetis** and **MSD Animal Health** for their generous support of this event. And thanks are also due to everyone who contributed to the collection for the Irish Veterinary Benevolent Fund, a charitable trust established and supported by the veterinary professions.



→ L-R: Derek McGrath, Brian Doohar, Michael Doherty (Dean of Veterinary Medicine), Evanne Ni Chuilinn (RTE), Susie Mitchell, Fiona O'Brien, Shane McGuckin, Dermot Weld, Kevin Foley, John Oxx and Ger Kelly.



→ Speakers & guests

For more on this event and to view the event programme and panel discussion video see: www.ucd.ie/vetmed

Conferring Ceremony 2019

→ The School's annual **Conferring Ceremony** took place on Friday 14 June this year. UCD O'Reilly Hall played host to the classes of Bachelor of Science (Veterinary Nursing), Bachelor of Veterinary Medicine, Postgraduate Certificates and Diplomas, Masters and PhD students and also our Doctorate of Veterinary Medical Specialisation (DVMS) graduates; almost 200 students were conferred with awards this year. Congratulations to the Veterinary Medicine and Veterinary Nursing classes of 2019 and to everyone who graduated - we wish you every success in your future careers.

Also on this celebratory occasion for the School, **Professor Patrick Brennan** from Colorado State University was conferred with an honorary Degree of Doctor of Science, with the citation delivered by Professor Steve Gordon. Professor Brennan's career, which has spanned over fifty years, has been devoted to developing new ways to combat infectious disease through studying the bacterial pathogens that cause tuberculosis and leprosy. His research career has focused on the study of mycobacteria, a diverse group of bacteria that include some of the most important disease-causing bacteria of humans and animals globally. Professor Brennan's research on the mycobacteria has opened up new understandings of how these bacteria function at the molecular level, information that has catalysed the development of new drugs, diagnostics and tools for the control of mycobacterial diseases.



→ Professor Patrick Brennan was conferred with an honorary Degree of Doctor of Science



→ Professors Michael Doherty and Simon More with our PhD and DVMS graduates

Professor Brennan joined the UCD Department of Biochemistry in 1971, and worked there until he relocated to the USA in 1976, working in a number of positions before joining the faculty of Colorado State University in 1980. He maintained links with UCD and Ireland throughout his career, working with Prof Dan Collins, Professor of Farm Animal Clinical Studies, on bovine TB research projects and providing advice to our national bovine TB eradication program. As Professor Steve Gordon highlighted:

“Pat Brennan’s career is a shining example of how the pursuit of scientific excellence and translation of that research into new control tools can produce benefits across both human and veterinary medicine.”

It was an honour for the University to have the opportunity to bestow this award on Professor Brennan and we hope that his career will serve as an example to all our new graduates.

UCD School of Veterinary Medicine Awarded the Athena SWAN Bronze Departmental Award



→ The UCD School of Veterinary Medicine was awarded the **Athena SWAN Bronze Departmental Award** in April, recognising the School's commitment to gender equality, diversity and inclusion.

