

ABU SAMMOUR, DENIS, DR. SC. HUM.

GENERAL INFORMATION



Postdoctoral Researcher / Group Leader

Technische Hochschule Mannheim
CeMOS – Research and Transfer Center
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ACADEMIC EDUCATION & QUALIFICATION

Year(s)	Education
2017 – 2023	Ph.D. (Dr. sc. hum.) in Bioinformatics, Heidelberg University, Medical Faculty Mannheim, Mannheim, Germany.
2013 – 2015	M.Sc. in Biomedical Engineering, Heidelberg University, Medical Faculty Mannheim, Mannheim, Germany.
2005 – 2010	B.Sc. in Biomedical Engineering from Jordan University of Science and Technology, Jordan.

SCIENTIFIC EDUCATION & QUALIFICATION

Year(s)	Education
Since 2023	Postdoc in bioinformatics and data science, CeMOS – Research and Transfer Center, Technische Hochschule Mannheim, Mannheim, Germany.
2017 – 2023	Doctoral researcher in applied bioinformatics and mass spectrometry imaging under the supervision of Prof. Dr. Carsten Hopf, CeMOS – Research and Transfer Center, Technische Hochschule Mannheim, Mannheim, Germany.
2015	M.Sc. thesis in biomedical image processing and image registration supervised by Prof. Dr. Luther Schad and Prof. Dr. Ing. Frank Zöllner, Medical Faculty Mannheim, Mannheim, Germany.

PROFESSIONAL EXPERIENCE

Year(s)	Experience
Since 2018	Group Leader-Bioinformatics, CeMOS – Research and Transfer Center, Technische Hochschule Mannheim, Mannheim, Germany.
2015-2018	Research Assistant, Technische Hochschule Mannheim, Mannheim, Germany.
2015	Project Assistant, Fraunhofer PAMB, Mannheim, Germany.
2011-2013	Picture Archiving and Communication Systems Application Specialist, Jordan.
2010-2011	Medical Field Service Engineer, Jordan.

SELECTED PUBLICATIONS

1. Gruber, L., Schmidt, S., Enzlein, T., Vo, H. G., Bausbacher, T., Cairns, J. L., Ucal, Y., Keller, F., Kerndl, M., Abu Sammour, D., Sharif, O., Schabbauer, G., Rudolf, R., Eckhardt, M., Iakab, S. A., Bindila, L., & Hopf, C. (2025). Deep MALDI-MS spatial omics guided by quantum cascade laser mid-infrared imaging microscopy. **Nature communications**, 16(1), 4759.
2. Enzlein, T., Lashley, T., Abu Sammour, D., Hopf, C., & Chávez-Gutiérrez, L. (2024). Integrative Single-Plaque Analysis Reveals Signature A β and Lipid Profiles in the Alzheimer's Brain. **Analytical chemistry**, 96(24), 9799–9807.
3. Abu Sammour, D., Cairns, J. L., Boskamp, T., Marsching, C., Kessler, T., Ramallo Guevara, C., Panitz, V., Sadik, A., Cordes, J., Schmidt, S., Mohammed, S. A., Rittel, M. F., Friedrich, M., Platten, M., Wolf, I., von Deimling, A., Opitz,

- C. A., Wick, W., & Hopf, C. (2023). Spatial probabilistic mapping of metabolite ensembles in mass spectrometry imaging. **Nature communications**, 14(1), 1823.
4. Friedrich, M., Sankowski, R., Bunse, L., Kilian, M., Green, E., Ramallo Guevara, C., Pusch, S., Poschet, G., Sanghvi, K., Hahn, M., Bunse, T., Münch, P., Gegner, H. M., Sonner, J. K., von Landenberg, A., Cichon, F., Aslan, K., Trobisch, T., Schirmer, L., Abu Sammour, D., ... Platten, M. (2021). Tryptophan metabolism drives dynamic immunosuppressive myeloid states in IDH-mutant gliomas. *Nature cancer*, 2(7), 723–740.
 5. Abu Sammour, D.*, Marsching, C.*, Geisel, A., Erich, K., Schulz, S., Ramallo Guevara, C., Rabe, J. H., Marx, A., Findeisen, P., Hohenberger, P., & Hopf, C. (2019). Quantitative Mass Spectrometry Imaging Reveals Mutation Status-independent Lack of Imatinib in Liver Metastases of Gastrointestinal Stromal Tumors. **Scientific reports**, 9(1), 10698. *Equal contribution
 6. Erich, K., Reinle, K., Müller, T., Munteanu, B., Abu Sammour, D., Hinsenkamp, I., Gutting, T., Burgermeister, E., Findeisen, P., Ebert, M. P., Krijgsveld, J., & Hopf, C. (2019). Spatial Distribution of Endogenous Tissue Protease Activity in Gastric Carcinoma Mapped by MALDI Mass Spectrometry Imaging. **Molecular & cellular proteomics : MCP**, 18(1), 151–161.
 7. Weigt, D., Abu Sammour, D., Ulrich, T., Munteanu, B., & Hopf, C. (2018). Automated analysis of lipid drug-response markers by combined fast and high-resolution whole cell MALDI mass spectrometry biotyping. **Scientific reports**, 8(1), 11260.
 8. Rabe, J. H., Abu Sammour, D., Schulz, S., Munteanu, B., Ott, M., Ochs, K., Hohenberger, P., Marx, A., Platten, M., Opitz, C. A., Ory, D. S., & Hopf, C. (2018). Fourier Transform Infrared Microscopy Enables Guidance of Automated Mass Spectrometry Imaging to Predefined Tissue Morphologies. **Scientific reports**, 8(1), 6361.
 9. Erich, K.*, Abu Sammour, D.*, Marx, A., & Hopf, C. (2017). Scores for standardization of on-tissue digestion of formalin-fixed paraffin-embedded tissue in MALDI-MS imaging. **Biochimica et biophysica acta. Proteins and proteomics**, 1865(7), 907–915. *Equal contribution
 10. Fülöp, A., Abu Sammour, D., Erich, K., von Gerichten, J., van Hoogevest, P., Sandhoff, R., & Hopf, C. (2016). Molecular imaging of brain localization of liposomes in mice using MALDI mass spectrometry. **Scientific reports**, 6, 33791.