

## Press release

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### Basic information

Name: Troels Johansen      Email: [troels.johansen@clin.au.dk](mailto:troels.johansen@clin.au.dk) Phone: 40977313

Department of: Clinical Medicine

Main supervisor: Torben Riis Rasmussen

Title of dissertation: Pulmonary gas exchange and blood gas tensions: New frontiers in imaging, diagnosis and treatment

Date for defence: December 15th at (time of day): 1 PM Place: Palle Juul-Jensen Auditorium, Aarhus University Hospital, Nørrebrogade 44, Building 10G, 8000 Aarhus C

Press release (Danish)

Lungernes ilt -og CO<sub>2</sub>-overførsel: nybrud indenfor diagnose, behandling og billeddannende teknikker.

I et ph.d.-projekt ved Aarhus Universitet har ph.d.-studerende og civilingeniør Troels Johansen udviklet en metode til at afbilde ilt –og CO<sub>2</sub>-overførslen i lungerne i tre dimensioner. Metoden er udviklet i samarbejde med forskere ved Harvard Medical School og Massachusetts Institute of Technology, og har en række lovende anvendelser indenfor bl.a. kirurgisk behandling af lungekræft og KOL, samt som et nyskabende forsknings – og undervisningsværktøj til undersøgelse af lungernes centrale rolle: at udveksle ilt og CO<sub>2</sub> mellem blodet og lungeluften.

Forsvaret af ph.d.-projektet er offentligt og finder sted fredag d. 15. december kl 13.00 i Palle Juul-Jensen Auditoriet, Aarhus Universitetshospital, Nørrebrogade 44, Bygning 10G, 8000 Aarhus C. Titlen på projektet er “Pulmonary gas exchange and blood gas tensions: New frontiers in imaging, diagnosis and treatment”. Yderligere oplysninger: Ph.d.-studerende Troels Johansen, email: [troels.johansen@clin.au.dk](mailto:troels.johansen@clin.au.dk), tlf: 40977313

Bedømmelsesudvalg:

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Press release (English)

## Pulmonary gas exchange and blood gas tensions: New frontiers in imaging, diagnosis and treatment

In a PhD projekt at Aarhus University, PhD student and engineer Troels Johansen has developed a method for imaging oxygen and CO<sub>2</sub> transfer in the lungs in three dimensions. The method is developed in collaboration with scientists from Harvard Medical School and Massachusetts Institute of Technology and has a number of promising applications within surgical treatment of lung cancer and COPD, as well as being an innovative tool for teaching and research into the central role of the lungs: transferring oxygen and CO<sub>2</sub> between the blood and the lung air..

The PhD defense is public and takes place Friday the 15th of December at 1 PM in the Palle Juul-Jensen Auditorium, Aarhus University Hospital, Nørrebrogade 44, Building 10G, 8000 Aarhus C. The title of the project is "Pulmonary gas exchange and blood gas tensions: New frontiers in imaging, diagnosis and treatment". For more information, please contact PhD student Troels Johansen, email: troels.johansen@clin.au.dk, phone: 40977313

Assessment committee:

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