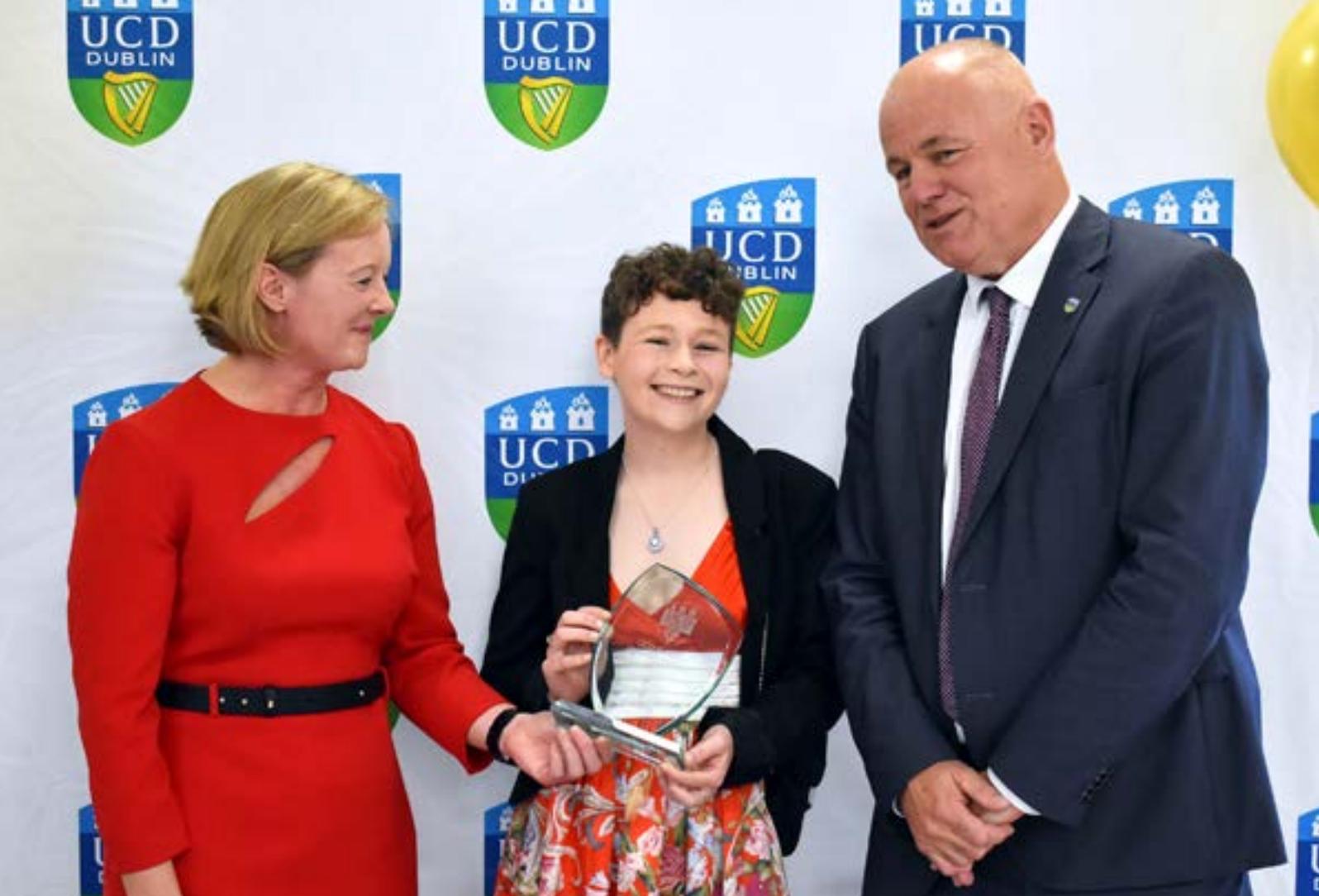
The award was achieved following a rigorous review and assessment period conducted by the School of Veterinary Medicine Athena SWAN Self-Assessment Team (SAT), led by **Professor Torres Sweeney**, beginning in September 2017. The SAT comprises 28 staff and students from across the School, and it represents the School's mixture of genders, roles, grades and career stages. It is made up of members of senior management, professors/lecturers, clinical staff, professional staff, research staff and students.

The review and assessment period included detailed data analysis and both qualitative and quantitative research to ascertain staff and students' attitudes and

perceptions towards gender equality in the School. 299 students and 111 staff participated in the student and staff surveys and three separate focus groups were held for students, hospital staff and non-hospital staff.

The review resulted in a very detailed assessment of the School and the creation of an Action Plan containing 64 actions which the School will focus on and deliver over the next four years. A number of key strategic areas are covered by the Action Plan, including:

- Supporting and advancing careers (recruitment, induction and promotion)
- Flexible working and managing career breaks
- Organisation and culture
- Student career choices



→ Shauna Gavin receives the inaugural 'Dean's Inclusion Award' from Professor Michael Doherty and Professor Torres Sweeney for consistently and actively advocating inclusion and tolerance during her time in the School.

Several initiatives have already been implemented and several more are in progress, including:

- Two Faculty Promotion workshops, explaining the promotions process for all faculty
- A panel discussion with veterinary nurses who outlined their career paths to date on International Women's Day
- A Viva preparation workshop for PhD and DVMS students
- The inaugural Dean's Inclusion Award
- The first college-wide Pride celebration, celebrating the LGBTQIA+ community
- A large survey of secondary school students will be conducted in Autumn 2019 to determine what factors influence their choice of career
- Mentorship programmes for a variety of staff and student cohorts are currently in development

The Athena SWAN programme is of huge importance to the School and is fully aligned with our strategic plans. The School's SAT continues to meet regularly to progress and implement our Athena SWAN Action Plan, ensuring the ongoing transformation of our culture to consistently drive gender equality, inclusion and tolerance for all staff and students.

Cover feature:

Dairy Nutrition Research at UCD Lyons Farm: Productivity, Animal Health and the Environment

→ The production of milk and the sale of dairy products internationally is an extremely important part of the national economy. The agri-food and drink sector is estimated to be worth **€13.6 billion** to the Irish economy, accounting for **7.8%** of gross national income and **7.9%** of total employment. The dairy sector is estimated to be worth **€4 billion** to the Irish economy (Bord Bia, 2018) and it is a key contributor to the revenue of many farm animal practices in Ireland.

Recently there has been huge emphasis on expansion of Ireland's dairy exports. However, it is important that dairy production in Ireland is sustainable from an environmental point of view. With this in mind, many have pointed to the large increase **(35%)** in dairy cow numbers in Ireland since milk quota abolition was confirmed, as a significant contributor to environmental problems. Further, since many farms in Ireland were traditionally small in size, many recently expanded herds don't have sufficient facilities or labour resources to deal with the increased cow numbers.

