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## Detecting free radicals in single cells using diamond relaxometry

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## About the author



Anggrek Citra Nusantara was born on 27<sup>th</sup> July 1992 in Dili, Indonesia. In 2015, she graduated from Biomedical Engineering undergraduate degree at Universitas Airlangga Indonesia.

Afterward, in 2016, she continued her studies for a master's degree at the University of Groningen majoring in Biomedical Engineering. At the end of her masters, she joined Prof. R. Schirhagl's group for her graduation project about diamond magnetometry. She received a 3-year scholarship from the Graduate School of Medical Sciences (GSMS) in 2018 for a PhD degree. In 2021, the scholarship was extended by a year based on her excellent performance. Her PhD work focused on investigating free radicals using diamond magnetometry. She received the Gold Young Scholar Award at the 31st Conference on Diamond and Carbon Materials 2021.

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1. Sharmin, R., **Nusantara, A. C.**, Nie, L., Wu, K., Llumbet, A. E., Woudstra, W., Schirhagl, R. Quantum sensing of the intracellular radical generation induced cell toxicity of Acetaminophen (APAP) in the cytosol at the mitochondria and the nucleus of macrophages, 2022, submitted to *Small*
2. Nie, L., Wu, K., **Nusantara, A. C.**, Schirhagl, R. Quantum sensing of free radical in phagocytosis while macrophage infection by bacteria, 2022, in preparation
3. Padamati, S.K., Martínez, F. P. P., Vedelaar, T. A., **Nusantara, A. C.**, Schirhagl, R. Insight in to Fenton-like

reaction using nanodiamond based magnetometry, 2022, submitted to *Nanomaterials*

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5. **Nusantara, A. C.**, Nie, L., Damle, V. G., Baranov, M. V., Chipaux, M., Reyes-San-Martin, C., Hamoh, T., Epperla, C. P., Guricova, M., Cigler, P., Van Den Bogaart, G. & Schirhagl, R. Quantum Sensing of Free Radicals in Primary Human Dendritic Cells, 23-Feb-2022 , In: *Nano Letters*. 22, 4, p. 1818-1825 8 p.
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9. **Nusantara, A. C.**, Martinez, F. P., Chipaux, M., Padamati, S. K. & Schirhagl, R. Nanodiamond Relaxometry-Based Detection of Free-Radical Species When Produced in Chemical Reactions in Biologically Relevant Conditions, 24-Dec-2020, In: *ACS Sensors*. 5, 12, p. 3862-3869 8 p.

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