Jena School for Microbial Communication
Graduate School of Excellence

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Postdoc Project:

Understanding DC and mononuclear phagocyte functionality in relation to the commensal community and their metabolites

Main Research Interests

- Exploration of Dendritic cell network in murine skin and gut in SPF and gnotobiotic mice.
- Investigation of how microbiome composition affects the phenotype and function of DCs in homeostasis and disease conditions (e.g. sepsis).

Methodological Experiences

- High dimensional flow cytometry analysis using BD FACSymphony A5 and S6 Symphony sorter
- Cell culture platforms for *in vitro* analysis of interactions between dendritic cells, monocytes, and macrophages with the microbiome, T cells, biomolecules (e.g. organoid culture, dendritic cell–T cell coculture, dendritic cell differentiation assays).
- Imaging techniques (e.g. confocal microscopy).
- Functional assays (e.g. uptake and phagocytosis assays, …).

Curriculum Vitae

Academic education with graduation

2021 –2025	Doctoral studies at the University Hospital of Erlangen, Department of Dermatology, (Erlangen, Germany) under the supervision of Dr Christian Lehmann and Prof. Diana Dudziak.
2017 – 2020	M.Sc. Immunology and Cell Biology, University of Abomey-Calavi (UAC), Benin, under the supervision of Dr Gatien Lokossou and Prof. †Evelyne Josette Marie Lozès
2014 – 2016	Bachelor in Biotechnology, UATM Gasa-Formation, Cotonou-Benin, under the supervision of Dr Gatien Lokossou.

Awards

02.2025 "Best poster prize" awarded during the 9th AKDC meeting, Waischenfeld, Germany.

06.2024 "Best poster prize" awarded during the 9th International IZKF Symposium, Bildungszentrum Kloster Banz, Bad Staffelstein, Germany.

07.2023 Travel grant to the "18th International Congress of Immunology, Cape-Town, South Africa" awarded by the Club Francophone des Cellules dendritiques (CFCD).

11.2019 Scholarship to attend "IUIS-FAIS-Immuno-Benin 2019, Impact of the tropical infections on mother and child immunity", Ouidah-Benin.

Scientific talks

04.2025 "Understanding of the complex cutaneous immune response induced by Leishmania parasites", Annual IZKF retreat, Waischenfeld, Germany.

02.2024 "Role of DC heterogeneity in skin and its role during cutaneous leishmaniasis disease", Institutional seminar immunology, online.

07.2023 "Role of DC heterogeneity and natural antibodies for disease outcome in cutaneous Leishmania infection", Annual IZKF retreat, Waischenfeld, Germany.

06.2023 "Skin zone of residency dictates the phenotype and function of type 2 dermal DC", Derma-institutional seminar, Erlangen, Germany.

02.2023 "Novel surface marker combination allows clear separation of conventional type 2 dermal dendritic cell from monocytes/macrophages in murine skin", 7th AKDC meeting, Waischenfeld, Germany.

09.2022 "Dermal dendritic cell extraction and identification from murine skin areas", INS Jour-fix, Erlangen, Germany.

Publications

1. Wickel J, Ceanga M, Vlad B,von Stackelberg N, **Tochoedo NR**, Schulz D, Yomade O, Dudziak D, Geis C. T-cell engager for autoimmune neuropathy. Natcom (in revision).
2. Vurnek D, Tchitashvili G, Seichter A, Vuletic T, Heß I, Trapaidze L, Heger L, **Tochoedo NR**, Lehmann CHK, Lambrecht BN, Dudziak D, Amon L. Protocol for mapping murine myeloid bone marrow progenitors and their differentiation into CD103^{+} cDC1s and CD301b^{+} cDC2s. STAR Protoc. 2026 May 2;7(2):104508.
3. Amon L, Vurnek D, Seichter A, Tchitashvili G, Kaszubowski T, Mroz M, Debeuf N, Vogler T, Küpper N, Rengarajan KR, Lächele L, **Tochoedo NR**, Baranska A, Autenrieth SE, Nimmerjahn F, Hildner K, Pfeffer K, Schraml BU, Heger L, Lambrecht BN, Lehmann CHK, Dudziak D. GM-CSF and specific type 2 cytokines induce CD103+ and CD301b+ cell states

in cDC1s and cDC2s. Cell Rep. 2025 Dec 23;44(12):116589. doi: 10.1016/j.celrep.2025.116589. Epub 2025 Nov 26. PMID: 41307996.