At UCD Lyons Farm, the largest dairy research project seeks to develop a grazing system for milk production that is based on a high level of output per cow, so that nationally we can increase milk output without the need for another large increase in dairy cow numbers. This project has many farmer visitors every year and gets much international attention.

The development of **multispecies swards** (swards including herbs, legumes and grasses) grazing systems also has the potential to reduce the environmental footprint of milk production. These systems use less than half the amount of fertiliser Nitrogen that traditional perennial ryegrass based systems use. These swards are currently being investigated at UCD Lyons Farm to determine their usefulness for milk production and to evaluate their potential to increase the efficiency of Nitrogen utilisation by the dairy cow. It is hoped that by using strategies such as these, the Irish dairy industry can improve its environmental sustainability.



→ Researchers at UCD Lyons are trying to develop a high-output grass based milk production system

From an animal health point of view, high producing dairy cows are often fed diets that promote an **acidic rumen environment**, which has many reported negative consequences for dairy cow health and production. Acidic rumen environments happen in grazing cows (O'Grady et al., 2008) as well as in cows managed in confined systems all across the world. Research at UCD Lyons Farm is currently looking at states of rumen acidosis caused by feeding a grass based diet and how they compare to states of rumen acidosis caused by feeding a high grain diet and non-acidosis diets. The hope is that we can develop more effective prevention strategies for these conditions and have a better understanding of the consequences for improved dairy cow health and welfare.

Another significant health issue for high yielding dairy cows can be **negative energy balance in early lactation**. This problem can sometimes be exacerbated by a low amount of grazed grass available on Irish farms in spring. In these circumstances, it may be appropriate to consider nutritional management by total mixed ration, indoors, in order to increase dry matter and energy intake. However, many aspects of this strategy need to be considered including its effectiveness for improving metabolic status, its impact on production and fertility and of course its cost. This issue is currently under investigation at UCD Lyons Farm.

From a farmer point of view, **milk revenue** is still the single most important factor that influences dairy producer profitability. Dairy farmers are now paid for milk using the A + B – C system. With this payment system, milk protein and fat production are more important than milk volume for milk revenue. Milk fat percentage has huge potential to be suboptimal during the period of peak milk production from April through to June. Some recent peer-reviewed research indicates that milk fat depression affects as many as **10%** of Irish dairy herds (Carty et al., 2017). One research project running at Lyons Farm seeks to investigate the role of low rumen pH in milk fat depression. This research will be carried out using 'Rusitec,' a simulated rumen fermentation system.

None of the research work at Lyons Farm could happen without the dedication of the postgraduate students. There are also many academic staff, technical staff, farm staff and support staff at Lyons Farm and in the School of Veterinary Medicine and the School of Agriculture and Food Science that make a huge contribution to this research.

Of course research is not possible without funding and it's important to thank our funders:

→ **The European Regional Development Fund through Enterprise Ireland**

→ **The Department of Agriculture Food and the Marine**

→ **Dairy Research Ireland**

→ **Devenish Nutrition Ltd**

→ **Marigot Ltd**

Further information:

<https://www.ucd.ie/agfood/about/lyonsresearchfarm/lyonsdairyherd/>

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CI Carty, C.I., Fahey, A.G., Sheehy, M.R., Taylor, S., Lean, I.J., CG McAloon, C.G., O'Grady, L., and Mulligan, F.J., (2017). The prevalence, temporal and spatial trends in bulk tank equivalent milk fat depression in Irish milk recorded herds. *Irish Veterinary Journal*, 70:14-23 .

O'Grady, L., Doherty, M.L., and Mulligan, F.J., (2008). Subacute ruminal acidosis (SARA) in grazing Irish dairy cows. *The Veterinary Journal*, 176:44-49.

The Thomas O'Hanlon Memorial Award & Student Summer Research Projects



→ **Tom O'Hanlon** (pictured) was known for his great natural inquisitiveness and for having a continuous thirst for knowledge, and so it's fitting that the Memorial Award which bears his name supports undergraduate Veterinary

Medicine students in expanding their knowledge base and research skills. As it's fifty years since Tom graduated from the Veterinary Medicine programme, we're taking a look back at his life and his legacy, which continues to encourage and foster learning and scholarship in our students.

Born and raised in the parish of Horsewood in Co. Wexford, Tom studied at St Peter's College and Mount Melleray Abbey before coming to UCD to study Veterinary Medicine. He worked locally for a time after graduation, before beginning a long and distinguished career with the Department of Agriculture. He worked initially as a temporary Veterinary Inspector covering counties from Kerry to Donegal, and he met his wife

Anne while working in Co Mayo. In 1974, they moved back to Wexford, and Tom took up the post of Veterinary Inspector at the Carlow District Vet Office, before later being appointed as Senior Vet Inspector for Cork, Waterford and Wexford. In 1998, Tom became Senior Superintendent in the Beef Control Division, covering all of Ireland from his base in Johnstown Castle in Wexford. He had a close working relationship with his colleagues and encouraged a focus on self-motivation and personal development in all areas of work and life. The respect and esteem in which Tom was held by his colleagues was clear from the wonderful turnout on his retirement night in March 2010.

