

IVP Update

New faces in the IVP advisory board - p. 8

Since last...

Dear all,

2022 is ending and it is time for an update! I want to thank PhD students and Supervisors for their participation in the Annual Meeting in October. Over the years, we have fine tuned our setup and your active participation has been essential for making the meeting the repeated success that it is. This year, the new surroundings at Comwell Holte worked well and we expect to be back there in 2023!

In November, Professor Rikke Buhl joined the Graduate School as the new Head. We look forward to the collaboration with Rikke and the rest of the staff at the Graduate School.

As mentioned at the annual meeting, we have started a collaboration with the two graduate programs Drug Research Academy (DRA) and Molecular Mechanisms of Disease (MoMeD) – in lack of a better acronym, this collaboration has been named 'DIM'. DIM is expected to provide you with new opportunities to participate in a wider variety of activities and broaden your network at SUND. The first collaborative meeting in 2023 will be the Industrial Career Day on 15 March - an event I encourage you to take part in if you see yourself in the industry in the future. Lots of companies will be present and the event has been a major success in the past (see more inside this news letter). In addition, the Sixth IVP Animal Models Workshop will be a collaboration with DRA. This year, it will take place in the spring, so don't forget to mark your calendars!

Sadly, we had to cancel this year's Xmas Gathering on sixth of December due to lack of interest. Please make it your priority to join your fellow students and support the IVP PhD program. If you have any input for future events, please make sure to notify your student representatives Mads and Penille – our only ambition is to provide you with interesting and relevant events to support your network and development as In Vivo Pharmacologists!

On that note, I wish you a Merry Christmas and a Happy New Year and look forward to see you again in 2023!

Best wishes,



Jens



Jens Lykkesfeldt



DIM is expected to provide you with new opportunities to participate in a wider variety of activities and broaden your network at SUND.

News from the student representatives...

Dear IVP Students,

Merry Christmas to everyone! We hope you're enjoying some time off with friends and family.

This year, we sadly look back at a year with war in Ukraine and increasing inflation. With increasing prices on electricity and food among other things, we hope you're coping. We also would again, send out support to the people of Ukraine and UCPH staff and students from Ukraine or have friends and family in the country.

This year, we also look back at some amazing IVP activities. In May, we had the Well-being Workshop with dinner at the end of the day. In August, we had our annual Animal Model Workshop planned by IVP Students. Finally, we had the IVP Annual Meeting in October. This was the first time it was held at Comwell in Holte and this was a very positive experience. During the two days, we had amazing talks by PhDs and we ended the Annual Meeting with a workshop on popular science communication to improve our skills within communication.

Unfortunately, our Christmas gathering was canceled this year due to too low participation. Therefore, we would as student representatives strongly encourage you to participate in the events we are planning for you. If you don't find the events relevant

or have suggestions to events, please let us know so we can make the events even more interesting for you. We are also open for suggestions.

Mads is our new student rep and trying to fill Chelsea's shoes after she has left us.

We are looking forward to seeing you all in the new year 2023!

Have a wonderful Christmas and happy New Year!

Kind regards,

Mads and Penille

PhD courses spring 2023

Laboratory Animal Pathology
3160-23-00-00
6 course days: 22/3, 24/3, 29/3, 28/4, 4/5, 12/5
3,70 ECTS credits
[Read about the course here](#)

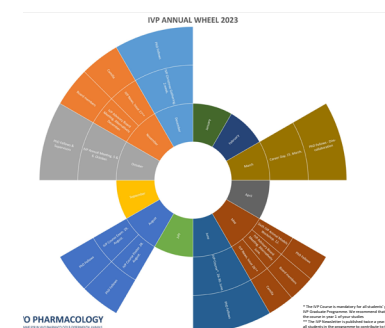
General Pathology
3162-23-00-00
22-26 May 2023
4,30 ECTS credits
[Read about the course here](#)



IVP Annual Wheel...

The IVP Advisory Board has decided to make an annual wheel for the IVP Graduate Programme. The Annual Wheel shows IVP's annual activities and what we expect our graduate members to participate in.

