

IUF *aktuell*

Rückblick 2022 und Januar bis November 2023



DFG-Forschungsgruppe / Zertifikat berufundfamilie / Analysetools / B2Run / Sommerfest

DFG research unit / certificate berufundfamilie / analysis tools / B2Run / summer party

IUF

LEIBNIZ-INSTITUT
FÜR UMWELT-
MEDIZINISCHE
FORSCHUNG

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Vorwort

Liebe Kolleginnen und Kollegen,

2023 war das Jahr unserer „großen“, alle 7 Jahre stattfindenden Evaluierung unseres gesamten Institutes durch den Senatsausschuss für Evaluierung (SAE) der Leibniz-Gemeinschaft. Die vom SAE eingesetzte Gutachterkommission hat das IUF am 6. und 7. Februar 2023 begangen. Direkt im Anschluss an diese Begehung haben wir ein erstes und sehr positives, mündliches Feedback vom Vorsitzenden der Gutachtergruppe erhalten. Und mittlerweile ist es offiziell: Sie haben es einmal mehr geschafft, mit Ihren Leistungen die Gutachtergruppe für das IUF zu begeistern, die daher nachdrücklich und uneingeschränkt die Fortsetzung der Bund-Länderförderung unseres Institutes für weitere 7 Jahre empfohlen und Ihnen durch die Bank hervorragende Noten gegeben hat. Einzelheiten und vertiefende Informationen entnehmen Sie bitte dem schriftlichen Evaluationsbericht, der am 21. November durch den Senat der Leibniz-Gemeinschaft verabschiedet und daraufhin veröffentlicht wurde. Wir als Geschäftsführung gratulieren Ihnen zu dieser herausragenden Leistung und schätzen uns glücklich, mit Ihnen zusammenarbeiten zu dürfen.

Der weitere Jahresverlauf war sodann durch eine Reihe von Entwicklungen charakterisiert, die für die zukünftige Weiterentwicklung und Ausrichtung unseres Institutes von unmittelbarer Bedeutung sind. Hier ist vor allem die Etablierung zweier neuer Nachwuchsgruppen zu nennen, die beide von Juniorprofessoren geleitet werden, die gemeinsam mit nordrheinwestfälischen Universitäten berufen wurden bzw. aktuell werden. Die Nachwuchsgruppe „Computational Phenomics“ des IUF wird seit dem 1. Juli 2023 von Prof. Dr. Arne Sahn geleitet, der gemeinsam mit der Ruhr-Universität Bochum berufen wurde, und der sich Ihnen in einer der nächsten Ausgaben von IUF aktuell noch detaillierter vorstellen wird. Für seine Arbeit am IUF wünschen wir ihm alles Gute und eine glückliche Hand! Die zweite Juniorprofessur wird aktuell in einem gemeinsamen Verfahren mit der Technischen Universität Dortmund besetzt. Diese Professur für „Statistische Methoden in der Umweltmedizin“ ist zudem in das von der DFG seit 2021 geförderte Graduiertenkolleg 2624 „Biostatistische Methoden für hochdimensionale Daten in der Toxikologie“ eingebettet, an dem aktuell Wissenschaftler und Wissenschaftlerinnen der TU Dortmund, des IUF, des IfADO und der HHU beteiligt sind.

Ebenfalls in diesem Jahr hat die von der Deutschen Forschungsgemeinschaft zunächst für 4 Jahre geförderte Forschungsgruppe FOR 5489 ihre Arbeit aufgenommen. Dieser vom IUF koordinierte strukturierte Forschungsverbund beschäftigt sich mit der Frage, welche Bedeutung durch den Aryl-Hydrocarbon-Rezeptor vermittelte Signalantworten für die Pathogenese von Hautkrankheiten haben und ob und wie sich dies präventiv oder therapeutisch nutzen lässt.

Und zum Schluss noch eine Gratulation: Am 19. Oktober 2023 hat Frau Dr. Tamara Schikowski, die sehr erfolgreich die AG „Umweltepide miologie von Lunge, Gehirn und Hautalterung“ an unserem Institut leitet, sich für das Fach „Umweltmedizinische Forschung“ habilitiert. Liebe Frau Schikowski, wir freuen uns sehr und wünschen viel Erfolg bei den nächsten Karriereschritten.

Mit besten kollegialen Grüßen

Jean Krutmann

Alexander Beaucamp

Preamble

Dear colleagues,

2023 was dominated by the “big” evaluation of our entire institute by the Senate Evaluation Committee (SAE) of the Leibniz Association, which takes place every 7 years. The evaluation committee appointed by the SAE visited the IUF on February 6 and 7, 2023. Directly after this on-site visit, we received initial and very positive verbal feedback from the chairman of the expert group. And meanwhile it is official: You have once again managed to deeply impress the expert group, which therefore strongly and unconditionally recommended the continuation of federal-state funding for our institute for another 7 years and gave you excellent marks without any exception. For details and further information, please refer to the written evaluation report, which was adopted by the Senate of the Leibniz Association on November 21 and subsequently published. We, the Executive Board, congratulate you on this outstanding achievement and consider ourselves very fortunate for having the privilege to work with you.

The remainder of the year was characterized by a number of developments that are of direct importance for the future development and orientation of our institute. In particular, the establishment of two new junior research groups should be mentioned here. Both junior research groups are headed by junior professors who were or are currently being appointed jointly by IUF with universities in North Rhine-Westphalia. The junior research group “Computational Phenomics” at the IUF has been headed since July 1, 2023 by Prof. Dr. Arne Sahm, who was appointed jointly with the Ruhr University Bochum and who will introduce himself to you in more detail in one of the next issues of IUF aktuell. We wish him all the best and good luck for his work at the IUF! The second junior professorship is currently being filled in a joint procedure with the Technical University Dortmund. This professorship, which is devoted to “Statistical Methods for Environmental Medicine”, is also embedded in the Research Training Group 2624 “Biostatistical methods for high-dimensional data in toxicology”, which has been funded by the DFG since 2021 and currently involves scientists from Technical University Dortmund, IUF, IfADo and HHU.

This year, the research unit FOR 5489, initially funded by the German Research Foundation for 4 years, also began its work. This structured research group coordinated by the IUF deals with the question of the significance of signaling responses mediated by the aryl hydrocarbon receptor for the pathogenesis of skin diseases and whether and how this can be used for the prevention or therapy of skin disorders.

And finally, we would like to take this opportunity to say “congratulations”: On October 19, 2023, Dr. Tamara Schikowski, who very successfully heads the working group “Environmental epidemiology of lung, brain and skin aging” at our institute, habilitated in the field of “Environmental Medical Research”. Dear Tamara Schikowski, we are happy and proud and wish you every success in your next career steps.

With best regards

Jean Krutmann

Alexander Beaucamp

Neue DFG-Forschungsgruppe (FOR 5489)

Anfang des Jahres hat die von der DFG geförderte Forschungsgruppe FOR 5489, die vom IUF koordiniert wird, ihre Arbeit aufgenommen. Forschungsgruppen ermöglichen Wissenschaftler*innen, sich aktuellen und drängenden Fragen ihrer Fachgebiete zu widmen und innovative Arbeitsrichtungen zu etablieren. Das Thema unserer Forschungsgruppe ist: Untersuchungen zur Ambivalenz des AHR-Signalweges in Hautkrankheiten. Kooperationspartner kommen von der Heinrich-Heine-Universität Düsseldorf sowie den Universitäten Bonn, Magdeburg und Oldenburg (siehe auch Projektliste unten). Die Laufzeit der Forschungsgruppe beträgt zunächst 4 Jahre mit der Möglichkeit einer Verlängerung um weitere vier Jahre. Die Förderung beträgt insgesamt ca. 5 Millionen Euro. Das Kick-off Treffen fand am 26. und 27. Juni 2023 im Haus der Universität in Düsseldorf statt.

Warum ist der Aryl-Hydrocarbon-Rezeptor so spannend?

Signalübertragung in Zellen spielt eine zentrale Rolle und kann ein Ansatzpunkt für die Prävention und Therapie von Krankheiten sein. Ein Mitspieler, der Signale empfängt und daraufhin als Schalter für das Ablesen von genetischen Informationen wirkt, ist der Aryl-Hydrocarbon-Rezeptor, kurz AHR. Der AHR-Signalweg wird zunehmend als interessanter therapeutischer Ansatzpunkt gesehen. Wissenschaftler*innen des IUF konnten zeigen, dass der AHR in so gut wie allen Hautzellen vertreten ist und ihm eine wichtige Funktion für die Hautgesundheit zukommt. Unklar ist noch, warum sich die Aktivierung des AHR manchmal positiv auf die Hautgesundheit und manchmal nachteilig auswirkt. Es scheint, als habe der AHR zwei Gesichter, was an den römischen Gott des Anfangs und Endes, Janus, erinnert. Hier setzt die Forschungsgruppe „Untersuchungen zur Ambivalenz des AHR-Signalweges in Hautkrankheiten“ an.

Woran arbeitet die DFG-Forschungsgruppe genau?

