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Engineering of antigen-saving dissolving microneedles for intradermal vaccine delivery

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CURRICULUM VITAE

Jihui Lee was born in Seoul, South Korea, on February 11, 1987. She graduated from Hanyang University in South Korea with a Bachelor's degree (*cum laude*) in chemical engineering in 2011. She started her Master's degree programme in biomedical engineering at New York University (New York, the United States) in 2012. After a year of working as a scientist at Samsung Biologics in South Korea, she continued her Master's degree programme in biomedical engineering at Texas A&M University (Texas, the United States). She became interested in polymer-based medication delivery, while pursuing her Master's degree in Pharmacoengineering lab. The title of her master's thesis was "Phase-separating microbubbles functioning as vaccine depots" She received her biomedical engineering degree in 2017.

The research experience during her Master's course inspired her to pursue a PhD degree. In 2018 she continued her career in the field of dermal vaccine delivery under the supervision of Prof. Dr. Joke Bouwstra, Prof. Dr. Wim Jiskoot and co-supervision of Dr. Koen van der Maaden at the Division of BioTherapeutics, Leiden Academic Centre for Drug Research (LACDR), Leiden University, the Netherlands. The focus of PhD research was intradermal vaccine delivery using dissolving microneedles. Currently, she holds a position at Ceravacs in the Netherlands as a formulation scientist.

LIST OF PUBLICATIONS

1. Lee, J. et al. Engineering of an automated nano-droplet dispensing system for fabrication of antigen-loaded dissolving microneedle arrays.
Int J Pharm. 2021 May 1;600:120473. doi: 10.1016/j.ijpharm.2021.120473.
2. Lee, J. et al. Intradermal administration of Influenza vaccine with trehalose and pullulan-based dissolving microneedle arrays.
J Pharm Sci. 2022 Apr;111(4):1070-1080. doi: 10.1016/j.xphs.2022.01.033.
3. Lee, J. et al. Efficient fabrication of thermo-stable dissolving microneedle arrays for intradermal delivery of influenza whole inactivated virus vaccine.
Biomater Sci. 2023 Aug 25. doi: 10.1039/d3bm00377a
4. Lee, J. et al. Intradermal vaccination with PLGA nanoparticles via dissolving microneedles and classical injection needles.
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