[Click here to download the annual wheel for 2023](#)



Join the IVP Graduate Program on Facebook



Click on the logo to learn more

Funding...

SUNDs PhD school provides funding for courses offered from external providers. Up to two courses pr. PhD student. [Read the conditions.](#)

SUNDs PhD school also provides funding for stays abroad at another research environment. The stay should be overall 4 weeks, which means that the stay can be split into two short stays as long as they comply with 4 weeks in total. [Read more.](#)

The Graduate School now offers financial support for international PhD students' Danish language courses. Learn more about financial support for participation in Danish language courses [here](#).

The IVP graduate programme provides funding for conferences and seminars under the condition that you have been accepted to present a poster or oral presentation. Members that are part of an industrial project are not eligible for funding. [Read more.](#)



Photographer: Søren Osgood / <http://www.osgood.nu>

Important dates...

15 March 2023 - Career Day

12 May 2023 - Sixth IVP Animal Models Workshop

26-30 June 2023 - IVP Course: Lectures

28 August 2023 - IVP Course: Poster-session

29 August 2023 - IVP Course: Exam

5-6 October 2023 - IVP Annual Meeting

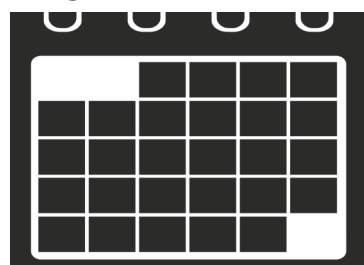


Image by [Tim Treis](#) from [Pixabay](#)

Those who defended since last...

Ditte Olsen Lützhøft defended her thesis on Friday 17 June 2022. The title: The impact of high fat diet on the gut microbiota and microbial products in non-rodent animal models.

Laura Jul Andreasen defended her thesis on Friday 1 July 2022. The title: Unraveling mechanisms underlying diabetic peripheral neuropathy: Studies in a late-stage type 2 diabetic rat

model.

Sofie Kromann defended her thesis on Friday 7 October 2022. The title: Colibacillosis in poultry - aetiology, pathogenesis, diagnosis, and control.

Gabi Overgaard Øvlisen defended her thesis on Thursday 17 November 2022. The title: Explorations of immunogenicity in preclinical rodent models and establishment of a Haemophilia A model with increased tolerance by use of mice with deficiencies in adaptive immunity.

Josephine Skat-Rørdam defended her thesis on Thursday 24 November 2022. The title: Investigations of NASH and hepatic fibrosis in the guinea pig model.

Congratulations to all



Upcoming defenses...

Mille Kronborg Lyhne will defend her thesis on Thursday 12 January 2023. The title: Insulin-induced hypoglycaemia in healthy and streptozotocin-induced diabetic Göttingen Minipigs

New publications...

Vitamin C Deficiency Exacerbates Dysfunction of Atherosclerotic Coronary Arteries in Guinea Pigs Fed a High-Fat Diet
Skovsted, Gry F., Skat-Rørdam, J., Frøkiær, A. P., Jensen, H. E., Tveden-Nyborg, P. & Lykkesfeldt, J., 2022, In: Antioxidants. 11, 11, 2226. [Read here.](#)

Ultra-High Temperature Treatment and Storage of Infant Formula Induces Dietary Protein Modifications, Gut Dysfunction, and Inflammation in Preterm Pigs
Sun, Jing, Akillioglu, Gül, Aasmul-Olsen, K., Ye, Y., Rasmussen, P. Lund, Zhao, X., Brunse, A., Nielsen, C. F., Chatterton, Dereck Edward Winston, Sangild, P. T., Lund, Marianne N. & Bering, Stine B., 2022, In: Molecular Nutrition & Food Research. 66, 20, 13 p., 2200132. [Read here.](#)

Systematic review on primary and secondary genotoxicity of carbon black nanoparticles in mammalian cells and animals
di Ianni, Emilio, Jacobsen, N. R., Vogel, U. B. & Møller, P., 2022, In: Mutation Research - Reviews. 790, 17 p., 108441. [Read here.](#)