Learning and building knowledge played a huge part in Tom's life. He had a Master of Science in European Food Regulatory Affairs from the University of Ulster and had plans to follow on with a PhD. Tom had a vast knowledge of many topics and could go into staggering detail on everything from legal judgments, regulations, politics (both national and international), genetics, microbiology, history, pharmacology, as well as veterinary

Outside of his professional career, Tom had a deep love of the land and his weekends were spent attending to his farm, especially at lambing season and the sowing of the corn. He was an avid supporter of Wexford GAA and he rarely, if ever, missed a match. Tom was also a proud family man, and his family remember him at his happiest at home among family and friends.

The award which bears his name was established in 2012 by his wife Anne and his family so that Tom's contribution to both veterinary medicine and scholarship will live on among future generations of Veterinary Medicine students.

The award celebrates and honours his excellence as a scholar, colleague and a veterinary surgeon, and it also ensures that current and future veterinary students have an opportunity to develop their interest in research. This Summer, twenty five undergraduate students from across the School have taken on research projects.

Three of our research students share their story with us here - including Atiyah Bagha, the 2019 recipient of the Thomas O'Hanlon Memorial Award.

→ **Atiyah Bagha** has just completed her third year of the Graduate Entry MVB programme and is one of this year's recipients of the Thomas O'Hanlon Memorial Award in Veterinary Medicine which is awarded to support veterinary summer research students. She was based in **Dr Annetta Zintl's** lab.



→ **Atiyah Bagha** - winner of the Thomas O'Hanlon Memorial Award in Veterinary Medicine

"I had the opportunity to design my own research project this summer as part of my Clinical Extra Mural Skills (CEMS) placement. The project aimed to determine the presence of ticks in the Dublin area. Tick-borne infections, such as Lyme's disease, can cause illness in humans and animals, so an awareness of ticks, where they reside and how to avoid them, is a step towards preventing these diseases.

I designed questionnaires for dog walkers, veterinarians, and vet students. In addition, I collected ticks that came into veterinary clinics on pets, and sampled Dublin parks in search of ticks. Doing fieldwork allowed me to enjoy the sunny days and take some very scenic hikes! (pictured) I was a little ticked off when we didn't find any in eight parks, but in the end we collected some at the Hellfire Club, Marlay Park and from veterinary clinics! The ticks were brought to the lab and identified morphologically and using a lab based technique (polymerase chain reaction or PCR) to examine their DNA. I'm excited to use the skills I've attained during the Summer in clinical practice and in future research projects."

→ **Gemma Howorth** is about to enter her final year of Veterinary Nursing. This Summer, she worked with **Dr Sandra Aungier** and **Assoc Prof Theo de Waal**, examining endoparasites which live inside their host and can cross the species barrier.



“My research looked at zoonotic endoparasites in small animals in the greater Dublin area. These parasites can live inside the animal and can be easily transmitted to humans, especially children. The risks of endoparasites are numerous. Toxocara (pictured - top) causes toxocarasis which can lead to eye and brain conditions in children. Isospora (pictured - bottom) is one of the primary causes of diarrhoea in immunocompromised people. Giardia is a waterborne parasite which can cause gastrointestinal issues in humans when ingested.

Using faecal flotation/sedimentation and a Giardia ELISA test kit, I examined faeces from cats, dogs and foxes. We found a 9% prevalence of Toxocara, 6% prevalence of Isospora, and 9% Giardia prevalence. The prevalence of these endoparasites suggests a need for further research into biosecurity, control, and treatment options to eliminate them from the Dublin area.

An additional aspect of my research was into owner awareness of endoparasites and what types of wormers they prefer. The results suggest that owners prefer to buy their wormers from a vet and prefer spot-on treatments over tablets. Interestingly, most owners thought that their wormer would kill all worms, despite

some treatments listed as treating ectoparasites, which live on the outside of their host (e.g. fleas). This survey suggests that there is a need for enhanced communication between veterinary professionals and owners regarding endoparasite treatment regimes.”

→ **Ellen Nugent** has just completed her first year of Veterinary Medicine. She worked in the lab of **Assoc Prof Nola Leonard**, investigating antimicrobial resistance in healthy mares and foals.



“During my first year in veterinary medicine, I was interested in completing a research project to utilise new skills and improve my laboratory and research abilities. Assoc Prof Nola Leonard agreed to supervise a project investigating antimicrobial resistance and provided assistance and guidance in techniques and research.

