<table>
<thead>
<tr>
<th>Project title</th>
<th>Non-Alcoholic fatty liver, inflammation and oxidative stress</th>
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<tbody>
<tr>
<td>Mentor 1</td>
<td>Jens Lykkesfeldt (<a href="mailto:jopl@sund.ku.dk">jopl@sund.ku.dk</a>)</td>
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</table>
| Mentor 2              | Henrik Enghusen Poulsen, Clinical Professor
                     | (Henrik.Enghusen.Poulsen.01@regionh.dk)                       |
| Framework             | The fellow will divide the work between laboratory of Experimental Pharmacology and Toxicology at Frederiksberg Campus and the laboratory of Clinical Pharmacology Bispebjerg Hospital/Rigshospitalet. The mentors have a longstanding collaboration, and a devotion to do translational work. The work will span from animal models to clinical investigations, with an emphasis on developing prognostic and predictive biomarkers for non-alcoholic fatty liver disease (NAFLD) development. The fellow will work in two strong research environments with a considerable number of ph.d. students, post docs, associate professors, and clinical collaborators. Both laboratories hosts a diverse set of relevant methodologies including e.g. immunologically based assays, HPLC, Mass spectrometry and sequencing techniques, histopathological quantification techniques and ultracentrifugation separations. |
| Project synopsis      | Non-alcoholic fatty liver disease (NAFLD) is a highly common condition that is found in up to 25% of the population. It can progress to an acute inflammatory liver disease (NASH) and to cirrhosis of the liver; however, why this occurs in some but not all individuals are unknown. Diagnosis is complicated and rest on liver biopsy. The project will utilize a validated animal model for NAFLD that will be investigated and compared with finding from human samples. In the project focus will be an identification of proteins, inflammatory signals and oxidatively modified RNAs that can predict development of NAFLD and the progression to NASH. The project will also engage several collaborators, prominent researchers from other basic science and clinical genomics. Furthermore, the project includes epidemiological |
| Profile of potential fellow | • Strong will to succeed in cross-disciplinary science  
• Demonstrated collaborative skills and collaborative personality  
• Demonstrated skills in scientific writing  
• Medical insight but not necessarily a M.D. background  
• Capability of and interest in performing animal experimentation |
<table>
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<tr>
<th>Name</th>
<th>Jens Lykkesfeldt</th>
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<tbody>
<tr>
<td>Title</td>
<td>Professor, MSc, PhD, DMSc, ERT</td>
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<tr>
<td>Current department(s)</td>
<td>Section of Experimental Animal Models, IVH, KU-SUND</td>
</tr>
<tr>
<td>Current position(s)</td>
<td>Professor in Experimental Pharmacology and Toxicology Head, PhD programme for in vivo pharmacology and experimental animals Director, The LifePharm Centre for In Vivo Pharmacology</td>
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<tr>
<td>Education/training</td>
<td>2016 European Registered Toxicologist; 2005 Dr. Med. Sci from University of Copenhagen; 2002 FELASA cat C certified to animal experimentation; 1996-98 Postdoc, Dept of Molecular and Cell Biology, University of California, Berkeley, USA; 1993-95 Postdoc, Dept of Pharmacology, University of Copenhagen; 1992 PhD in Biochemistry; 1989 MSc Organic Chemistry, Technical University of Denmark.</td>
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<td>Scientific career profile</td>
<td>My early career was focused first on basic science and subsequently clinical science. For the past 20 years though, I have headed a cross-disciplinary lab that integrates molecular, experimental and clinical science into one. We have a strong focus on translational biomedicine using in vivo experimentation. Main fields of interest include non-alcoholic fatty liver disease, type-2 diabetes, vascular remodelling, and vitamin C in health and disease. More generically, I have spent considerable efforts on development, validation and clinical application of biomarkers of oxidative stress and damage.</td>
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<td>Bibliometric summary</td>
<td>&gt;200 publications, 10 single author publications and 23 first author, 24 second author and 49 last author publications, h-index 36 (WoS)</td>
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**Contributions to mentoring, training, supervision**

I have supervised 12 postdocs, 31 PhD students and 60 MSc students and maintain a group of about 25 people. Most of my students move on to the pharmaceutical industry but a smaller number have successfully pursued an academic career.

I like to put the students into a (supervised) driver’s seat, where they drive their own project and we discuss progress and new ideas based on their input. We typically have monthly individual project meetings and also meet in larger groups from time to time. More acute problems are solved through an open door policy. My mentoring goal is to develop independent researchers capable of raising funds to explore their own ideas.

I am head of the graduate programme for In vivo pharmacology and experimental animals and director of the lifepharm centre for in vivo pharmacology. I teach responsible conduct of research, experimental pharmacology and more on PhD level as well as a number of courses on undergraduate level.
Name | Henrik Enghusen Poulsen  
---|---  
Title | Professor, Overlæge, dr.med.  
Current department(s) | Department of Clinical Pharmacology, Bispebjerg Frederiksberg Hospital. Laboratory of Clinical Pharmacology, Q7642, Rigshospitalet  
Current position(s) | Clinical Professor, Consultant (overlæge)  
Education/training | Specialist in Clinical Pharmacology 1996  
License to independent practice as physician 1978  
Medical degree, University of Copenhagen 1976  
Scientific career profile | I have pioneered the development of a state of art methodology to non-invasively measure oxidative stress on RNA, RNAox. The translational approach has been to examine large cohorts of patients with biomarkers for oxidative stress. In follow-up studies in two large cohorts of type 2 diabetes patients we have shown that RNAox is prognostic for death and death from cardiovascular disease. We just published that RNAox also is predictive: in the Steno-2 trial reduction of RNA oxidation is associated with improved survival. Unpublished data show that also in the general population RNAox is predictive for death; and we advocate that RNA oxidation is a measure of the ageing process as suggested by Dennis Harman in 1956, and that this process is accelerated in type 2 diabetes. The ongoing research is focused on novel treatments to reduce RNAox, for use in treatment of type 2 diabetes. Collaborators include Danish, European and US researchers  
Bibliometric summary | Web of Science publications: 332 (inclusive 25 reviews), 10,000+ citations (9,000+ without selfcitations), H-index web of science 50, H-index Google Scholar 67, Average citation 28,09, Top five citations 578, 452, 348, 220, 187. Number of publications in 2014: 6 peer reviewed papers 1 first author

1 Do not exceed two pages. The CV’s and project synopsis of each mentor team will be posted on the programme webpage in advance of the admissions process to the programme.
Number of publications in 2015: 9 peer reviewed papers 3 last author
Number of publications in 2016: 11 peer reviewed papers 3 last author
Number of publications in 2017: 13 peer reviewed papers 5 last author
Number of publications in 2018/09: 10 peer reviewed papers 3 last author


Contributions to mentoring, training, supervision

I believe in the open-door policy, i.e. my door is always open for supervision requests. I have supervised 20+ ph.d. students, all have defended their ph.d. thesis with success. Three of my mentees are now professors, and a large number have senior physician charge. I have supervised M.D.s, pharmacists, Cand. Scients.