Die Forschungsgruppe geht von der Hypothese aus, dass das Ergebnis einer AHR-Aktivierung (gut oder schlecht für den Patienten) vom jeweiligen Kontext abhängt, also ob die Haut gesund oder durch Entzündungen oder Umwelteinflüsse vorgeschädigt ist. Um diese Annahme zu testen und entsprechende Einflussgrößen zu bestimmen, wurde ein anspruchsvolles interdisziplinäres Forschungsprogramm erarbeitet, bei dem ein breites Methodenspektrum zum Einsatz kommt, das unter anderem Untersuchungen in 3D-Hautmodellen, Proben aus Biobanken und Mausmodellen umfasst. Zudem werden in den einzelnen Teilprojekten Referenzmoleküle verwendet, die eine abschließende vergleichende bioinformatische Analyse möglich machen. Im Fokus der Arbeiten stehen chronisch-entzündliche Hauterkrankungen wie Neurodermitis und auch *Lupus erythematoses*, weißer und schwarzer Hautkrebs sowie unerwünschte Arzneimittelreaktionen. Konkret werden die neun einzelnen Projekte der Forschungsgruppe die Rolle des AHR-Signalweges für die genannten Hautkrankheiten unter besonderer Berücksichtigung von Haut-Darm-Mikrobiom-Interaktionen, der Rolle von Retinsäure und ausgewählter Pharmazeutika, dem Einfluss auf maligne Transformation, sowie der Relevanz des AHR-Repressors erforschen.

Prof. Krutmann, Sprecher der Forschungsgruppe: „Wir möchten die genaue Wirkung des AHR-Signalweges in einem spezifischen klinischen Kontext besser verstehen, und diese Informationen in innovative präventive und therapeutische Strategien umsetzen.“

New DFG funded research unit (FOR 5489)

At the beginning of the year, the DFG-funded research unit FOR 5489 coordinated by IUF started its work. Research units enable researchers to pursue current and pressing issues in their areas of research and take innovative directions in their work. The topic of our research group is: Understanding aryl hydrocarbon receptor (AHR) signaling in skin disorders. Cooperation partners come from the Heinrich Heine University Düsseldorf as well as from the Universities of Bonn, Magdeburg and Oldenburg (see project list below). The initial duration of the research unit is 4 years with the possibility of an extension for another four years. The total funding amounts to about 5 million Euros. The kick-off meeting took place in Düsseldorf on June 26 and 27, 2023.

Why is the aryl hydrocarbon receptor so interesting?

Signal transduction in cells plays a central role and can be targeted for disease prevention and therapy. One player that receives signals and subsequently acts as a switch for transcription of genetic information is the aryl hydrocarbon receptor, short AHR. The AHR signaling pathway is increasingly seen as an interesting therapeutic target. Scientists at IUF have shown that the AHR is present in virtually all skin cells and plays an important role in skin health. It is still unclear why the activation of the AHR sometimes has a positive effect on skin health and sometimes a negative one. It seems that the AHR has two faces, reminiscent of the Roman god of beginnings and endings, Janus. This is where the research unit "Understanding aryl hydrocarbon receptor (AHR) signaling in skin disorders" comes in.

What is the scope of the DFG research unit?

The DFG research unit starts from the hypothesis that the outcome of AHR activation (good or bad for the patient) depends on the context, i.e. whether the skin is healthy or pre-damaged by inflammation or environmental influences. In order to test this hypothesis and to determine the corresponding influencing variables, an ambitious interdisciplinary research program has been developed in which a broad spectrum of methods is used, including investigations in 3D skin models, samples from biobanks and mouse models. In addition, reference molecules will be used in the individual sub-projects, enabling a final comparative bioinformatic analysis. The focus of the work is on chronic inflammatory skin diseases such as neurodermatitis and also *Lupus erythematosus*, white and black skin cancer, and adverse drug reactions. Specifically, the nine individual projects of the research unit will explore the role of the AHR pathway in the aforementioned skin diseases, with particular emphasis on skin-gut-microbiome interactions, the role of retinoic acid and selected pharmaceuticals, the influence on malignant transformation, and the relevance of the AHR repressor.

Prof. Jean Krutmann, speaker of the research unit: "We would like to better understand the precise role of the AHR signaling in a specific clinical context, and translate this information into innovative preventive and therapeutic strategies."

Die 9 Teilprojekte, deren Ergebnisse zusammengeführt und vergleichend analysiert werden, sind:

The 9 subprojects whose results will be combined and analyzed comparatively are:

P1: Aufklärung der Rolle der Aryl-Hydrocarbon-Rezeptor Signaltransduktion für die Mikroben-Wirt Interaktion in der Haut
Unravelling the role of AHR signaling in microbe-host interaction in the skin

Prof. Dr. Bernhard Homey, Klinik für Dermatologie, Universitätsklinikum Düsseldorf, Medizinische Fakultät der Heinrich-Heine-Universität Düsseldorf (Med Fak HHU)

P2: Zelltyp-spezifische Regulation und Funktion des AHRR bei Entzündungen und Allergien der Haut
Cell type-specific regulation and function of the AHRR in skin inflammation and allergy

Privatdozentin Dr. Heike Weighardt, LIMES-Institut, Mathematisch-Naturwissenschaftliche Fakultät der Rheinischen Friedrich-Wilhelms-Universität Bonn

P3: AHR-vermittelte Regulation der Integrität vaskulärer Barrieren im Kontext der Autoimmunität
AHR-mediated mechanisms to overcome vascular barriers in autoimmunity

Prof. Dr. Sven Meuth, Klinik für Neurologie, Universitätsklinikum Düsseldorf, Med Fak HHU

P4: Der AHR als Hauptregulator bei kutaner und systemischer Autoimmunität
AHR as a master regulator in cutaneous and systemic autoimmunity

Prof. Dr. Karin Loser, Institut für Immunologie, Fakultät VI: Medizin und Gesundheitswissenschaften, Carl von Ossietzky Universität Oldenburg

P5: Die Rolle des AHR für die Darm-Haut-Achse
The role of AHR for the gut-skin inflammatory axis

Prof. Dr. Charlotte Esser, Dr. Doreen Reichert, IUF

P6: Wechselwirkungen zwischen AHR Signalantworten und Retinoiden in der Haut
Crosstalk between AHR signaling and retinoids in skin

Prof. Dr. Jean Krutmann, IUF + Med Fak HHU, Dr. Sonja Faßbender, IUF

P7: Von der aktinischen Keratose zum invasiven Plattenepithelkarzinom: Bedeutung der AHR-p27KIP1 Achse für die maligne Transformation

From actinic keratosis to invasive squamous cell carcinoma: Impact of AHR and p27KIP1 on malignant transformation

Privatdozent Dr. Thomas Haarmann-Stemann, IUF

P8: Rolle des AHR-Signalweges für die UV-induzierte Entstehung und Progression von Melanomen und für die Therapieresistenz

Role of the AHR pathway in UV-induced initiation and progression of melanoma and in resistance to therapy

Prof. Dr. Thomas Tüting, Dr. Andreas Braun, Dr. Miriam Mengoni, Universitätsklinik Magdeburg, Medizinische Fakultät der Otto-von-Guericke-Universität Magdeburg

P9: Zur Rolle des AHR in kutanen unerwünschten Arzneimittelwirkungen

Role of the AHR in cutaneous adverse drug reactions

Privatdozent Dr. Stephan Meller, Klinik für Dermatologie, Universitätsklinikum Düsseldorf, Med Fak HHU



Wir haben das Zertifikat zum audit berufundfamilie mit Prädikat!

Seit 2013 verfolgen wir mit Unterstützung durch die berufundfamilie GmbH eine strategisch angelegte familien- und lebensphasenbewusste Personalpolitik. Am 15. März 2023 wurde uns dafür nach erfolgreichem Dialogverfahren das berufundfamilie-Zertifikat mit Prädikat erteilt. Für ihr Engagement in Sachen Zertifizierung möchten wir uns herzlich bei unserer Gleichstellungsbeauftragten Frau Dr. Grether-Beck bedanken.

Das audit berufundfamilie ist als mehrstufiges Verfahren angelegt. Nach der ersten Auditierung im Dezember 2013 folgten im dreijährigen Turnus zwei Re-Auditierungen. Daran schloss sich das Dialogverfahren an. Im Rahmen des Dialogverfahrens wurde uns verstärkt die eigenverantwortliche Steuerung und Gestaltung unserer familien- und lebensphasenbewussten Personalpolitik überlassen. Kernelement des Dialogverfahrens war der Dialogtag, der bei uns am 27. Februar 2023 stattfand und Gesprächsrunden mit verschiedenen Gruppen von Beschäftigten wie dem Support, den Predocs/Postdocs und den Gruppenleitungen umfasste. Thema des Formats war die Erfassung der Zufriedenheit der Beschäftigten mit den derzeitigen Maßnahmen zur Vereinbarkeit von Berufs- und Privatleben am IUF. Neben der Erhebung von positiven Beispielen wie zum Beispiel der Betriebsvereinbarung „Mobiles Arbeiten“ wurde auch explizit um Verbesserungsvorschläge gebeten. Ein weiteres Thema war die Beibehaltung von Maßnahmen aus der COVID-19-Pandemie. Die Ergebnisse flossen in unser Handlungsprogramm ein, in dem für die Zukunft weitere Vereinbarkeitsziele festgelegt sind: Abfragen der Bedarfe innerhalb der Belegschaft und Erweiterung der Informationen im Intranet. Zudem haben wir seit neuestem ein kostenfreies Employee Assistance Program (EAP), das kompetente Erstberatung und Unterstützung durch qualifiziertes Beratungspersonal bei psychosozialen Fragestellungen im beruflichen wie privaten Umfeld ermöglicht.

