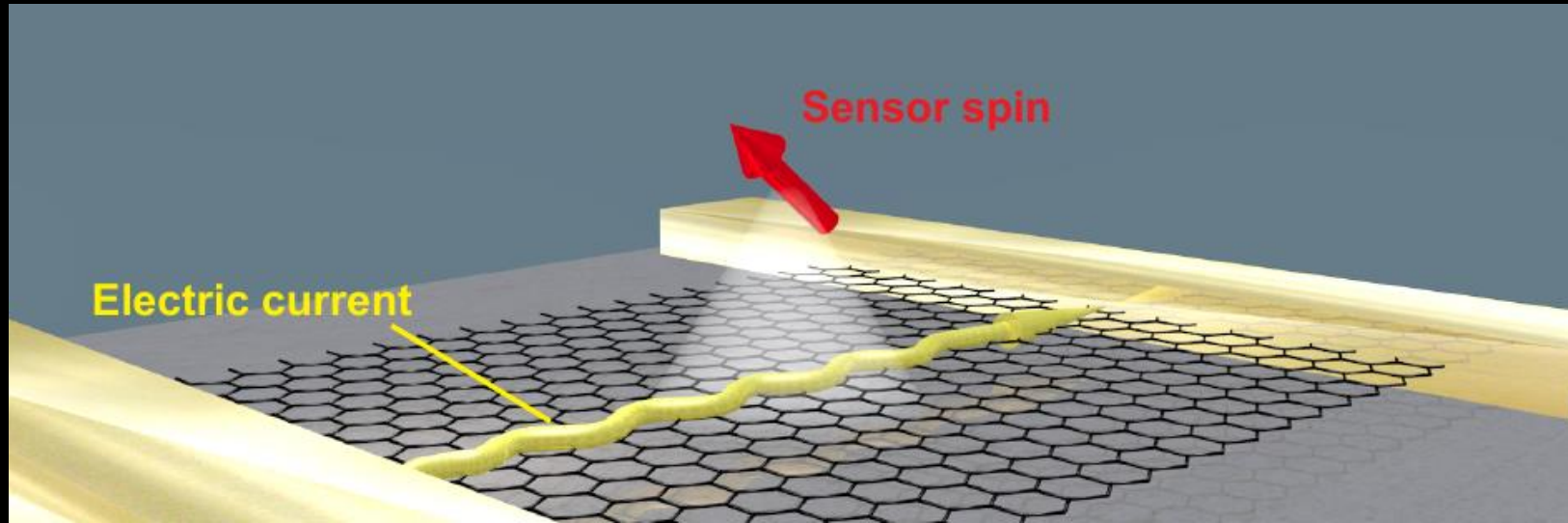


Quantum sensing with spins in diamond



Toeno van der Sar

2008 - 2012: PhD with prof. Hanson at TU Delft

2012 - 2013: Research Scientist at Philips

2013 - 2017: Postdoc with prof. Yacoby at Harvard/IQC

2017 - present: Assistant prof. at QN



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Quantum Nanoscience



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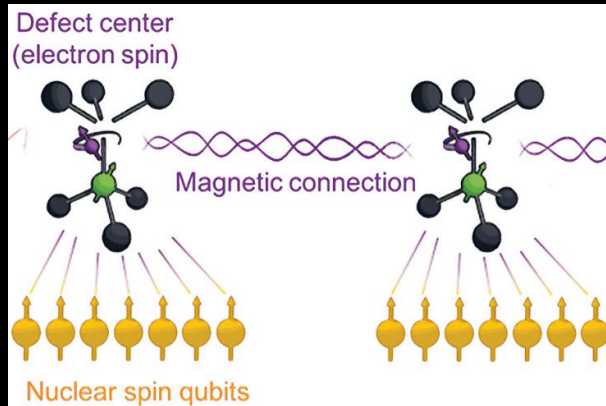
Diamond in Delft