My project involved analysing equine samples for antimicrobial resistance levels in the bacteria *E. coli* and assessing resistance transmission in mares and foals. My research indicated that over half of the *E. coli* we collected were resistant to at least one out of ten antibiotics that were assessed. Testing for extended spectrum and AmpC beta-lactamases was also conducted. These enzymes cause *E. coli* to be resistant to a wide range of antibiotics similar to penicillin: such bacteria are now a significant problem in human and veterinary hospitals. Many samples tested positive for these enzymes. Similar resistance patterns were noted in some mare-foal pairs, indicating that resistance may be transmitted between mares and foals. Further research is required to confirm this.

I found the summer research module highly rewarding and would recommend it to other students. It is an excellent way to develop and improve research skills, and I found my project and the current research associated with it to be very interesting”.

School of Veterinary Medicine Strategic Plan - One Health, One Welfare

Over the past number of months, the School of Veterinary Medicine has been developing a new **Strategic Plan**. This plan defines our vision, mission and values and also sets out a number of strategic goals which will drive School activity in the coming years:

→ **Vision:**

A flourishing Veterinary school, positively impacting health, animal welfare, and the environment

→ **Mission:**

UCD School of Veterinary Medicine strives to be an inclusive community, delivering excellence in education, research and clinical endeavour

→ **Values:**

Excellence, integrity, collegiality, engagement, creativity, diversity & innovation

→ **Strategic Goals:**

- Excellence in education
- Exceptional student experience
- Impactful and innovative research
- Highest standards of animal care and welfare
- Effective engagement with stakeholders
- Inclusive and empowering community

→ Vision

A flourishing Veterinary school, positively impacting health, animal welfare, and the environment

→ Mission

UCD School of Veterinary Medicine strives to be an inclusive community, delivering excellence in education, research and clinical endeavour

The UCD Centre for Veterinary Epidemiology and Risk Analysis

→ **The UCD Centre for Veterinary Epidemiology and Risk Analysis (UCD CVERA)** is the national resource centre for veterinary epidemiology in Ireland, located within the UCD School of Veterinary Medicine. The Centre was initially established as the Tuberculosis Investigation Unit, but in recent years has broadened its remit to cover a wide range of international, national and local animal health matters, including:

- Epidemiological support for the control and eradication of regulatory animal diseases, including the national eradication programme for bovine tuberculosis
- Work in support of Animal Health Ireland, which is providing a proactive, coordinated and industry-led approach in Ireland to non-regulatory animal health concerns (such as mastitis, bovine viral diarrhoea and Johne's disease)
- Epidemiological support for a broad range of other animal health and welfare issues relating to emergency animal disease preparedness and response (e.g. Schmallenberg viral infection), on-farm investigations, welfare of farmed livestock and horses, health of companion animals and farmed fish, and international collaboration.

UCD CVERA staff work closely with national policymakers, both in government and industry. Staff also contribute to training in veterinary medicine, both to undergraduate and graduate students. A broad range of expertise is represented within the Centre, including database development and management, geographic information systems, statistics, veterinary medicine, ecology and epidemiology.

Members of UCD CVERA

The Centre is staffed by employees of University College Dublin and the Department of Agriculture, Food and the Marine. **Prof Simon More** is the Director of UCD CVERA.



→ Staff photo (l to r): Guy McGrath (Geographic Information Systems), Ann Barber (PhD student on aspects of bTB), Simon More (Veterinary Epidemiology), Daniel Collins (Administration), Jamie Tratalos (Ecology and Databases), Miriam Casey (Veterinary Epidemiology), Jamie Madden (Biostatistics), Áine Collins (Veterinary Epidemiology)

→ UCD CVERA research

- Published a total of **36** authored or co-authored peer reviewed papers between January 2018 and June 2019
- UCD CVERA research is conducted in collaboration with national and international partners, including scientists and policy-makers. Papers published include **138** co-authors in **50** organisations from **14** countries

Examples of recent research conducted by, or in association with, UCD CVERA can be accessed on our website: <http://www.ucd.ie/cvera/research/>

For more information about UCD CVERA, please visit: www.ucd.ie/cvera or follow us on Twitter @[ucd_cvera](https://twitter.com/ucd_cvera)

→ M. bovis 2020

UCD CVERA is co-hosting **The Seventh International**



Conference on Mycobacterium bovis (M. bovis 2020)

with the Department of Agriculture, Food and the Marine. M. bovis 2020 will take place in Galway from 8-11 June, 2020.

For more information about M. bovis 2020, please visit: www.mbovis2020.com or follow us on Twitter @[mbovis2020](https://twitter.com/mbovis2020)

From the Archives:

Joseph Lynch - a Short History



→ **Joseph Lynch** graduated from the Veterinary College of Ireland in 1904 - he was a member of the very first graduating class. During the course of his studies, Joseph was awarded three medals, and these medals were recently gifted to the School of Veterinary Medicine by his grandsons **Donal Linehan** and **Simon Coate**. We are delighted that Donal agreed to write a piece on his grandfather's life and veterinary career for us - you can

read this below, along with a letter that Joseph wrote to the Veterinary Record in 1949 on an epidemic in pigs in Ireland.

