DOCTORAL CANDIDATE:	
DEGREE:	Philosophiae Doctor
FACULTY:	Faculty of Mathematics and Natural Sciences
DEPARTMENT:	The department of Chemistry
AREA OF EXPERTISE:	Radiopharmaceuticals Chemistry
SUPERVISORS:	Patrick Riss, Jon Peter Omtvedt
DATE OF DISPUTATION:	14th September 2018
DISSERTATION TITLE:	*Synthesis of fluorine-18 labelled radiotracers and their pre-clinical and clinical characterization*

A short lead paragraph written in Norwegian that summarizes the main findings in the thesis, no more than 2-3 sentences.

Positron emission tomography (PET) is one of the most sensitive in vivo imaging techniques available to clinicians and researchers. It helps in understanding the biological interactions and mechanism of various diseases through use of radiolabelled compounds called radiotracers.

Herein is described the development of facile radiolabelling approaches for straightforward access of ^{18}F-labelled trifluoromethyl radiotracers towards both aliphatic and aromatic scaffolds. The method developed for ^{18}F-trifluoromethylation of aliphatic compounds was applied to the radiosynthesis of [^{18}F]lansoprazole and N-methyl[^{18}F]lansoprazole. The compounds were used to analyze the blood-brain barrier penetration in healthy individuals and for the detection of tau-neurofibrillary tangles in Alzheimer's patients.
A single vial one-step method was developed for ^{18}F-trifluoromethylation of aromatic compounds and applied to the radiosynthesis of a derivative of AH7921, which is a sub-type selective mu-opioid receptor agonist.

In addition, a series of new compounds were synthesized with aim to discover the new radioligands based on modifications to the lead compounds i.e. lansoprazole and AH7921. Several interesting candidates were identified from each series, and few were radiolabelled with fluorine-18. The newly developed ^{18}F-labelled compounds have good potential to provide the in vivo characterization of tau-neurofibrillary tangles and quantification of the opioid receptors using the PET imaging respectively.

Information about the candidate and the summary should not be longer than one page (font: Georgia, 11 pt). To see the grid in the table, click the "Setup" - "Show grid lines" from the top menu in Word.

We ask you to take your audience into account and think of the following:

Start with conclusions and results.
Journalists are trained “to cut from behind” and expect to find the most important things first. And the most important regarding press releases are what you have found out. If you wish to get publicity you must start where you would normally end: with the conclusions and the results. Explain the consequences of your research, and if relevant, the practical implications of your work.

Write simple!
Read the summary out loud to a friend without knowledge of your research field. Avoid technical terminology and use everyday language if possible: "Better roughly right than precisely wrong".

Write short! 1/2 to 1/1 A4-page
“Long and difficult” equals the bottom of the paper basket at a news desk.