Quantum internet



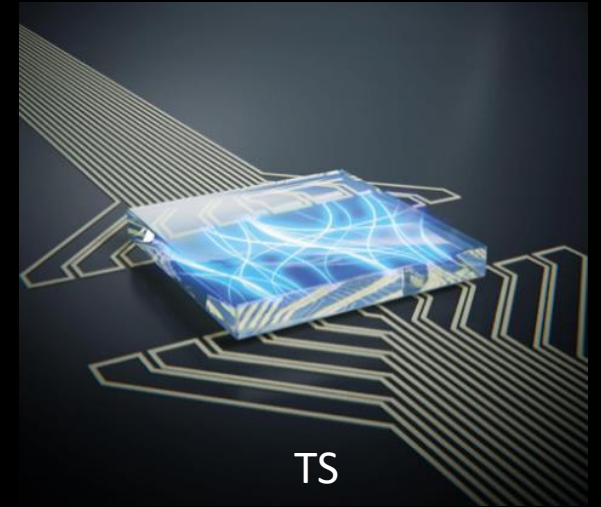
Hanson lab

Quantum registers



Taminiau lab

Quantum sensing



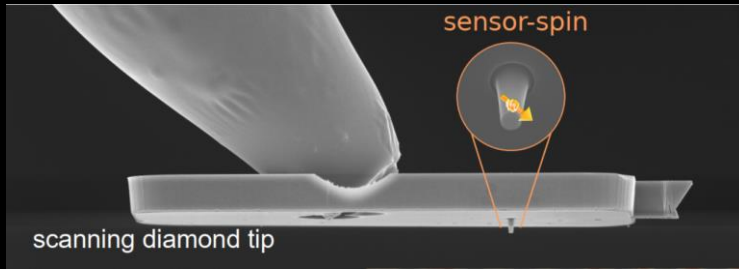
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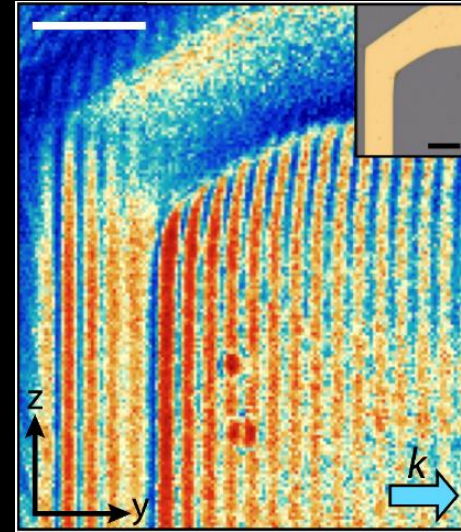
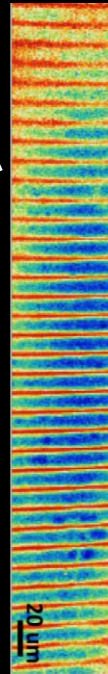
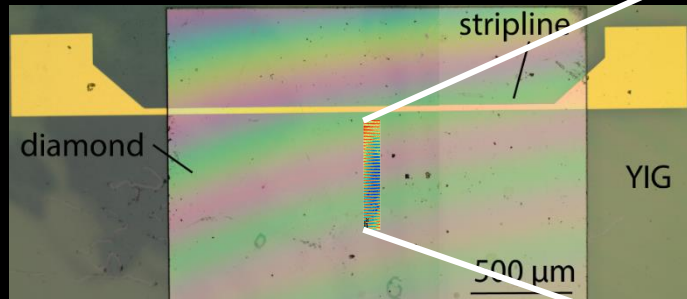
Diamond quantum microscopy - Opportunities

Imaging magnetic waves *through* metals

Nanoscale imaging with diamond nanotip



Wide-field imaging with diamond-on-chip



Bertelli et al., *Advanced Quantum Technologies* 2021

What can NV quantum sensing bring?

→ *Nanoscale detection and imaging of*

- microwaves
- electric currents
- magnetism