

CENTER FOR HYPERPOLARIZATION IN MAGNETIC RESONANCE



Leader

Principal Scientist,
Adj. Professor
Jan Henrik Ardenkjær-Larsen

| **Location**

Technical University of Denmark

| **Period**

2015-2021

| **Grant**

55 mil. DKK



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Jens Duus



Assoc Prof
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Assoc Prof
Vitaliy Zhurbenko



Assoc Prof
Susanne Mossin



Senior Scientist
Pernille Jensen

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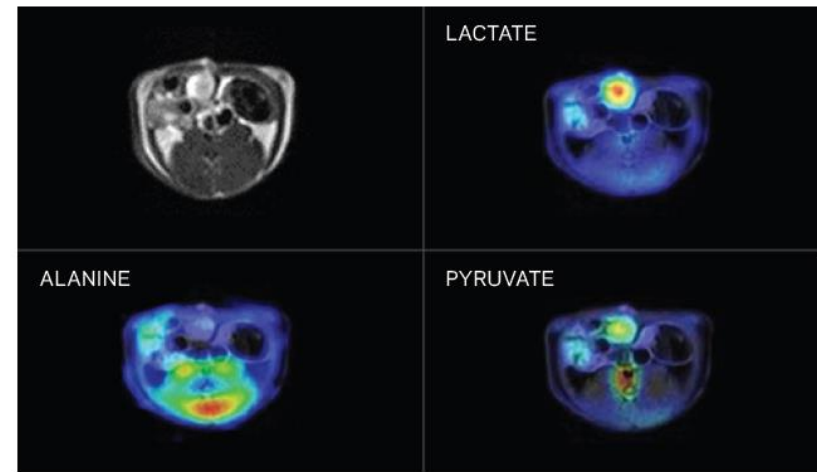
Period

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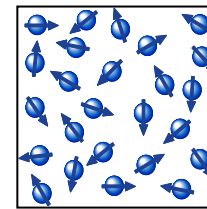
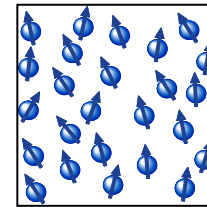
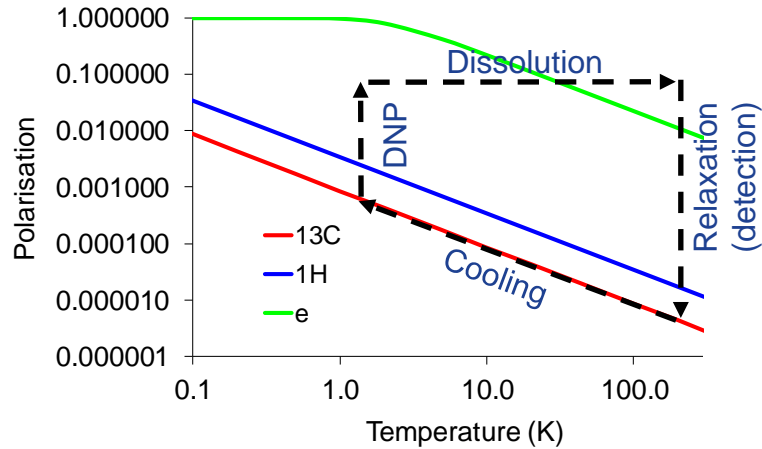
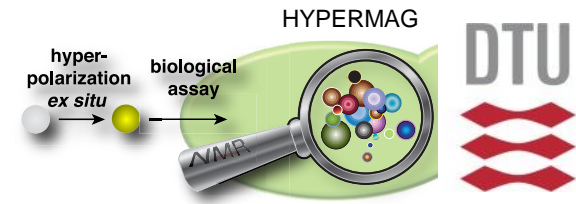
55 mil. DKK

The mission of the center will be to address basic scientific questions of hyperpolarization by Dynamic Nuclear Polarization (DNP) with the aim of enabling completely new applications of Magnetic Resonance in the study of chemical reactions in real-time in vivo and in vitro.

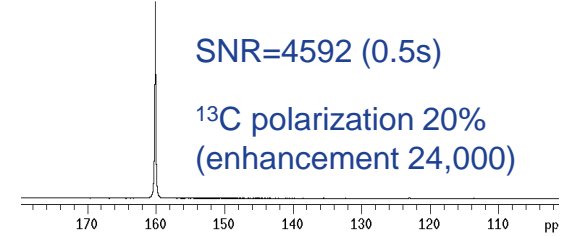


Conventional cross-sectional MR image of a rat with a tumor. Hyperpolarized pyruvate is taken up by the tumor and converted into lactate as measure of tumor metabolism.

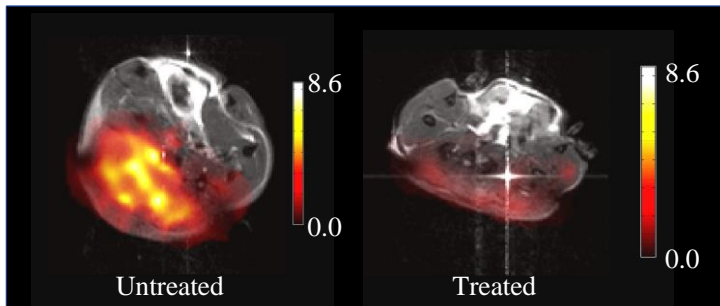
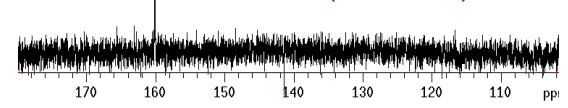
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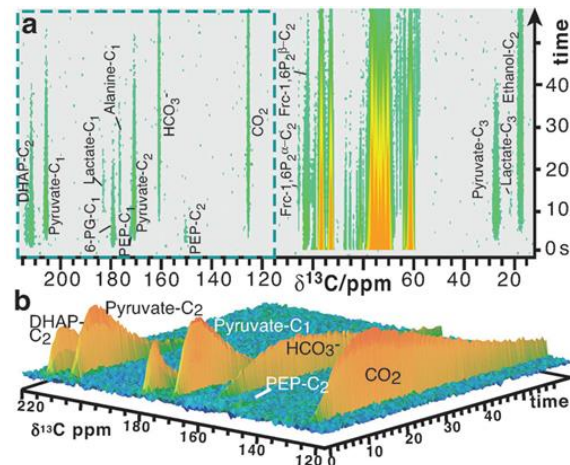
Hyperpolarized spectrum



Conventional NMR spectrum



Day et al, Nature Medicine 2007. Murine model of lymphoma before and after treatment with etoposide.



Meier et al, Mol Biosyst 2011. Hyperpolarized glucose given to suspension of yeast cells.