Zur Sicherung des Prädikats ist das Zertifikat nach drei Jahren mit einem weiteren Dialogverfahren zu bestätigen. Dieser Herausforderung und dem Anspruch stellen wir uns gerne, denn wir sehen die Vereinbarkeit als fortlaufenden Prozess. Ihre Rückmeldungen zu den gebotenen Maßnahmen und auch Ideen für weitere Lösungen nehmen wir dabei stets gerne auf. Ihre Ansprechpersonen sind die Gleichstellungsbeauftragte Frau Dr. Grether-Beck, der Betriebsrat und die Personalstelle.

Um Sie auf dem Laufenden zu halten, werden wir zu den familien- und lebensphasenbewussten Angeboten fortlaufend über unsere diversen Kanäle (Intranet, IUF aktuell, E-Mail) informieren.



We have been awarded the advanced berufundfamilie audit certificate!

Since 2013, with the support of berufundfamilie GmbH, we have been pursuing a strategically designed family- and life-phase-conscious HR policy. On March 15, 2023, we were awarded the advanced berufundfamilie certificate following a successful dialog process. A big thank you goes to our equal opportunity officer Dr. Susanne Grether-Beck for her outstanding commitment and efforts.

The berufundfamilie audit is a multi-stage process. The first audit in December 2013 was followed by two re-audits every three years. This was followed by the dialog procedure. As part of the dialog process, we were given greater responsibility for managing and shaping our family- and life-phase-conscious HR policy. The core element of the dialog procedure was the dialog day, which took place at our company on February 27, 2023 and included rounds of talks with various groups of employees such as support, predocs/postdocs and group leaders. The topic of the format was to gather employee satisfaction with current work-life balance measures at IUF. In addition to surveying positive examples, such as the "Mobile Working" company agreement, the survey also explicitly asked for suggestions for improvement. Another

topic was the retention of measures from the COVID 19 pandemic. The results were incorporated into our action program, which sets out the following additional compatibility targets for the future: Inquiry of needs with staff surveys and expansion of information in the intranet. In addition, we have recently launched a free Employee Assistance Program (EAP), which provides competent initial advice and support from qualified counseling staff on psychosocial issues in both the professional and private environment.

To secure the rating, the certificate must be confirmed after three years with a further dialog procedure. We are happy to meet this challenge and demand, because we see compatibility as an ongoing process. We are always happy to receive your feedback on the measures offered and ideas for further solutions. For this, you can contact the equal opportunity officer, Dr. Susanne Grether-Beck, the works council and HR.

In order to keep you up to date, we will continuously inform you about the family- and life phase-conscious offers via our various channels (intranet, IUF aktuell, email).

News



Habilitation

Am 19. Oktober 2023 habilitierte sich Frau Dr. Tamara Schikowski an der Heinrich-Heine-Universität Düsseldorf für das Fach Umweltmedizinische Forschung. Herzlichen Glückwunsch!

On October 19, 2023, Dr. Tamara Schikowski habilitated at the Heinrich Heine University Düsseldorf in the field of Environmental Medical Research. Congratulations!

Berufungen / Appointments

Im Juni 2023 erhielt Frau Prof. Ellen Fritsche das schriftliche Angebot für die Position als Direktorin des Swiss Centre for Applied Human Toxicology, verbunden mit einer Professur an der Universität Basel, Schweiz.

In June 2023, Prof. Ellen Fritsche received the written offer for the position as director of the Swiss Centre for Applied Human Toxicology, associated with a professorship at the University Basel, Switzerland.

Am 10. Oktober 2023 erhielt Frau Dr. Tamara Schikowski den Ruf auf eine W3-Professur für Gesundheitswissenschaften mit dem Schwerpunkt Umwelt und Gesundheit an der Universität Bielefeld.

On October 10, 2023, Dr. Tamara Schikowski was appointed to a W3 professorship for health sciences specialising in environment and health at Bielefeld University.

Jubiläum / Anniversary

Wir gratulieren Frau Prof. Ursula Krämer von Herzen zum 50. Betriebsjubiläum (MIU + IUF)! Vielen Dank für Ihre tolle Arbeit und Ihr Engagement im Bereich der Epidemiologie am IUF.

We heartily congratulate Prof. Ursula Krämer on her 50th anniversary of working in MIU and then IUF! Thank you for your great work and commitment to the field of epidemiology at IUF.



Firmenlauf / B2Run

Am 23. Mai 2023 ging eine Gruppe von IUFlern beim Firmenlauf B2Run in Düsseldorf an den Start. Die 6 km lange Strecke führt am schönen Rhein entlang mit Zieleinlauf in die Merkur Spiel-Arena. Das Wetter spielte mit: Moderate Temperaturen, erst leicht bewölkt und dann kam die Sonne raus. Die Organisatoren sorgten mit Moderation und Party-Musik für ausgelassene Stimmung bei den rund 11.500 Teilnehmer*innen aus 514 Unternehmen. Wer ist nächstes Jahr dabei?

On May 23, 2023, a group of IUF colleagues participated in the B2Run company run in Düsseldorf. The 6 km long course leads along the beautiful Rhine and finishes in the Merkur Spiel-Arena. The weather was good, too: Moderate temperatures, first slightly cloudy and then the sun came out. The organizers created a great atmosphere with moderation and party music among the 11,500 participants from 514 companies. Who wants to join next year?



Sommerfest / Summer party

Am 11. August 2023 fand das Sommerfest am IUF statt. Passend dazu gab es Sonnenschein, Sommerflair, Musik, kalte Getränke, und einen Foodtruck für das leibliche Wohl. Eis durfte bei dem Wetter auch nicht fehlen. Vielen Dank an die Verwaltung inkl. Technik und Betrieb für die Organisation. Hier ein paar Eindrücke.

On August 11, 2023, the summer party took place at the IUF. Fittingly, there was sunshine, summer flair, music, cold drinks, and a food truck for the physical well-being. Ice cream was also not to be missed in this weather. Many thanks to the administration incl. the facility management for the organization. Here are a few impressions.



Entwicklung von Analysetools / Development of analysis tools

Die Core Unit Genome Engineering and Model Development (GEMD) hat zwei neue und einfach zu bedienende Webserver eingerichtet: CRISPRnano zur Identifizierung von genom-editierten Zellen (Nguyen et al. *Nucleic Acids Res* 2022) und Duesselpore™ zur schnellen und einfachen Analyse von Oxford Nanopore Sequencing Daten (Vogelely et al. *Front Genet* 2022).

Auch die von der Arbeitsgruppe Fritsche entwickelte biostatistische Auswertungspipeline 'CRStats' ist über github öffentlich zugänglich.

Ein Tool zur Analyse von durchflusszytometrisch gewonnenen mikrobiellen Mustern, das wir FlowSoFine™ nennen, wurde von der AG Esser (in enger Zusammenarbeit mit S. Janssen von der Universität Gießen) entwickelt und ist ebenfalls über github öffentlich zugänglich.

*The core unit genome engineering and model development (GEMD) established two new and easy-to-use web servers: CRISPRnano for the identification of genome edited cells (Nguyen et al. *Nucleic Acids Res* 2022) and Duesselpore™ for the rapid and simple analysis of Oxford Nanopore Sequencing data (Vogelely et al. *Front Genet* 2022).*

Also the biostatistical evaluation pipeline 'CRStats' developed by the WG Fritsche is publicly available through github.

A tool to analyze flow cytometry derived microbial patterns, which we call FlowSoFine™ was developed by the WG Esser (in close cooperation with S. Janssen from the University Gießen) and is publicly available through github as well.

