

Monika NOWAK-IMIALEK

Dr.med.vet.



monika.nowak-imialek@tum.de

EDUCATION

- **2005** : Doctorate (PhD), Institute of Animal Breeding, Mariensee, Germany. Conferring institution: University of Veterinary Medicine Hannover (TiHo) in Hannover (Germany). Supervisor: Prof. Heiner Niemann
- **2001** : Doctor of Veterinary Medicine (DVM), University of Warmia and Mazury (UWM), Olsztyn, Poland

EXPERTISE

- Developmental biology and porcine embryo manipulation
- Establishment of porcine and human expanded potential stem cells (EPSCs)
- Differentiation of porcine and human stem cells into cardiac lineage

OTHERS

- **2023 - present** : Scientist member, German Centre for Cardiovascular Research (DZHK), partner site Munich Heart Alliance, Munich, Germany
- **2016 - 2019** : Committee Member of the Domestic Animal Biomedical Embryology (DABE) at the International Embryo Technology Society (IETS)
- **2016 - 2021** : The member of "Virtual Center for Reproductive Medicine" at the University of Veterinary Medicine Hanover

Dr. Nowak-Imialek is a senior scientist at the First Department of Medicine at Klinikum rechts der Isar, Technical University Munich in Germany. She worked before for many years at the Institute of Farm Animal Genetics of the Friedrich-Loeffler-Institut located in Mariensee near to Hannover (Germany) on the derivation of embryonic stem cells and the generation of transgenic pig models. She established the first embryonic stem cell lines named "Expanded Potential Stem Cells (EPSCs)" from porcine embryos. Her research interests focus on porcine embryology and EPSCs-derived cells for testing cell therapy in the pig. Recently, she also focused on the generation of inter-species chimera using porcine embryos.

ACADEMIC APPOINTMENTS

- **2020 - present** : Senior Scientist at the First Department of Medicine, Molecular Cardiology, School of Medicine and Health, Klinikum rechts der Isar, Technical University Munich (TUM) in Munich (Germany)
- **2019 - 2020** : Research Scientist at Friedrich-Loeffler-Institut (FLI), Federal Research Institute for Animal Health, Institute of Farm Animal Genetics in Mariensee (Germany)
- **2012 - 2018** : Postdoctoral Fellow at Hannover Medical School (MHH) in Hannover (Germany)
- **2006 - 2012** : Postdoctoral Fellow at Friedrich-Loeffler-Institut (FLI), Federal Research Institute for Animal Health, Institute of Farm Animal Genetics in Mariensee (Germany) headed by Prof. Heiner Niemann

AWARDS AND HONORS

- **2019 - 2021** : Alexander von Humboldt Polish Honorary Research Scholarship
- **2002 - 2005** : H. Wilhelm Schaumann Stiftung Scholarship

SELECTED PUBLICATIONS

1. Ruan, D., Xuan, Y., Ka Ki Tam, T., Li, Z., Wang, X., Xu, S., Lai, L., Herrmann, D., Niemann, H., Gao, X., Nowak-Imialek, M., Liu P. 2024. An optimized culture system for the efficient derivation of porcine expanded potential stem cells from preimplantation embryos and by reprogramming somatic cells. *Nature Protocols*. doi: 10.1038/s41596-024-00958-4.
2. Zawada, D., Kornherr, J., Meier, A.B., Santamaria, G., Dorn, T., Nowak-Imialek, M., Ortmann, D., Zhang, F., Lachmann, M., Dreßen, M., Ortiz, M., Mascetti, V.L., Harmer, S.C., Nobles, M., Tinker, A., De Angelis, M.T., Pedersen, R.A., Grote, P., Laugwitz, K.L., Moretti, A., Goedel, A. 2023. Retinoic acid signaling modulation guides in vitro specification of human heart field-specific progenitor pools. *Nature Communication*. 14:1722.
3. Gaou X., Nowak-Imialek, M., Chen, X., Chen, D., Herrmann, D., Ruan, D., Chen, A.C.H., Eckersley-Maslin, M.A., Ahmad, S., Lee, Y.L., Kobayashi, T., Ryan, D., Zhong, J., Zhu, J., Wu, J., Lan, G., Petkov, S., Yang, J., Antunes, L., Campos, L.S., Fu, B., Wang, S., Yong, Y., Wang, X., Xue, S.G., Ge, L., Liu, Z., Huang, Y., Nie, T., Li, P., Wu, D., Pei, D., Zhang, Y., Lu, L., Yang, F., Kimber, S.J., Reik, W., Zou, X., Shang, Z., Lai, L., Surani, A., Tam, P.P.L., Ahmed, A., Yeung, W.S.B., Teichmann, S.A., Niemann, H., Liu, P. 2019. Establishment of porcine and human expanded potential stem cells. *Nature Cell Biology*. 21:687-699.