→ Joseph Lynch was born in Ballygub, a townland in Inistioge, Co. Kilkenny, in 1880. He studied at the Veterinary College in Ballsbridge from 1900 to 1904 and then practiced as a vet in New Ross, Co. Wexford from 1904 to the 1950s. During his studies, Joseph received three medals for distinction in his third-year professional examinations, and then his final diploma award in July 1904. Joseph's medals were passed down to his son, my uncle Joe, who was based in the UK. In early 2018, I brought the medals across from London and gave them to their new owner, my cousin Simon Coate, as specified by our uncle's will. We wondered what to do with the medals and the framed diploma; the diploma had been in my house for at least 25 years, hanging on a wall in an upstairs room and then stored away and almost forgotten. A London acquaintance suggested that the medals could be gifted to a museum. This excellent idea was readily accepted by Simon and so on 21 June this year, we presented to **Professor Michael Doherty**, Dean & Head of School at the UCD School of Veterinary Medicine, our grandfather's original framed appointment as a Member of the Royal College of Veterinary Surgeons and his three mounted medals.

As a token of the School's gratitude, Professor Doherty signed and inscribed a copy of *A Veterinary School to Flourish: The Veterinary College of Ireland 1900-2000*.

When I returned home, I noted the signatures of the first graduating class (July 1904) on the RCVS register - one of the signatories was our grandfather, Joseph Lynch. This is a short history of Joseph Lynch and his veterinary career.

Joseph Lynch's family had a long involvement with agricultural education, going back to his grandfather, John Lynch. John Lynch was born in 1808, probably on a small farm in Clare. He married Susan McCormick in 1842 and had 11 children, including a son Charles, Joseph's father. John Lynch took up a post as teacher and agriculturist in the Woodstock Model Agriculture National School in The Rower near Inistioge in 1852. He taught in Woodstock for 20 years until his retirement when his son Charles Lynch, who had been teaching in New Ross, took over the position. John Lynch died in his 70th year in 1877.

Charles Lynch married Joanna Cody (also a trained teacher) in Inistioge in 1871 and had seven children, including my grandfather, Joseph. The census of 1901 records Joseph Lynch as being a 20-year-old medical student, which was accurate insofar as he had been attending the Veterinary College since it opened in 1900. Joseph's time in the Vet College was also recorded in the local newspaper, *The New Ross Standard*. In 1903, the paper noted that Joseph had passed a recent exam at the Veterinary College Dublin with the following honours: Veterinary Hygiene 1st place, 1st class honours and silver medal; Pathology 2nd place, 1st class honours and bronze medal; Materia Medica (medicine), honours certificate; third professional examination, 2nd place and honours. Following the award of his diploma and being appointed a Member of the Royal College of Veterinary Surgeons on 16 July 1904, the paper announced that a new veterinary surgeon, Mr Lynch V.S, had selected his native New Ross district in which to pursue the practice; he was a young man, who might be reasonably well expected to succeed.

In his early days as a country vet, Joseph travelled around Wexford and Carlow on horseback or pony and trap in all weather conditions. During the 1910s he obtained a motor car and was able to carry out

his family and professional duties as well as being a member of a proscribed fraternity society. He was appointed as one of the judges to the Dáil Éireann (Sinn Féin) courts during the War of Independence. He did not discuss politics with me though I vaguely recall him commenting on John Redmond, the Irish National Party leader, saying that he was a 'good man.'

My first memories of my grandfather are when he was in his mid to late 60s, and most likely finishing up working as a vet. He was always a kind and generous person, giving freely to local charities, supporting National Bonds when the country was in its infancy. I recall vividly my grandfather opening his leather box to hand out a half crown when I visited him, but that may also have been an acknowledgement for his grandchildren so willingly joining in on the decades of the Rosary in his car on trips up and down to Waterford accompanied by my mother, my brother and Simon, my grandfather's friend.

Joseph Lynch died in New Ross on 10 October 1966, aged 86 years. He received one final medal, one that many Irish citizens were awarded, a medal from the War of Independence. During his funeral, his coffin was draped in the national colours and a Guard of Honour was provided by old comrades. He is buried in a family grave in St. Stephen's Cemetery in Irishtown, New Ross.



→ The Dean, Professor Michael Doherty, receives Joseph Lynch's medals from Donal Linehan and Simon Coate

The Veterinary Record, The Journal of the National Veterinary Medical Association of Great Britain and Ireland. No 27. July 2 1949. Vol. 61.

Recent Epidemic in Pigs in Ireland

Sir,

In your issue of May 21st you refer to a recent epidemic in pigs in Ireland. This disease is not a recent epidemic. It has existed in this area for the past ten years, from about the time Lamont referred to it briefly as a disease of unknown origin.