Links:

<https://www.crisprnano.de>

<http://github.com/ArifDoenmez/CRStats>

<https://github.com/jlab/FlowSoFineApp>

Publikationen / Publications 2022

Barnes PW, Robson TM, Neale PJ, Williamson CE, Zepp RG, Madronich S, Wilson SR, Andrady AL, Heikkilä AM, Bernhard GH, Bais AF, Neale RE, Bornman JF, Jansen MAK, Klekociuk AR, Martinez-Abaigar J, Robinson SA, Wang QW, Banaszak AT, Häder DP, Hylander S, Rose KC, Wängberg SÅ, Foereid B, Hou WC, Ossola R, Paul ND, Ukpebor JE, Andersen MPS, Longstreth J, [Schikowski T](#), Solomon KR, Sulzberger B, Bruckman LS, Pandey KK, White CC, Zhu L, Zhu M, Aucamp PJ, Liley JB, McKenzie RL, Berwick M, Byrne SN, Hollestein LM, Lucas RM, Olsen CM, Rhodes LE, Yazar S, Young AR: **Environmental effects of stratospheric ozone depletion, UV radiation, and interactions with climate change: UNEP Environmental Effects Assessment Panel, Update 2021.** *Photochem Photobiol Sci* 21(3): 275-301, 2022. doi: 10.1007/s43630-022-00176-5

Blum J, [Masjosthusmann S](#), [Bartmann K](#), [Bendt F](#), Dolde X, [Dönmez A](#), Förster N, Holzer AK, [Hübenthal U](#), [Keßel HE](#), Kilic S, [Klose J](#), [Pahl M](#), [Stürzl LC](#), Mangas I, Terron A, Crofton KM, Scholze M, Mosig A, Leist M, [Fritsche E](#): **Establishment of a human cell-based in vitro battery to assess developmental neurotoxicity hazard of chemicals.** *Chemosphere* 311(Pt 2): 137035, 2022. doi: 10.1016/j.chemosphere.2022.137035

Borror MB, Girotti M, Kar A, Cain MK, Gao X, MacKay VL, Herron B, Bhaskaran S, Becerra S, Novy N, [Ventura N](#), Johnson TE, Kennedy BK, Rea SL: **Inhibition of ATR reverses a mitochondrial respiratory insufficiency.** *Cells* 11(11): 1731, 2022. doi: 10.3390/cells11111731

[Brinkmann V](#), [Romeo M](#), Larigot L, [Hemmers A](#), [Tschage L](#), [Kleinjohann J](#), [Schiavi A](#), [Steinwachs S](#), [Esser C](#), Menzel R, Giani Tagliabue S, Bonati L, Cox F, Ale-Agha N, Jakobs P, Altschmied J, Haendeler J, Coumoul X, [Ventura N](#): **Aryl hydrocarbon receptor-dependent and -independent pathways mediate curcumin anti-aging effects.** *Antioxidants* (Basel) 11(4): 613, 2022. doi: 10.3390/antiox11040613

[Busch M](#), [Bredeck G](#), Waag F, Rahimi K, [Ramachandran H](#), Bessel T, Barcikowski S, Herrmann A, [Rossi A](#), [Schins RPE](#): **Assessing the NLRP3 inflammasome activating potential of a large panel of micro- and nanoplastics in THP-1 cells.** *Biomolecules* 12(8): 1095, 2022. doi: 10.3390/biom12081095

[Busch M](#), [Ramachandran H](#), [Wahle T](#), [Rossi A](#), [Schins RPE](#): **Investigating the role of the NLRP3 inflammasome pathway in acute intestinal inflammation: use of THP-1 knockout cell lines in an advanced triple culture model.** *Front Immunol* 13: 898039, 2022. doi: 10.3389/fimmu.2022.898039

Chen H, [Zhao Q](#), Zhong Q, Duan C, [Krutmann J](#), Wang, J, Xia J: **Skin microbiome, metabolome and skin phenome, from the perspectives of skin as an ecosystem.** *Phenomics* 2: 363-382, 2022. doi: 10.1007/s43657-022-00073-y

Crofton KM, Bassan A, Behl M, Chushak YG, [Fritsche E](#), Gearhart JM, Marty MS, Mumtaz M, Pavan M, Ruiz P, Sachana M, Selvam R, Shafer TJ, Stavitskaya L, Szabo DT, Szabo ST, Tice RR, Wilson D, Woolley D, Myatt GJ: **Current status and future directions for a neurotoxicity hazard assessment framework that integrates in silico approaches.** *Comput Toxicol* 22: 100223, 2022. doi: 10.1016/j.comtox.2022.100223

Doak SH, Clift MJD, Costa A, Delmaar C, Gosens I, Halappanavar S, Kelly S, Pejinenburg WJGM, Rothen-Rutishauser B, [Schins RPE](#), Stone V, Tran L, Vijver MG, Vogel U, Wohlleben W, Cassee FR: **The road to achieving the European Commission's chemicals strategy for nanomaterial sustainability-A PATROLS perspective on new approach methodologies.** *Small* 18(17): e2200231, 2022. doi: 10.1002/smll.202200231

[Dobner J](#), [Ramachandran H](#), [Rossi A](#): **Genome editing in translational medicine: An inventory.** *Front Biosci* (Landmark Ed) 27(8): 241, 2022. doi: 10.31083/j.fbl2708241

Dragano N, Reuter M, Peters A, Engels M, Schmidt B, Greiser KH, Bohn B, Riedel-Heller S, Karch A, Mikolajczyk R, Krause G, Lang O, Panreck L, Rietschel M, Brenner H, Fischer B, Franzke CW, Gastell S, Holleczeck B, Jöckel KH, Kaaks R, Keil T, Kluttig A, Kuss O, Legath N, Leitzmann M, Lieb W, Meinke-Franze C, Michels KB, Obi N, Pischon T, Feinkohl I, Rospleszcz S, [Schikowski T](#), Schulze MB, Stang A, Völzke H, Willich SN, Wirkner K, Zeeb H, Ahrens W, Berger K: **Increase in mental disorders during the COVID-19 pandemic - The role of occupational and financial strains.** *Dtsch Arztebl Int* 119(11): 179-187, 2022. doi: 10.3238/arztebl.m2022.0133

Duteil L, Queille-Roussel C, Aladren S, Bustos X, Trullas C, Granger C, [Krutmann J](#), Passeron T: **Prevention of polymorphic light eruption afforded by a very high broad-spectrum protection sunscreen containing Ectoin.** *Dermatol Ther* (Heidelb) 12(7): 1603-1613, 2022. doi: 10.1007/s13555-022-00755-5

- Elberskirch L, Binder K, Riefler N, [Sofranko A](#), Liebing J, Bonatto Minella C, Mädler L, Razum M, van Thriel C, [Unfried K](#), [Schins RPF](#), Kraegeloh A: **Digital research data: from analysis of existing standards to a scientific foundation for a modular metadata schema in Nanosafety.** *Part Fibre Toxicol* 19: 1, 2022. doi: 10.1186/s12989-021-00442-x
- Elberskirch L, [Sofranko A](#), Liebing J, Riefler N, Binder K, Bonatto Minella C, Razum M, Mädler L, [Unfried K](#), [Schins RPF](#), Kraegeloh A, van Thriel C: **How structured meta data acquisition contributes to reproducibility of nanosafety studies: Evaluation by a Round-Robin Test.** *Nanomaterials* 12(7): 1053, 2022. doi: 10.3390/nano12071053
- Fehsel K, [Schwanke K](#), Kappel BA, Fahimi E, Meisenzahl-Lechner E, [Esser C](#), Hemmrich K, [Haarmann-Stemmann T](#), Kojda G, Lange-Asschenfeldt C: **Activation of the aryl hydrocarbon receptor by clozapine induces preadipocyte differentiation and contributes to endothelial dysfunction.** *J Psychopharmacol* 36(2): 191-201, 2022. doi: 10.1177/02698811211055811
- [Fritsche E](#), Barenys M, Hogberg HT: **Editorial: Methods and protocols in neurotoxicology.** *Front Toxicol* 4: 1031667, 2022. doi: 10.3389/ftox.2022.1031667
- Fuedner C, Riemschneider S, Haupt J, Jungnickel H, Schulze F, Zoldan K, [Esser C](#), Hauschildt S, Knauer J, Luch A, Kalkhof S, Lehmann J: **Aryl hydrocarbon receptor activation by benzo[a]pyrene prevents development of septic shock and fatal outcome in a mouse model of systemic Salmonella enterica infection.** *Cells* 11(4): 737, 2022. doi: 10.3390/cells11040737
- [Galanjuk S](#), [Zühr E](#), [Dönmez A](#), Bartsch D, Kurian L, [Tigges J](#), [Fritsche E](#): **The human induced pluripotent stem cell test as an alternative method for embryotoxicity testing.** *Int J Mol Sci* 23(6): 3295, 2022. doi: 10.3390/ijms23063295
- Gerber LS, Heusinkveld HJ, Langendoen C, Stahlmecke B, [Schins RP](#), Westerink RH: **Acute, sub-chronic and chronic exposures to TiO₂ and Ag nanoparticles differentially affects neuronal function in vitro.** *Neurotoxicology* 93: 311-323, 2022. doi: 10.1016/j.neuro.2022.10.010
- Granger C, Petkar G, Hosenally M, Bustos J, Trullàs C, Passeron T, [Krutmann J](#): **Evaluation of a sunscreen product compared with reference standards P3, P5 and P8 in outdoor conditions: A randomized, double-blinded, intra-individual study in healthy subjects.** *Dermatol Ther (Heidelb)* 12(11): 2531-2546, 2022. doi: 10.1007/s13555-022-00815-w
- Greimel E, Adams L, Zsigo C, Berdel D, von Berg A, Koletzko S, Bauer CP, [Schikowski T](#), Herberth G, Heinrich J, Schulte-Körne G, Standl M: **Psychopathological symptoms as precursors of depressive symptoms in adolescence: a prospective analysis of the GINIplus and LISA birth cohort studies.** *Soc Psychiatry Psychiatr Epidemiol* 57(8): 1627-1639, 2022. doi: 10.1007/s00127-022-02267-1
- Gruzieva O, Jeong A, He S, Yu Z, de Bont J, Pinho MGM, Eze IC, [Kress S](#), Wheelock CE, Peters A, Vlaanderen J, de Hoogh K, Scalbert A, Chadeau-Hyam M, Vermeulen RCH, Gehring U, Probst-Hensch N, Melén E: **Air pollution, metabolites and respiratory health across the life-course.** *Eur Respir Rev* 31(165): 220038, 2022. doi: 10.1183/16000617.0038-2022
- [Hering I](#), [Le DT](#), [von Mikecz A](#): **How to keep up with the analysis of classic and emerging neurotoxins: Age-resolved fitness tests in the animal model Caenorhabditis elegans: a step-by-step protocol.** *EXCLI J* 21: 344-353, 2022. doi: 10.17179/excli2021-4626
- Hiebert P, Martyts A, Schwesternmann J, [Janke K](#), Hafner J, [Boukamp P](#), Mazza E, Werner S: **Activation of Nrf2 in fibroblasts promotes a skin aging phenotype via an Nrf2-miRNA-collagen axis.** *Matrix Biol* 113: 39-60, 2022. doi: 10.1016/j.matbio.2022.09.002
- Ishihara Y, Kado SY, Bein KJ, He Y, Pouraryan AA, Urban A, [Haarmann-Stemmann T](#), Sweeney C, Vogel CFA: **Aryl hydrocarbon receptor signaling synergizes with TLR/NF- κ B-signaling for induction of IL-22 through canonical and non-canonical AhR pathways.** *Front Toxicol* 3: 787360, 2022. doi: 10.3389/ftox.2021.787360
- [Koch K](#), [Bartmann K](#), [Hartmann J](#), [Kapr J](#), [Klose J](#), [Kuchovská E](#), [Pahl M](#), [Schluppmann K](#), [Zühr E](#), [Fritsche E](#): **Scientific validation of human neurosphere assays for developmental neurotoxicity evaluation.** *Front Toxicol* 4: 816370, 2022. doi: 10.3389/ftox.2022.816370
- [Kress S](#), Hara A, [Wigmann C](#), Sato T, Suzuki K, Pham KO, [Zhao Q](#), [Areal A](#), Tajima A, Schwender H, Nakamura H, [Schikowski T](#): **The role of polygenic susceptibility on air pollution-associated asthma between German and Japanese elderly women.** *Int J Environ Res Public Health* 19(16): 9869, 2022. doi: 10.3390/ijerph19169869
- [Kress S](#), Kilanowski A, [Wigmann C](#), [Zhao Q](#), Zhao T, Abramson MJ, Gappa M, Standl M, [Unfried K](#), [Schikowski T](#): **Airway inflammation in adolescents and elderly women: Chronic air pollution exposure and polygenic susceptibility.** *Sci Total Environ* 841: 156655, 2022. doi: 10.1016/j.scitotenv.2022.156655

