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## Fluorescent nanodiamonds quantum sensing free radicals in bio-samples

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## ABOUT THE AUTHOR

Linyan Nie was born on the 16 of March 1992 in Henan, China. In 2015, she completed a four-year B.Sc. degree majored in Pharmaceutical Engineering, at the University of Jilin Agricultural Science and Technology University, Jilin, China. Afterwards, in 2017, she finished her master study majored in Bioengineering, in the department of Colleague of Animal Science, at Jilin University, Changchun, China. In the end of her master, she received a CSC scholarship for her four-year PhD study in the department of Biomedical engineering, with Prof., R. Schirhagl, at the University of Groningen (University Medical Center Groningen). During her PhD, she was working with color-centered nanodiamonds, investigating free radicals generation in biological samples. In 2021, she won a Dutch de Cock grant to study free radical production in human primary dendritic cells. Now she got a faculty position from the South China Normal University, Guangzhou, China.





## LIST OF PUBLICATIONS

1. **Nie, L.**, Nusantara, A. C., Damle, V. G., Sharmin, R., Evans, E. P. P., Hemelaar, S. R., ... & Schirhagl, R. (2021). Quantum monitoring of cellular metabolic activities in single mitochondria. **Science advances**, 7(21), eabf0573. **Impact factor: 13.116**
2. **L. Nie**, A. C. Nusantara, V. G. Damle, M. Baranov, M. Chipaux, G. van den Boogart, R. Schirhagl\*,(2021). Quantum sensing of free radicals in primary human dendritic cells, **Revision with Nano Letters**, **Impact factor: 11.20**
3. **L. Nie**, Y. Zhang, Lei Li, Patrick Van Rijn, R. Schirhagl\*. (2021). pH sensitive dextran coated fluorescent nanodiamonds as a biomarker for Hela cells endocytic pathway and increased cellular uptake. *Nanomaterials*, 11, no. 7: 1837. **Impact factor: 5.10**
4. Damle, V. G., Sharmin, R., Morita, A., **Nie, L.**, & Schirhagl, R. (2020). Micro versus Macro—The effect of environmental confinement on cellular nanoparticle uptake. **Frontiers in bioengineering and biotechnology**, 8, 869. **Impact factor: 5.89**
5. **L. Nie**, K. Wu, A.C. Nusantara, R. Schirhagl\*, (2021). Quantum sensing of free radical in phagocytosis while macrophage infection by bacteria. Manuscript under preparation.
6. N. Norouzi, A. C. Nusantara, **L. Nie**, A. Morita, Y.Zhang, T.Hamoh, Y. Ong, R. Schirhagl\*. (2021). Relaxometry for detecting free radical generation during bacteria response to antibiotics. Manuscript to be submitted to **Redox Biology**. **Impact factor: 11.799**
7. R. Firestein, C. Marcinkiewicz, **L. Nie**, M. Torelli, M. Sternberg, O. Shenderova, R. Schirhagl, G. Z. Feuerstein\*. (2021). Potential application of FDP-NV-700/800 nm for liver metastasis Theranostics: in vitro 'proof of concepts' studies. Accepted **Nanotechnology, Science and Applications**. **Impact factor: 6.29**
8. Sharmin, R., Nusantara, A. C., **Nie, L**, Schirhagl, R. (2021). Quantum detecting free radicals caused by mitochondrial oxidative stress, manuscript in preparation.



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