Systematic review and meta-analysis of studies in which burrowing behaviour was assessed in rodent models of disease-associated persistent pain
Zhang, X. Y., Barakat, Ahmed, Diaz del Castillo, Marta, Vollert, J., Sena, E. S., Heegaard, Anne-Marie, Rice, A. S. C. & Soliman, N., 2022, In: Pain. 163, 11, p. 2076-2102. [Read here.](#)

Semaglutide treatment attenuates vessel remodelling in ApoE-/- mice following vascular injury and blood flow perturbation
Jensen, Ditte Marie, Skovsted, Gry Freja, Bonde, M. F. B., Bentzon, J. F., Rolin, B., Franck, G., Ougaard, M. K. E., Voetmann, Louise Marie, Bachmann, J. C., Uryga, A., Pyke, C., Kirk, R. K., Hvid, H., Knudsen, L. B., Lykkesfeldt, Jens & Nyberg, M., 2022, In: Atherosclerosis Plus. 49, p. 32-41 10 p. [Read here.](#)

Perioperative nivolumab monotherapy versus nivolumab plus ipilimumab in resectable

hepatocellular carcinoma: a randomised, open-label, phase 2 trial

Kaseb, A. O., Hasanov, E., Cao, H. S. T., Xiao, L., Vauthey, J. N., Lee, S. S., Yavuz, B. G., Mohamed, Y. I., Qayyum, Abbas Ali, Jindal, S., Duan, F., Basu, S., Yadav, S. S., Nicholas, C., Sun, Jing, Singh Raghav, K. P., Rashid, A., Carter, K., Chun, Y. S., Tzeng, C. W. D., Sakamuri, D., Xu, L., Sun, R., Cristini, V., Beretta, L., Yao, J. C., Wolff, R. A., Allison, J. P. & Sharma, P., 2022, In: The Lancet Gastroenterology and Hepatology. 7, 3, p. 208-218 11 p. [Read here.](#)

Optimization of pig models for translation of subcutaneous pharmacokinetics of therapeutic proteins: Liraglutide, insulin aspart and insulin detemir
Pedersen, K., Gradel, Anna Katrina J., Ludvigsen, T. P., Christoffersen, B. Ø., Fuglsang-Damgaard, C. A., Bendtsen, K. M., Madsen, S. H., Manfé, V. & Refsgaard, H. H. F., 2022, In: Translational Research. 239, p. 71-84. [Read here.](#)

Longitudinal study on background lesions in broiler breeder flocks and their progeny, and genomic characterisation of Escherichia coli
Kromann, Sofie, Baig, S., Stegger, M., Olsen, Rikke Heidemann, Bojesen, Anders Miki, Jensen, Henrik Elvang & Thøefner, Ida, 2022, In: Veterinary Research. 53, 52. [Read here.](#)

In vitro cell cultures of Brunner's glands from male mouse to study GLP-1 receptor function
Voetmann, Louise Marie, Underwood, C. R., Rolin, B., Hansen, Axel Kornerup, Kirk, R. K., Pyke, C., Knudsen, L. B. & Frederiksen, K. S., 2022, In: American journal of physiology. Cell physiology. 322, 6, p. C1260-C1269. [Read here.](#)

Glucose supply and glycolysis inhibition shape the clinical fate of Staphylococcus epidermidis-infected preterm newborns
Muk (Mudi), Tik, Brunse, Anders, Henriksen, Nicole Lind, Aasmul-Olsen, Karoline & Nguyen, Duc Ninh, 2022, In: JCI Insight. 7, 11, 18 p., e157234. [Read here.](#)

Fibrous dysplasia animal models: A systematic review
Hopkins, Chelsea, de Castro, L. F., Corsi, A., Boyce, A., Collins, M. T., Riminucci, M. &

Heegaard, Anne-Marie, 2022, In: Bone. 155, 13 p., 116270. [Read here.](#)

Electrocardiography and heart rate variability in Göttingen Minipigs: Impact of diurnal variation, lead placement, repeatability and streptozotocin-induced diabetes