[Kress S](#), [Wigmann C](#), [Zhao Q](#), Herder C, Abramson MJ, Schwender H, [Schikowski T](#): **Chronic air pollution-induced subclinical airway inflammation and polygenic susceptibility.** *Respir Res* 23(1): 265, 2022. doi: 10.1186/s12931-022-02179-3

Kühne BA, Teixidó E, Ettcheto M, Puig T, Planas M, Feliu L, Pla L, Campuzano V, Gratacós E, [Fritsche E](#), Illa M, Barenys M: **Application of the adverse outcome pathway to identify molecular changes in prenatal brain programming induced by IUGR: Discoveries after EGCG exposure.** *Food Chem Toxicol* 170: 113506, 2022. doi: 10.1016/j.fct.2022.113506

Larigot L, Bui LC, de Bouvier M, Pierre O, Pinon G, Fiocca J, Ozeir M, Tourette C, Ottolenghi C, Imbeaud S, Pontoizeau C, Blaise BJ, Chevallier A, Tomkiewicz C, Legrand B, Elena-Herrmann B, Néri C, [Brinkmann V](#), Nioche P, Barouki R, [Ventura N](#), Dairou J, Coumoul X: **Identification of modulators of the C. elegans aryl hydrocarbon receptor and characterization of transcriptomic and metabolic AhR-1 profiles.** *Antioxidants* (Basel) 11(5): 1030, 2022. doi: 10.3390/antiox11051030

[Lau M](#), [Wigmann C](#), [Kress S](#), [Schikowski T](#), Schwender H: **Evaluation of tree-based statistical learning methods for constructing genetic risk scores.** *BMC Bioinformatics* 23(1): 97, 2022. doi: 10.1186/s12859-022-04634-w

Li C, Zhao Z, Yan Y, Liu Q, [Zhao Q](#), Ma W: **Short-term effects of tropical cyclones on the incidence of dengue: a time-series study in Guangzhou, China.** *Parasit Vectors* 15(1): 358, 2022. doi: 10.1186/s13071-022-05486-2

[Maglioni S](#), [Schiavi A](#), Melcher M, [Brinkmann V](#), Luo Z, Laromaine A, Raimundo N, Meyer JN, Distelmaier F, [Ventura N](#): **Neuroigin-mediated neurodevelopmental defects are induced by mitochondrial dysfunction and prevented by lutein in C. elegans.** *Nat Commun* 13: 2620, 2022. doi: 10.1038/s41467-022-29972-4

Marb A, Libuda L, Standl M, Koletzko S, Bauer CP, [Schikowski T](#), Berdel D, von Berg A, Herberth G, Bühlmeier J, Harris CP: **Obesogenic eating behaviour and dietary intake in German children and adolescents: results from the GINIplus and LISA birth cohort studies.** *Eur J Clin Nutr* 76(10): 1478-1485, 2022. doi: 10.1038/s41430-022-01125-2

Markevych I, Astell-Burt T, [Altug H](#), Triebner K, Standl M, Flexeder C, Heinrich J, [Schikowski T](#), Koletzko S, Herberth G, Bauer CP, von Berg A, Berdel D, Feng X: **Residential green space and age at menarche in German and Australian adolescent girls: A longitudinal study.** *Int J Hyg Environ Health* 240: 113917, 2022. doi: 10.1016/j.ijheh.2021.113917

Martínez-Fernández C, Bergamino M, Schiavi A, Brena D, [Ventura N](#), Honnen S, Villanueva A, Nadal E, Cerón J: **Insights into cisplatin-induced neurotoxicity and mitochondrial dysfunction in Caenorhabditis elegans.** *Dis Model Mech* 15(3): dmm049161, 2022. doi: 10.1242/dmm.049161

Martins S, Erichsen L, Datsi A, Wruck W, Goering W, Chatzantonaki E, de Amorim VCM, [Rossi A](#), Chrzanowska KH, Adjaye J: **Impaired p53-mediated DNA damage response contributes to microcephaly in Nijmegen Breakage Syndrome patient-derived cerebral organoids.** *Cells* 11(5): 802, 2022. doi: 10.3390/cells11050802

Neuhaus W, ..., [Fritsche E](#), [Tigges J](#), ..., Spielmann H: **The rise of three Rs centres and platforms in Europe.** *Altern Lab Anim* 50(2): 90-120, 2022. doi: 10.1177/02611929221099165

Neuhaus W, ..., [Fritsche E](#), [Tigges J](#), [Kuchovská E](#), ..., Spielmann H: **The current status and work of three Rs centres and platforms in Europe.** *Altern Lab Anim* 50(6): 381-413, 2022. doi: 10.1177/02611929221140909

Neves JR, [Grether-Beck S](#), [Krutmann J](#), Correia P, Gonçalves JE Jr, Sant'Anna B, Kerob D: **Efficacy of a topical serum containing L-ascorbic acid, neohesperidin, pycnogenol, tocopherol, and hyaluronic acid in relation to skin aging signs.** *J Cosmet Dermatol* 21(10): 4462-4469, 2022. doi: 10.1111/jocd.14837

[Nguyen T](#), [Ramachandran H](#), [Martins S](#), [Krutmann J](#), [Rossi A](#): **Identification of genome edited cells using CRISPRnano.** *Nucleic Acids Res* 50(W1): W199-W203, 2022. doi: 10.1093/nar/gkac440

Peters A; German National Cohort (NAKO) Consortium; Peters A, ..., [Schikowski T](#), Zschocke J: **Framework and baseline examination of the German National Cohort (NAKO).** *Eur J Epidemiol* 37(10): 1107-1124, 2022. doi: 10.1007/s10654-022-00890-5

Plitta-Michalak B, Stricker N, [Pavez Loriè E](#), Chen I, [Pollet M](#), [Krutmann J](#), Volkmer B, Greinert R, [Boukamp P](#), Rapp A: **Development and characterisation of an irradiation device for biomedical studies covering the solar spectrum with individual regulated spectral bands.** *Photochem Photobiol Sci* 21(9): 1701-1717, 2022. doi: 10.1007/s43630-022-00252-w

[Rossi A](#), Lickfett S, [Martins S](#), Prigione A: **A call for consensus guidelines on monitoring the integrity of nuclear and mitochondrial genomes in human pluripotent stem cells.** *Stem Cell Rep* 17(4): 707-710, 2022. doi: 10.1016/j.stemcr.2022.01.019

