

## Press release

Please fill in this form and return it to [graduateschoolhealth@au.dk](mailto:graduateschoolhealth@au.dk) in Word format along with a portrait photo in JPEG format, if you would like it to accompany your press release, no later than three weeks prior to your defence.

### Basic information

Name: Anders Rosendal Korshøj

Email: [andekors@rm.dk](mailto:andekors@rm.dk) Phone: +45 7845 0000

Department of: Clinical Medicine

Main supervisor: Professor Jens Christian Hedemann Sørensen

Title of dissertation: Advancing tumor treating fields brain cancer treatment through computational modeling of the electrical field distribution

Date for defence: 01/06/2018 at (time of day): 14.00 Place: Palle Juul-Jensen Auditorium Aarhus University Hospital, Bld. 10G, Nørrebrogade 44, 8000 Aarhus C

Press release (Danish)

TTFIELDS - elektrisk behandling af hjernekræft: En ny metode til beregning af behandlingseffekten.

Glioblastom er en alvorlig og invaliderende kræftsygdom i hjernen. I de seneste år har såkaldt ”tumor treating fields” (TTFIELDS) fundet stigende anvendelse som en ny og effektiv behandling. TTFIELDS er en elektrisk behandling, hvor vekselspænding anvendes til at hæmme kræftsygdommens vækst. I et nyt forskningsprojekt har forskere fra Aarhus Universitet udviklet nye computermetoder til præcis beregning af den kræfthæmmende dosis af TTFIELDS hos den enkelte patient. Metoderne kan bruges til at adressere vigtige behov i den nuværende praksis med formålet at udvikle TTFIELDS teknologien og fremme behandlingseffekten. I projektet har forskerne anvendt metoderne til at afsøge nye og mere effektive anvendelser af TTFIELDS, og projektet har ført til etablering af et nyt behandlingsforsøg, hvori patienter i Danmark for første gang tilbydes TTFIELDS, og hvor anvendelsen er optimeret gennem et kirurgisk indgreb, som øger den forventede behandlingseffekt med 25-100%. Dernæst har forskerne brugt beregningsmetoderne til at udvikle nye og bedre behandlingsindstillinger og klarlægge vejledende principper, som understøtter den generelle forståelse af TTFIELDS. Resultaterne er sammenfattet i et nyt ph.d.-projekt fra Aarhus Universitet, Health. Projektet er gennemført af Anders Rosendal Korshøj, der forsvare det d. 01/06 2018.

Forsvaret af ph.d.-projektet er offentligt og finder sted den 01/06 2018 kl. 14.00 i Palle Juul-Jensen auditoriet, Aarhus Universitetshospital, Bygning 10G, Nørrebrogade 44, 8000 Aarhus C. Titlen på projektet er ”Advancing tumor treating fields brain cancer treatment through computational modeling of the electrical field distribution”. Yderligere oplysninger: Ph.d.-studerende Anders Rosendal Korshøj, e-mail: [andekors@rm.dk](mailto:andekors@rm.dk), tlf. +45 78450000.

Bedømmelsesudvalg:

Professor i biomedicinsk teknologi og adjungeret professor i neurologi Jens Haueisen, Klinik für Neurologie, Universitätsklinikum Jena og Technische Universität Ilmenau Institut BMTI, PF 100565, 98684 Ilmenau, Tyskland.

Professor Franz Rom Poulsen, Neurokirurgisk Afdeling, Syddansk Universitet, Odense Universitetshospital, Klørvænget 47, 5000 Odense C, Denmark.

Professor Henning Andersen - Kommitteformand, Neurologisk Afdeling, Aarhus Universitetshospital, Nørrebrogade 44, bygn. 10, 8000 Aarhus C, Denmark.

Press release (English)

TTFields – electric treatment of brain cancer: A new method for calculation of treatment efficacy.

Glioblastoma is a serious and debilitating brain cancer disease with poor prognosis and few treatment options. Within recent years, "tumor treating fields" (TTFields) are being increasingly used as a new and effective treatment modality. TTFields is an electric treatment using alternating fields to inhibit tumor growth. In a new research project, researchers from Aarhus University have developed new computer methods to calculate the cancer-inhibiting dose of TTFields for every patient. The methods can be used to address important needs in the current practice of TTFields therapy with the perspective of technology development and improved efficacy. In the project, the researchers have used the methods to develop new and more effective implementations of TTFields and the project has led to a new clinical trial in which Danish glioblastoma patients receive optimized TTFields treatment combined with a surgical treatment designed to enhance TTFields efficacy by up to 25-100%. In addition, the researchers have used the calculation methods to derive guiding treatment principles and identify new and improved treatment configurations. The results are presented in a new Ph.D. project from Aarhus University, Health. The project was carried out by Anders Rosendal Korshøj, who is defending his dissertation on 01/06/2018.

The press release - ending with: The defence is public and takes place on 01/06 2018 at 14.00 in the Palle Juul-Jensen Auditorium, Aarhus University Hospital, Bld. 10G, Nørrebrogade 44, 8000 Aarhus C. The title of the project is Advancing tumor treating fields brain cancer treatment through computational modeling of the electrical field distribution. For more information, please contact PhD student Anders Rosendal Korshøj, email: andekors@rm.dk, Phone +45 7845 0000.

Assessment committee:

Professor of Biomedical Engineering and adjunct Professor Jens Haueisen  
Dept. of Neurology, University Hospital Jena and Technische Universität Ilmenau Institut BMTI, PF 100565, 98684 Ilmenau, Germany.

Professor Franz Rom Poulsen, Dept. of Neurosurgery, University of Southern Denmark, Odense University Hospital, Klørvænget 47, 5000 Odense C, Denmark.

Professor Henning Andersen - chairman of the committee, Department of Neurology, Aarhus University Hospital, Nørrebrogade 44, bldg. 10, 8000 Aarhus C, Denmark.

## **Permission**

By sending in this form:

- I hereby grant permission to publish the above Danish and English press releases as well as any submitted photo.
- I confirm that I have been informed that any applicable inventions shall be treated confidentially and shall under no circumstances whatsoever be published, presented or mentioned prior to submission of a patent application, and that I have an obligation to inform my head of department and the university's Patents Committee if I believe I have made an invention in connection with my work. I also confirm that I am not aware that publication violates any other possible holders of a copyright.