Lyhne, Mille Kronborg, Debes, Karina Poulsdóttir, Helgogaard, T., Vegge, A., Kildegaard, J., Pedersen-Bjergaard, Ulrik & Olsen, Lisbeth Høier, 2022, In: Journal of Pharmacological and Toxicological Methods. 118, 107221. [Read here.](#)

Efficacy of fibroblast growth factor 21 in non-alcoholic fatty liver disease in guinea pigs
Klæbel, Julie Hviid, Lykkesfeldt, Jens & Tveden-Nyborg, Pernille, 2022, In: Basic & Clinical Pharmacology & Toxicology. 130, 3, p. 385-393. [Read here.](#)

Effects of Transdermal Fentanyl Treatment on Acute Pain and Inflammation in Rats with Adjuvant-induced Monoarthritis
Berke, Mie Schou, Colding-Jørgensen, Pernille, Pedersen, L. G., Hestehave, S., Kalliokoski, Otto, Jensen, Henrik Elvang, Sørensen, Dorte Bratbo, Hau, Jann & Abelson, Klas, 2022, In: Comparative Medicine. 72, 5, p. 320-329. [Read here.](#)

Clinical outcome and gut development after insulin-like growth factor-1 supplementation to preterm pigs
Holgersen, K., Rasmussen, Martin Bo, Carey, G., Burrin, D. G., Thymann, Thomas & Sangild, Per Torp, 2022, In: Frontiers in Pediatrics. 10, 868911. [Read here.](#)

CTLA4-Ig prevents development of neutralizing antibody formation after continuous treatment with human FVIII in HA rats
Øvlisen, Gabi Overgaard, Thygesen, P., Weldingh, K. N., Bloem, E., Skov, Søren, Almholt, K., Lövgren, K. M., Ley, C. D. & Holm, T. L., 2022, In: Haemophilia. 28, 4, p. 568-577. [Read here.](#)

Brain lipidomics and neurodevelopmental outcomes in intrauterine growth restricted piglets fed dairy or vegetable fat diets
Henriksen, Nicole Lind, Asmussen, K. S., Pan, Xiaoyu, Jiang, Pingping, Mori, Yuki,

Christiansen, Line ladsatian, Sprenger, R. R., Ejning, C. S., Pankratova, Stanislava & Thymann, Thomas, 2022, In: Scientific Reports. 12, 1, 3303. [Read here.](#)

Assessment of automated assays for serum amyloid A, haptoglobin (PIT54) and basic biochemistry in broiler breeders experimentally infected with Escherichia coli
Kromann, Sofie, Olsen, Rikke Heidemann, Bojesen, Anders Miki, Jensen, Henrik Elvang & Thøefner, Ida, 2022, In: Veterinary Research. 53, 1, 7 p., 25. [Read here.](#)

Anti-protozoal activity and metabolomic analyses of Cichorium intybus L. against Trypanosoma cruzi
Peña-Espinoza, M., Romero-Uzqueda, Y., Valente, Angela Hørdum, de Roode, M., Simonsen, H. T., Thamsborg, Stig Milan, Williams, Andrew Richard & López-Muñoz, R., 2022, In: International Journal for Parasitology: Drugs and Drug Resistance. 20, p. 43-53 11 p. [Read here.](#)

Effects of buprenorphine on model development in an adjuvant-induced monoarthritis rat model
Berke, Mie Schou, Fensholdt, L. K. D., Hestehave, S., Kalliokoski, Otto & Abelson, Klas, Jan 2022, In: PLoS ONE. 17, 1, 21 p., e0260356. [Read here.](#)

The G213D variant in Nav1.5 alters sodium current and causes an arrhythmogenic phenotype resulting in a multifocal ectopic Purkinje-related premature contraction phenotype in human-induced pluripotent stem cell-derived cardiomyocytes
Callø, K., Geryk, M., Freude, K., Treat, J. A., Vold, V. A., Frederiksen, Henriette R. S., Broendberg, A. K., Frederiksen, T. C., Jensen, H. K. & Cordeiro, J. M., 21 Jun 2022, (E-pub ahead of print) In: Europace : European pacing, arrhythmias, and cardiac electrophysiology : journal of the working groups on cardiac pacing, arrhythmias, and cardiac cellular electrophysiology of the European Society of Cardiology. [Read here.](#)

So many prizes...