[Scarcello E, Sofranko A, Wahle T, Schins RP](#): **Neurotoxicity of engineered nanomaterials: testing considerations.** *Front Public Health* 10: 904544, 2022. doi: 10.3389/fpubh.2022.904544

[Scharf A, Limke A, Guehrs KH, von Mikecz A](#): **Pollutants corrupt resilience pathways of aging in the nematode *C. elegans*.** *iScience* 25(9): 105027, 2022. doi: 10.1016/j.isci.2022.105027

[Scharpf I, Cichocka S, Le DT, von Mikecz A](#): **Peripheral neuropathy, protein aggregation and serotonergic neurotransmission: Distinctive bio-interactions of thiacloprid and thiamethoxam in the nematode *Caenorhabditis elegans*.** *Environ Pollut* 314: 120253, 2022. doi: 10.1016/j.envpol.2022.120253

[Schiavi A, Runci A, Maiorino T, Naso FD, Barenys M, Fritsche E, Strappazzon F, Ventura N](#): **Cobalt chloride has beneficial effects across species through a hormetic mechanism.** *Front Cell Dev Biol* 10: 986835, 2022. doi: 10.3389/fcell.2022.986835

[Schröter L, Ventura N](#): **Nanoplastic toxicity: Insights and challenges from experimental model systems.** *Small* 18(31): e2201680, 2022. doi: 10.1002/smll.202201680

[Sies H](#): **Oxidativer Stress, Eustress und Distress: H₂O₂ als Signalmolekül.** *Biospektrum* 28: 685-690, 2022. doi: 10.1007/s12268-022-1862-y

[Sies H, Belousov VV, Chandel NS, Davies MJ, Jones DP, Mann GE, Murphy MP, Yamamoto M, Winterbourn C](#): **Defining roles of specific reactive oxygen species (ROS) in cell biology and physiology.** *Nat Rev Mol Cell Biol* 23(7): 499-515, 2022. doi: 10.1038/s41580-022-00456-z

[Sofranko A, Wahle T, Kolling J, Heusinkveld HJ, Stahlmecke B, Rosenbruch M, Albrecht C, Schins RPF](#): **Effects of subchronic dietary exposure to the engineered nanomaterials SiO₂ and CeO₂ in C57BL/6J and 5xFAD Alzheimer model mice.** *Part Fibre Toxicol* 19(1): 23, 2022. doi: 10.1186/s12989-022-00461-2

[Steiner T, Zink A, Henke MT, Cecchetto G, Buenning M, Rossi A, Schuelke M, Prigione A](#): **RNA-based generation of iPSCs from a boy carrying the mutation m.9185 T>C in the mitochondrial gene MT-ATP6 and from his healthy mother.** *Stem Cell Res* 64: 102920, 2022. doi: 10.1016/j.scr.2022.102920

[Stermann T, Nguyen T, Stahlmecke B, Todea AM, Woeste S, Hacheney J, Krutmann J, Unfried K, Schins RPF, Rossi A](#): **Carbon nanoparticles adversely affect CFTR expression and toxicologically relevant pathways.** *Sci Rep* 12(1): 14255, 2022. doi: 10.1038/s41598-022-18098-8

[Surber C, Krutmann J](#): **Sonnenschutz: Wichtiger denn je! [Sun protection measures: more important than ever!].** *Hautarzt* 73(4): 249-250, 2022. doi: 10.1007/s00105-022-04964-z

[Tanabe S, Beaton D, Chauhan V, Choi I, Danielsen PH, Delrue N, Esterhuizen M, Filipovska J, FitzGerald R, Fritsche E, Gant T, Garcia-Reyero N, Helm J, Huliganga E, Jacobsen N, Kay JE, Kim YJ, Klose J, La Rocca C, Luettich K, Mally A, O'Brien J, Poulsen SS, Rudel RA, Sovadinova I, Tollefsen KE, Vogel U, Yepiskoposyan H, Yauk C](#): **Report of the 1st and 2nd Mystery of Reactive Oxygen Species conferences.** *ALTEX* 39(2): 336-338, 2022. doi: 10.14573/altex.2203011

[Tanabe S, O'Brien J, Tollefsen KE, Kim Y, Chauhan V, Yauk C, Huliganga E, Rudel RA, Kay JE, Helm JS, Beaton D, Filipovska J, Sovadinova I, Garcia-Reyero N, Mally A, Poulsen SS, Delrue N, Fritsche E, Luettich K, La Rocca C, Yepiskoposyan H, Klose J, Danielsen PH, Esterhuizen M, Jacobsen NR, Vogel U, Gant TW, Choi I, FitzGerald R](#): **Reactive oxygen species in the adverse outcome pathway framework: Toward creation of harmonized consensus key events.** *Front Toxicol* 4: 887135, 2022. doi: 10.3389/ftox.2022.887135

[Tanoey J, Baechle C, Brenner H, Deckert A, Fricke J, Günther K, Karch A, Keil T, Kluttig A, Leitzmann M, Mikolajczyk R, Obi N, Pischon T, Schikowski T, Schipf SM, Schulze MB, Sedlmeier A, Moreno Velásquez I, Weber KS, Völzke H, Ahrens W, Gastell S, Holleczeck B, Jöckel KH, Katzke V, Lieb W, Michels KB, Schmidt B, Teismann H, Becher H](#): **Birth order, caesarean section, or daycare attendance in relation to child- and adult-onset type 1 diabetes: Results from the German National Cohort.** *Int J Environ Res Public Health* 19(17): 10880, 2022. doi: 10.3390/ijerph191710880

[Tham M, Stark H-J, Jauch A, Harwood C, Pavez Lorie E, Boukamp P](#): **Adverse effects of Vemurafenib on skin integrity: Hyperkeratosis and skin cancer initiation due to altered MEK/ERK-signaling and MMP activity.** *Front Oncol* 12: 827985, 2022. doi: 10.3389/fonc.2022.827985

[Uhlmann C, Nickel AC, Picard D, Rossi A, Li G, Hildebrandt B, Brockerhoff G, Bendt F, Hübenthal U, Hewera M, Steiger HJ, Wieczorek D, Perrakis A, Zhang W, Remke M, Koch K, Tigges J, Croner RS, Fritsche E, Kahlert UD](#): **Progenitor cells derived from gene-engineered human induced pluripotent stem cells as synthetic cancer cell alternatives for in vitro pharmacology.** *Biotechnol J* 17(6): e2100693, 2022. doi: 10.1002/biot.202100693

[Valente O, Dobner J, Ramachandran H, Hildebrandt B, Distelmaier F, Ventura N*, Rossi A*](#): **Generation of an induced pluripotent stem cell line (IUFi002-A) from a Leigh syndrome patient carrying mutations in the NDUFS1 gene.** *Stem Cell Res* 65: 102971, 2022. doi: 10.1016/j.scr.2022.102971 (*equal contribution)

[Vogele C, Nguyen T, Woeste S, Krutmann J, Haarmann-Stemmann T, Rossi A](#): **Rapid and simple analysis of short and long sequencing reads using Duesselpore™.** *Front Genet* 13: 931996, 2022. doi: 10.3389/fgene.2022.931996

[Vogele C, Rolfes KM, Krutmann J, Haarmann-Stemmann T](#): **The aryl hydrocarbon receptor in the pathogenesis of environmentally-induced squamous cell carcinomas of the skin.** *Front Oncol* 12: 841721, 2022. doi: 10.3389/fonc.2022.841721

[von Mikecz A](#): **Exposome, molecular pathways and one health: The invertebrate *Caenorhabditis elegans*.** *Int J Mol Sci* 23(16): 9084, 2022. doi: 10.3390/ijms23169084

[von Mikecz A, Scharf A](#): **Pollution - bring the field into the lab.** *Nature* 602(7897): 386, 2022. doi: 10.1038/d41586-022-00444-5

[Wei Q, Li Z, Gu Z, Liu X, Krutmann J, Wang J, Xia J](#): **Shotgun metagenomic sequencing reveals skin microbial variability from different facial sites.** *Front Microbiol* 13: 933189, 2022. doi: 10.3389/fmicb.2022.933189

[Westerink RHS, Shafer TJ, Fritsche E, van Thriel C](#): **Translational neurotoxicology - The 17th biennial meeting of the International Neurotoxicology Association.** *Neurotoxicology* 90: 79-80, 2022. doi: 10.1016/j.neuro.2022.02.010

[Wigmann C, Hüls A, Krutmann J, Schikowski T](#): **Estimating the relative contribution of environmental and genetic risk factors to different aging traits by combining correlated variables into weighted risk scores.** *Int J Environ Res Public Health* 19(24): 16746, 2022. doi: 10.3390/ijerph192416746

[Wolf P, Krutmann J](#): **Sonnenschutz der Zukunft: Herausforderungen und Möglichkeiten [Sunscreens of the future: challenges and opportunities].** *Hautarzt* 73(4): 257-265, 2022. doi: 10.1007/s00105-022-04959-w