4. Amon L, Seichter A, Vurnek D, Heger L, Lächele L, **Tochoedo NR**, Kaszubowski T, Hatscher L, Baranska A, Tchitashvili G, Nimmerjahn F, Lehmann CHK, Dudziak D. Clec12A, CD301b, and FcγRIIB/III define the heterogeneity of murine DC2s and DC3s. Cell Rep. 2024 Mar 26;43(3):113949. doi: 10.1016/j.celrep.2024.113949. Epub 2024 Mar 14.
5. Clausen BE, Amon L, Backer RA, Berod L, Bopp T, Brand A, Burgdorf S, Chen L, Da M, Distler U, Dress RJ, Dudziak D, Dutertre CA, Eich C, Gabele A, Geiger M, Ginhoux F, Giusiano L, Godoy GJ, Hamouda AEI, Hatscher L, Heger L, Heidkamp GF, Hernandez LC, Jacobi L, Kaszubowski T, Kong WT, Lehmann CHK, López-López T, Mahnke K, Nitsche D, Renkawitz J, Reza RA, Sáez PJ, Schlautmann L, Schmitt MT, Seichter A, Sielaff M, Sparwasser T, Stoitzner P, Tchitashvili G, Tenzer S, **Tochoedo NR,** Vurnek D, Zink F, Hieronymus T. Guidelines for mouse and human DC functional assays. Eur J Immunol. 2023 Dec;53(12): e2249925. doi: 10.1002/eji.202249925. Epub 2022 Dec 23.
6. Amon L, Dudziak D, Backer RA, Clausen BE, Gmeiner C, Heger L, Jacobi L, Lehmann CHK, Probst HC, Seichter A, Tchitashvili G, **Tochoedo NR**, Trapaidze L, Vurnek D. Guidelines for DC preparation and flow cytometry analysis of mouse lymphohematopoietic tissues. Eur J Immunol. 2023 Dec;53(12):e2249893. doi: 10.1002/eji.202249893. Epub 2022 Dec 23.
7. Lokossou GAG**, Tochoedo RN,** Agossou S, Lihouenou MC, Bankolé FCC, Maladé OA, Azonnakpo J, Lozes EMJ, Baba-Moussa LS. In utero anti-HBsAg antibodies transmission from mother to fetus is associated with protection against hepatitis B infection in new-born babies in Bénin Republic. *Niger J Immunol* 2022; 3:5-11.

In Preparation

1. **Tochoedo RN**, Schleicher U, Amon L, Gold T, Schnabel K, Trapaidze L, Tchitashvili G, Vurnek D, Dudziak D, Lehmann H.K.C. Guidelines for single cell suspension preparation and flow cytometry analysis of the dermal DC network in various murine skin areas. (In subsmission).
2. **Tochoedo RN**, Schleicher U, Amon L, Gold T, Schnabel K, Trapaidze L, Tchitashvili G, Vurnek D, Dudziak D, Lehmann H.K.C. Ft3L drives the terminal differentiation of dermal CD11b-cDC2 into full potent cDC2. (In preparation).
3. **Tochoedo RN**, Schleicher U, Amon L, Gold T, Schnabel K, Trapaidze L, Tchitashvili G, Vurnek D, Dudziak D, Lehmann H.K.C, Uncovering the origin, specification and function of the dermal macrophage subpopulations in murine skin. (In preparation).