The symptoms are as follows. Partial or complete paralysis of fore or hindquarters: the animal may drag the hind legs and have control of the fore, or the converse is often the case; frequently it walks on its knees and falls forward. Often the animal is on its side and uses all its limbs but cannot move from that position. Oedema of the eyelids is common but not constant. Oedema of the pharyngeal region is frequent. On post-mortem examination there may be no lesions. Oedema of the stomach, and also of the mesentery, however, is commonly seen. In cases I examined, the stomach was always distended with food, due, I believe, to paralysis of that organ.

Pigs of any age may be affected. In a lot of over sixty which consisted of three sows with litters varying in age from six to ten weeks and store pigs between three and four months, eight were dead and about 20 showed symptoms. One sow was dead and two showed degrees of paralysis.

The disease is commonest in young pigs from six to ten weeks. It may be very acute and animals die in a few hours. In mild cases the great majority recover. The disease makes its appearance suddenly.

I cannot understand why it is called "oedema disease" when the cardinal symptoms are those of a poliomyelitis and the condition is probably akin to the anterior poliomyelitis of the human.

As I have stated, this disease may be mild and a dose of laxative is helpful, but probably these would recover without any treatment.

Many years ago - I think in 1939 - I wrote urging the responsible authorities to have the condition investigated, receiving the reply that it was a condition probably due to some deficiency in the food or to a vitamin want.

I hold - and will do so until the contrary is proved - that the disease is (1) a poliomyelitis; (2) caused by a virus; (3) airborne and probably transmitted also in other ways.

The financial losses sustained in one parish alone run into several thousands of pounds. It is difficult to make an approximately accurate estimate as the owner often conceals the condition. Apparently, from reports in the lay Press during the past year, it has spread all over the country and every class and condition of man has given an opinion on it.

Yours faithfully,

J. Lynch
Bridge Street, New Ross, Co Wexford
June 13th 1949

School Research

Research at a glance:

→ School research income

Over the last 5 years

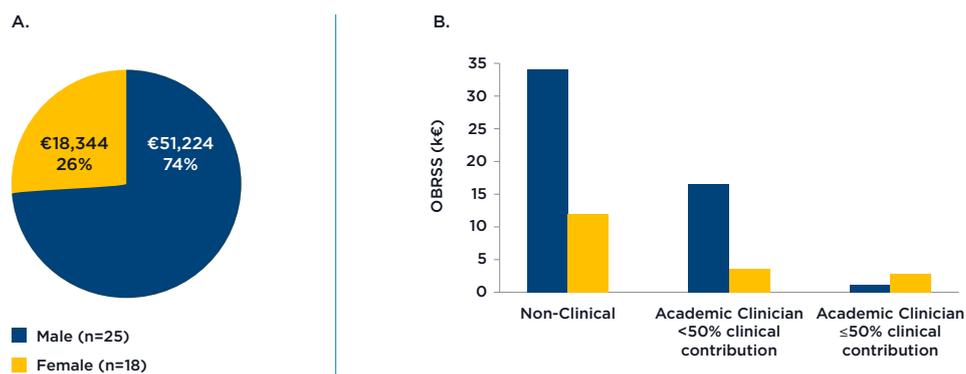
- **153** research projects
- **€22.3 million** in research funding
- **DAFM, Science Foundation Ireland, Teagasc and Horizon 2020** have been the main funding sources

During 2018/19

- **19** new externally funded research projects
- **€1.6 million** in new externally funded research funding

School research output

- **202** scientific publications in 2018, including **167** journal articles
- A field-weighted citation impact during 2013-17 of **1.58**, compared with a world average of 1.0



→ **Figure 1:** The figure highlights one piece of research data: research output for each staff member during 2016-17 (expressed as a monetarised figure [OBRSS, the UCD Output Based Research Support Scheme] after weighting papers and postgraduate student supervision).

→ Strategic Plan for Research

A Strategic Plan for research in the School was finalised in 2018 and is now being implemented. The plan was developed after considering a range of information, including interviews with individual staff and research groups and an analysis of research data. The overriding findings were two-fold: on the one hand, multiple areas of research excellence within the School, and on the other, a number of constraints to research, particularly among early career and clinical staff. Gender was not a factor, after considering stage of career and clinical loading. The Strategic Plan was developed in light of these and other findings, and is highly focused, seeking to support early career and clinical staff in their research career.

The Strategic Plan has a number of strands including:

- **Focused research support**, particularly for early career and clinical staff. A range of supports for study design and statistics are being introduced, including improved information about suitable training programmes, workshops, and a regular drop-in centre. School-level funding (the 'Overhead Investment Fund') is available to support research, based on twice-yearly calls, with preference being given to cross-disciplinary collaboration (particularly between pre/paraclinical and clinical areas) and early career and clinical staff.