[Yusuf N, Haarmann-Stemmann T, Nakamura M](#): **Editorial: Environment and skin cancer.** *Front Oncol* 12: 924225, 2022. doi: 10.3389/fonc.2022.924225

[Zhang S, Breitner S, Pickford R, Lanki T, Okokon E, Morawska L, Samoli E, Rodopoulou S, Stafoggia M, Renzi M, Schikowski T, Zhao Q, Schneider A, Peters A](#): **Short-term effects of ultrafine particles on heart rate variability: A systematic review and meta-analysis.** *Environ Pollut* 314: 120245, 2022. doi: 10.1016/j.envpol.2022.120245

[Zhao T, Markevych I, Standl M, Lyu Z, Schikowski T, Berdel D, Koletzko S, von Berg A, Heinrich J](#): **Ambient ozone exposure and bone turnover markers in children: Results from the GINIplus and LISA birth cohorts.** *Environ Res* 214(1): 113784, 2022. doi: 10.1016/j.envres.2022.113784

Publikationen / Publications 2023

[Areal AT](#), [Singh N](#), [Zhao Q](#), Berdel D, Koletzko S, von Berg A, Gappa M, Heinrich J, Standl M, Abramson MJ, [Schikowski T](#): **The influence of short-term weather parameters and air pollution on adolescent airway inflammation.** *Int J Environ Res Public Health* 20(19): 6827, 2023. doi: 10.3390/ijerph20196827

Bajard L, Adamovsky O, Audouze K, Baken K, Barouki R, Beltman JB, Beronius A, Bonefeld-Jørgensen EC, Cano-Sancho G, de Baat ML, Di Tillio F, Fernández MF, FitzGerald RE, Gundacker C, Hernández AF, Hilscherova K, Karakitsios S, [Kuchovska E](#), Long M, Luijten M, Majid S, Marx-Stoelting P, Mustieles V, Negi CK, Sarigiannis D, Scholz S, Sovadinova I, Stierum R, Tanabe S, Tollefsen KE, van den Brand AD, Vogts C, Wielsøe M, Wittwehr C, Blaha L: **Application of AOPs to assist regulatory assessment of chemical risks - Case studies, needs and recommendations.** *Environ Res* 217: 114650, 2023. doi: 10.1016/j.envres.2022.114650

[Bartmann K](#), [Bendt F](#), [Dönmez A](#), Haag D, [Keßel HE](#), [Masjosthusmann S](#), Noel C, Wu J, Zhou P, [Fritsche E](#): **A human iPSC-based in vitro neural network formation assay to investigate neurodevelopmental toxicity of pesticides.** *ALTEX* 40(3): 452-470, 2023. doi: 10.14573/altex.2206031

Bernhard GH, Madronich S, Lucas RM, Byrne SN, [Schikowski T](#), Neale RE: **Linkages between COVID-19, solar UV radiation, and the Montreal Protocol.** *Photochem Photobiol Sci* 22(5): 991-1009, 2023. doi: 10.1007/s43630-023-00373-w

[Bredeck G](#), [Busch M](#), [Rossi A](#), Stahlmecke B, Fomba KW, Herrmann H, [Schins RPF](#): **Inhalable Saharan dust induces oxidative stress, NLRP3 inflammasome activation, and inflammatory cytokine release.** *Environ Int* 172: 107732, 2023. doi: 10.1016/j.envint.2023.107732

[Bredeck G](#), [Dobner J](#), Stahlmecke B, Fomba KW, Herrmann H, [Rossi A](#), [Schins RPF](#): **Saharan dust induces NLRP3-dependent inflammatory cytokines in an alveolar air-liquid interface co-culture model.** *Part Fibre Toxicol* 20: 39, 2023. doi: 10.1186/s12989-023-00550-w

Budu-Aggrey A, ..., [Schikowski T](#), ..., Paternoster L: **European and multi-ancestry genome-wide association meta-analysis of atopic dermatitis highlights importance of systemic immune regulation.** *Nat Commun* 14: 6172, 2023. doi: 10.1038/s41467-023-41180-2

Busch M, Brouwer H, Aalderink G, [Bredeck G](#), [Kämpfer AAM](#), [Schins RPF](#), Bouwmeester H: **Investigating nanoplastics toxicity using advanced stem cell-based intestinal and lung in vitro models.** *Front Toxicol* 5: 1112212, 2023. doi: 10.3389/ftox.2023.1112212

Cai C, Zeng B, Lin L, Zheng M, Burki C, [Grether-Beck S](#), [Krutmann J](#): **An oral French maritime pine bark extract improves hair density in menopausal women: A randomized, placebo-controlled, double blind intervention study.** *Health Sci Rep* 6(1): e1045, 2023. doi: 10.1002/hsr2.1045

Clahsen T, Hadrian K, Notara M, Schlereth SL, Howaldt A, Prokosch V, Volatier T, Hos D, Schroedl F, Kaser-Eichberger A, Heindl LM, Steven P, Bosch JJ, Steinkasserer A, Rokohl AC, Liu H, Mestanoglu M, Kashkar H, Schumacher B, Kiefer F, Schulte-Merker S, Matthaei M, Hou Y, [Fassbender S](#), Jantsch J, Zhang W, Enders P, Bachmann B, Bock F, Cursiefen C: **The novel role of lymphatic vessels in the pathogenesis of ocular diseases.** *Prog Retin Eye Res* 96: 101157, 2023. doi: 10.1016/j.preteyeres.2022.101157

De Castelbajac T, Aiello K, Arenas CG, Svingen T, Ramhøj L, Zalko D, Barouki R, Vanhaecke T, Rogiers V, Audebert M, Oelgeschlaeger M, Braeuning A, Blanc E, Tal T, Rüegg J, [Fritsche E](#), Marx-Stoelting P, Rivière G: **Innovative tools and methods for toxicity testing within PARC work package 5 on hazard assessment.** *Front Toxicol* 5: 1216369, 2023. doi: 10.3389/ftox.2023.1216369

[Dobner J](#), [Rossi A](#): **Moderne Sequenzierungstechnologien und ihre Anwendungen.** *Biospektrum* 29: 479-482, 2023. doi: 10.1007/s12268-023-1989-5

[Dönmez A](#): **On the ambiguity in classification.** *Proceedings of the 1st NeurIPS Workshop on Symmetry and Geometry in Neural Representations, Proc Mach Learn Res* 197: 158-170, 2023.

Granger C, Passeron T, Trullas C, Hosenally M, Sokeechand BN, [Krutmann J](#), Lim HW: **Outdoor clinical testing with reference sunscreens to determine differences in skin response between populations of different ethnicity: A combined data analysis from 128 subjects.** *Photodermatol Photoimmunol Photomed* 39(5): 419-427, 2023. doi: 10.1111/phpp.12871

Haendeler J*, [Ventura N](#)*: **Role of mitochondria in environmentally and dietary modulated age-associated diseases.** *Cells* 12: 404, 2023. doi: 10.3390/cells12030404 (*equal contribution)

[Hartmann J](#), [Henschel N](#), [Bartmann K](#), [Dönmez A](#), [Brockhoff G](#), [Koch K](#), [Fritsche E](#): **Molecular and functional characterization of different BrainSphere models for use in neurotoxicity testing on microelectrode arrays.** *Cells* 12(9): 1270, 2023. doi: 10.3390/cells12091270

[Hartmann J](#), [Lauria I](#), [Bendt F](#), [Rütten S](#), [Koch K](#), [Blaeser A](#), [Fritsche E](#): **Alginate-laminin hydrogel supports long-term neuronal activity in 3D human induced pluripotent stem cell-derived neuronal networks.** *Adv Mater Interfaces* 10(6): 2200580, 2023. doi: 10.1002/admi.202200580

Kado SY, Bein K, Castaneda AR, Pouraryan AA, Garrity N, Ishihara Y, [Rossi A](#), [Haarmann-Stemmann T](#), Sweeney C, Vogel CFA: **Regulation of IDO2 by the aryl hydrocarbon receptor (AhR) in breast cancer.** *Cells* 12(10): 1433, 2023. doi: 10.3390/cells12101433

[Kämpfer AAM](#), [Shah UK](#), [Chu SL](#), [Busch M](#), [Büttner V](#), [He R](#), [Rothen-Rutishauser B](#), [Schins RPF](#), [Jenkins GJ](#): **Interlaboratory comparison of an intestinal triple culture to confirm transferability and reproducibility.** *In vitro models* 2: 89-97, 2023. doi: 10.1007/s44164-022-00025-w

[Keßel HE](#), [Masjosthusmann S](#), [Bartmann K](#), [Blum J](#), [Dönmez A](#), [Förster N](#), [Klose J](#), [Mosig A](#), [Pahl M](#), [Leist M](#), [Scholze M](#), [Fritsche E](#): **The impact of biostatistics on hazard characterization using in vitro developmental neurotoxicity assays.** *ALTEX* 40(4): 619-634, 2023. doi: 10.14573/altex.2210171

