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Mechanical and genetics basis of cellularization and serosal window closure in *Tribolium castaneum*

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Curriculum Vitae



Tania Vazquez Faci was born in Mexico City on August 9th 1983. She was born in a scientific family of biologist, physicist and engineers. One of the events that marked her career path was the cloning of Dolly, the sheep. She was amazed when saw how the ovum was injected with the cloned information, then she wanted to do the same. During her PhD, Tania introduced a gene from a jellyfish into the egg of *Tribolium castaneum* to make the cells fluorescent to study the cellularization. At that moment, she was so happy because she could fulfill her dream.

To get to that point, Tania followed an unconventional career path. First of all, she studied Biology at the National University of Mexico (UNAM). She worked extensively in two projects. In the first

one, she studied *Drosophila melanogaster*'s neurons using biological and physical methods to understand the ion channels during the neural connection. In the second project, she studied the genotoxicity of Nitrosodimethylamine (NDMA, a strong human carcinogenic compound) using *D. melanogaster* as biological model. After her bachelor, Tania moved to France to do her master in applied physics with a specialization in Biophysics. During this period, she was involved in a project at the Institute d'Optique. There, she studied the protein translation from a single molecule perspective. Later, in collaboration with the bionanoscience department of TUDelft, Tania studied the bacterial antibiotic resistance using microchips and she modeled the *D. melanogaster* early development. After this experience she decided to pursue a PhD. Tania obtained a personal grant to perform her PhD project from the National Council of Science and Technology of Mexico. The PhD was done at Leiden University in the Netherlands under the direction of Prof. Dr. Herman Spaink as promotor and Dr. Maurijn van der Zee as supervisor. She studied the mechanics and genes involved in the early development of *T. castaneum*.

Publications

- Van Der Zee, M., Benton, M. A., **Vazquez-Faci, T.**, Lamers, G. E. M., Jacobs, C. G. C., & Rabouille, C. (2015). Innexin7a forms junctions that stabilize the basal membrane during cellularization of the blastoderm in *Tribolium castaneum*. *Development (Cambridge)*, 142(12), 2173–2183. <https://doi.org/10.1242/dev.097113>
- van Drongelen, R., **Vazquez-Faci, T.**, Huijben, T. A. P. M., van der Zee, M., & Idema, T. (2018). Mechanics of epithelial tissue formation. *Journal of Theoretical Biology*, 454, 182–189. <https://doi.org/10.1016/j.jtbi.2018.06.002>