- **Opportunities for undergraduate research.** This has been an important initiative in the School for some years. Interested undergraduate students are being placed in a number of research settings during study breaks, including the Department of Agriculture, Food and the Marine (DAFM)
- **Improved research communications,** both internal and external. As one example, UCD Veterinary Medicine research highlights is now a monthly feature in the Veterinary Ireland Journal
- **Celebrating success.** Postgraduate education is an important activity within the School, at the level of Masters, DVMS (the professional doctorate, Doctor of Veterinary Medical Specialisation) and PhD. 'Exit' interviews are now being held with each postgraduate student, to give others an understanding of their studies and their future plans.

A number of other initiatives are currently being examined, again with an emphasis on support for early career and clinical staff.

The commitment of all members of the Research Committee is gratefully acknowledged.

→ Recent Postgraduate Successes



→ **Janne Schoening** successfully defended her DVMS thesis entitled '**Investigations on Environmental Dust Inhalation and Mycobacterial Infection in the European Badger (*Meles meles*).**' She also completed her residency in Veterinary Anatomic Pathology and after recently passing her board exams, is now a European Specialist in Veterinary Pathology. In her thesis, under the supervision of **Dr Alan Wolfe** and **Assoc Prof Joe Cassidy**, Janne investigated whether siliceous dust inhalation is a risk factor for tuberculosis in badgers similar to silicosis, an occupational hazard e.g. in miners - it is not. Janne is currently working as a Clinical Fellow in Veterinary Anatomic Pathology at UCD.



→ **Sinead Morrin** successfully defended her PhD thesis in January. Sinead was based at UCD and Teagasc's Food Research Centre, Moorepark. Her research looked at the effect of a colostrum diet, from cows, on how it might condition the intestinal cell surface allowing health promoting bacteria to attach to the gut cells in greater numbers. Sinead investigated the genetic, proteomic and glycomic response of intestinal cells after colostrum exposure and also identified the bioactive components responsible. Sinead's research highlights the potential of colostrum and milk components as functional ingredients that can potentially increase health promoting bacteria in individuals. Sinead is now a post-doctoral researcher working at Teagasc Moorepark, Cork.



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SCHOOL RESEARCH PROJECTS COMPLETED OVER THE LAST 5 YEARS



€22.3M

RESEARCH FUNDING OVER THE LAST 5 YEARS



202

SCIENTIFIC PUBLICATIONS IN 2018, INCLUDING 167 JOURNAL ARTICLES



19

NEW EXTERNALLY FUNDED RESEARCH PROJECTS IN 2018-19



→ **Michael Bennaim** completed his DVMS while undertaking an ECVIM-CA (European College of Veterinary Internal Medicine - Companion Animals) residency, under the supervision of **Dr Robert Shiel** (primary supervisor) and **Prof Carmel Mooney**. Michael's thesis, entitled '**Selected aspects of diagnosis of naturally occurring hyperadrenocorticism and hypothyroidism in dogs**' focused on improving the diagnosis of two common endocrine diseases in dogs. His research describes a novel interpretation of a historically used diagnostic test for diagnosis of hyperadrenocorticism. Additionally, Michael's research showed that several methods claiming to measure the same thyroid hormone (i.e. free thyroxine) and used by various commercial laboratories cannot be used interchangeably. Michael is currently working in a referral practice in the south of France.



→ **Áine Collins** successfully defended her PhD thesis entitled '**Schmallenberg virus in Irish dairy herds: Epidemiological, virological and entomological studies**' and graduated from the School of Veterinary Medicine in December 2018. **Professor Michael Doherty** (UCD), **Dr John Mee** (Teagasc) and **Damien Barrett** (DAFM) supervised Áine's thesis while she was based at Teagasc Moorepark. During her studies, Áine collaborated with international researchers in Poland (National Virology Research Institute), the UK (The Pirbright Institute) and Australia (Elizabeth McArthur Agriculture Institute). Áine currently works as a Veterinary Inspector with DAFM, seconded to the UCD Centre for Veterinary Epidemiology and Risk Analysis.

Inspiring the Next Generation of Veterinary Professionals

→ **Michaela Dismann** from Chesterfield Career and Technical Center (Chesterfield, Virginia) paid a visit to the UCD School of Veterinary Medicine this Summer and was so inspired by our Clinical Skills Centre that she asked one of her students to draw this mural on the wall behind their horse skeleton. Michaela teaches Veterinary Science at high school and community college level and two of her former students are currently studying Veterinary Medicine here in UCD.

Michaela's trip to Ireland was made possible by a grant from the REB Foundation and its focus was to gain perspectives from former students and experts at rural colleges, universities and places of rural employment to encourage student interest in large animal veterinary careers. **Eoin Ryan** from our Farm Animal Team hosted Michaela for a day, showing her around the School and Hospital, taking her to Lyons Farm and on a farm visit to Galway. Michaela sent on this photo after her return home to show how our Clinical Skills Centre has inspired her and her students and we're delighted to hear that they continue to draw from her learning experience here in UCD.



Thank you
Go raibh maith agat

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