We want to congratulate the three prize winners at this year's IVP annual meeting. The winners are:

Chelsea Hopkins - Best Oral Presentation



Simone Margaard Offersen - Best Poster Presentation



Kamilla Pedersen - People's Choice Poster



Chelsea and Simone received a prize of DKK 5000 which they may spend on a scientific purpose or travel.

Thanks again to everyone who participated in this year's annual meeting, ensuring a meeting with great scientific talks and discussions. We hope you all enjoyed it.



We also want to congratulate Henriette Reventlow S. Frederiksen for winning the prize Best Poster at this year's annual meeting at the Danish Stem Cell Society (DASCS).



Henriette has a Bsc and Msc in Nanoscience at UCPH. She has been a part of the IVP Graduate Programme since March 2020. She won Best Poster for her project on: Generation of Non-immunogenic Human Embryonic Stem Cells (hESCs) For In Vivo Implantation.

The main aim of her project is to generate a stem cell line, that will not be recognized by foreign immune systems. Such a non-immunogenic cell line, can function as a universal donor which has a great potential for cell transplantation studies and for knowledge on immune responses.

IVP Advisory Board...



Anne-Marie Heegaard
KU-SUND
amhe@sund.ku.dk



Janne Koch
Leo Pharma
ejcdk@leo-pharma.com



Michael Didriksen
Lundbeck
mdi@lundbeck.com



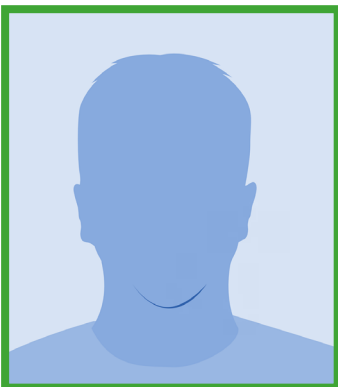
Pernille
Tveden-Nyborg
KU-SUND
ptn@sund.ku.dk



Dorthe Lundsgaard
Novo Nordisk
dolu@novonordisk.com



Penille Jensen
Stud. Rep. KU-SUND
peje@sund.ku.dk



Mads Jacob Bagi
Nordsten
Stud. Rep. KU-SUND
mjnie@sund.ku.dk

IVP Contact Info...

If you have issues to be discussed, things to be clarified, suggestions for the board of the PhD programme, please contact your representatives in advance of next meeting.

Head of PhD Program

Professor Jens Lykkesfeldt
Dept. Veterinary and Animal
Sciences
Faculty of Health and Medical
Sciences
University of Copenhagen
Phone: +45 35 33 31 63
Email: jopl@sund.ku.dk

Coordinator

Associate Professor Pernille
Tveden-Nyborg
Dept. Veterinary and Animal
Sciences
Faculty of Health and Medical
Sciences
University of Copenhagen
Phone: +45 35 33 31 67
Email: ptn@sund.ku.dk

Program Administration

Camilla Elisabeth Søgaard Ebert
Dept. Veterinary and Animal
Sciences
Faculty of Health and Medical
Sciences
University of Copenhagen
Phone: +45 35 32 66 41
Email: camilla.ebert@sund.ku.dk



Jens Lykkesfeldt



Pernille Tveden-Nyborg



Camilla Ebert

Contact

The Graduate Programme of In Vivo Pharmacology & Experimental Animals
Secretariat
Camilla Elisabeth Søgaard Ebert
Ridebanevej 9, 1st floor, room 62-1-336, DK-1870 Frederiksberg C
Phone: +45 35 32 66 41
E-mail: camilla.ebert@sund.ku.dk
READ MORE ON: www.invivofarm.dk

Further information:
For further information, questions or contributions to the newsletter please
contact Camilla Elisabeth Søgaard Ebert: camilla.ebert@sund.ku.dk

The next IVP Advisory Board Meeting is scheduled for May/June 2023

Merry Christmas and Happy New Year