Kilanowski A, Thiering E, Wang G, Kumar A, [Kress S](#), [Flexeder C](#), [Bauer CP](#), [Berdel D](#), [von Berg A](#), [Bergström A](#), [Gappa M](#), [Heinrich J](#), [Herberth G](#), [Koletzko S](#), [Kull I](#), [Melén E](#), [Schikowski T](#), [Peters A](#), [Standl M](#): **Allergic disease trajectories up to adolescence: Characteristics, early-life, and genetic determinants.** *Allergy* 78(3): 836-850, 2023. doi: 10.1111/all.15511

[Klose J*](#), [Li L*](#), [Pahl M](#), [Bendt F](#), [Hübenthal U](#), [Jüngst C](#), [Petzsch P](#), [Schauss A](#), [Köhler K](#), [Leung PC](#), [Wang CC](#), [Koch K](#), [Tigges J](#), [Fan X](#), [Fritsche E](#): **Application of the adverse outcome pathway concept for investigating developmental neurotoxicity potential of Chinese herbal medicines by using human neural progenitor cells in vitro.** *Cell Biol Toxicol* 39(1): 319-343, 2023. doi: 10.1007/s10565-022-09730-4 (*equal contribution)

[Koch K](#): **Editorial: Rising stars in neurotoxicology: 2021.** *Front Toxicol* 5: 1172417, 2023. doi: 10.3389/ftox.2023.1172417

[Krutmann J](#), [Grether-Beck S](#), [Makrantonaki E](#), [Schikowski T](#): **Hautalterungsexposom.** *Dermatologie* 74(9): 657-662, 2023. doi: 10.1007/s00105-023-05210-w

[Krutmann J](#), [Piquero-Casals J](#), [Morgado-Carrasco D](#), [Granger C](#), [Trullàs C](#), [Passeron T](#), [Lim HW](#): **Photoprotection for people with skin of colour: needs and strategies.** *Br J Dermatol* 188(2): 168-175, 2023. doi: 10.1093/bjd/ljac046

[Kupschus J](#), [Janssen S](#), [Hoek A](#), [Kuska J](#), [Rathjens J](#), [Sonntag C](#), [Ickstadt K](#), [Budzinski L](#), [Chang HD](#), [Rossi A](#), [Esser C](#), [Hochrath K](#): **Rapid detection and online analysis of microbial changes through flow cytometry.** *Cytometry A* 103(5): 419-428, 2023. doi: 10.1002/cyto.a.24704

[Lau M](#), [Kress S](#), [Schikowski T](#), [Schwender H](#): **Efficient gene-environment interaction testing through bootstrap aggregating.** *Sci Rep* 13(1): 937, 2023. doi: 10.1038/s41598-023-28172-4

[Lepistö T](#), [Lintusaari H](#), [Oudin A](#), [Barreira LMF](#), [Niemi JV](#), [Karjalainen P](#), [Salo L](#), [Silvonen V](#), [Markkula L](#), [Hoivala J](#), [Marjanen P](#), [Martikainen S](#), [Aurela M](#), [Reyes F](#), [Oyola P](#), [Kuuluvainen H](#), [Manninen HE](#), [Schins RPF](#), [Vojtisek-Lom M](#), [Ondracek J](#), [Topinka J](#), [Timonen H](#), [Jalava P](#), [Saarikoski S](#), [Rönkkö T](#): **Particle lung deposited surface area (LDSA^{al}) size distributions in different urban environments and geographical regions: Towards understanding of the PM_{2.5} dose-response.** *Environ Int* 180: 108224, 2023. doi: 10.1016/j.envint.2023.108224

[Lettieri-Barbato D](#), [Ventura N](#), [Faraonio K](#), [Aquilano K](#): **Editorial: Advances in metabolic mechanisms of aging and its related diseases, Volume II.** *Front Physiol* 14: 1145165, 2023. doi: 10.3389/fphys.2023.1145165

[Li C](#), [Liu Z](#), [Li W](#), [Lin Y](#), [Hou L](#), [Niu S](#), [Xing Y](#), [Huang J](#), [Chen Y](#), [Zhang S](#), [Gao X](#), [Xu Y](#), [Wang C](#), [Zhao Q](#), [Liu Q](#), [Ma W](#), [Cai W](#), [Gong P](#), [Luo Y](#): **Projecting future risk of dengue related to hydrometeorological conditions in mainland China under climate change scenarios: a modelling study.** *Lancet Planet Health* 7(5): e397-e406, 2023. doi: 10.1016/S2542-5196(23)00051-7

[Li C](#), [Wang Z](#), [Yan Y](#), [Qu Y](#), [Hou L](#), [Li Y](#), [Chu C](#), [Woodward A](#), [Schikowski T](#), [Saldiva PHN](#), [Liu Q](#), [Zhao Q](#), [Ma W](#): **Association between hydrological conditions and dengue fever incidence in coastal southeastern China from 2013 to 2019.** *JAMA Netw Open* 6(1): e2249440, 2023. doi: 10.1001/jamanetworkopen.2022.49440

Libuda L, Filipiak-Pittroff B, Standl M, [Schikowski T](#), von Berg A, Koletzko S, Bauer CP, Heinrich J, Berdel D, Gappa M: **Full breastfeeding and allergic diseases-long-term protection or rebound effects?** *Nutrients* 15(12): 2780, 2023. doi: 10.3390/nu15122780

[Limke A](#), [Scharpf J](#), [Blesing F](#), [von Mikecz A](#): **Tire components, age and temperature accelerate neurodegeneration in C. elegans models of Alzheimer's and Parkinson's disease.** *Environ Pollut* 328: 121660, 2023. doi: 10.1016/j.envpol.2023.121660

Liu W, Jie L, Liu D, Makino ET, [Krutmann J](#), Mehta RC: **Protective effects of a day/night dual-antioxidant serum on skin: A randomized, regimen-controlled study in Chinese women exposed to air pollution.** *J Cosmet Dermatol* 22(1): 245-254, 2023. doi: 10.1111/jocd.14839

Liu W, [Krutmann J](#), Tian Y, Granger C, Piquero-Casals J, Trullàs C, Passeron T, Lim HW, Lai W: **Commentary: Facial aesthetic dermatological procedures and photoprotection in Chinese populations.** *Dermatol Ther (Heidelb)* 13(1): 13-27, 2023. doi: 10.1007/s13555-022-00862-3

Madronich S, Sulzberger B, Longstreth JD, [Schikowski T](#), Andersen MPS, Solomon KR, Wilson SR: **Changes in tropospheric air quality related to the protection of stratospheric ozone in a changing climate.** *Photochem Photobiol Sci* 22(5): 1129-1176, 2023. doi: 10.1007/s43630-023-00369-6

[Marini A](#), [Aue N](#), Demessant AL, Salah S, Kerob D, Luger TA: **Increased skin pH and transepidermal water loss may serve as predictor for atopic dermatitis flares.** *J Eur Acad Dermatol Venereol* 37(2): e252-e254, 2023. doi: 10.1111/jdv.18558

[Marini A](#), [Aue N](#), [Jaenicke T](#), [Grether-Beck S](#), Trullàs C, Granger C, Jourdan E, [Krutmann J](#): **Assessment of the protective effect against air pollution-induced skin pigmentation of an oral nutritional supplement containing antioxidants: A randomized, double-blinded, placebo-controlled study.** *J Eur Acad Dermatol Venereol* 37(9): e1183-e1186, 2023. doi: 10.1111/jdv.19183

Musiol S, Harris CP, Karlina R, Gostner JM, Rathkolb B, Schnautz B, Schneider E, Mair L, Vergara EE, Flexeder C, Koletzko S, Bauer CP, [Schikowski T](#), Berdel D, von Berg A, Herberth G, Rozman J, Hrabe de Angelis M, Standl M, Schmidt-Weber CB, Ussar S, Alessandrini F: **Dietary digestible carbohydrates are associated with higher prevalence of asthma in humans and with aggravated lung allergic inflammation in mice.** *Allergy* 78(5): 1218-1233, 2023. doi: 10.1111/all.15589

Na J, Li N, Yan L, [Schikowski T](#), Ye R, [Krutmann J](#), Li Z: **Skin aging associated with chromium among rural housewives in northern China.** *Ecotoxicol Environ Saf* 253: 114676, 2023. doi: 10.1016/j.ecoenv.2023.114676

Nojiri Y, Nakamura M, Magara T, Yamamoto A, Ikumi K, Nakamura R, Nishida E, [Haarmann-Stemann T](#), Morita A: **Influence of aldo-keto reductase 1C3 polymorphisms in early-onset female psoriasis patients.** *Sci Rep* 13(1): 3280, 2023. doi: 10.1038/s41598-023-30464-8

Ondrová K, Zůvalová I, Vyhřídálová B, Krasulová K, Miková E, Vrzal R, Nádvořník P, Nepal B, Kortagere S, Kopečná M, Kopečný D, Šebela M, Rastinejad F, Pu H, Soral M, [Rolfes KM](#), [Haarmann-Stemann T](#), Li H, Mani S, Dvořák Z: **Monoterpenoid aryl hydrocarbon receptor allosteric antagonists protect against ultraviolet skin damage in female mice.** *Nat Commun* 14(1): 2728, 2023. doi: 10.1038/s41467-023-38478-6

Pang L, Jiang M, Sui X, Dou Y, Yu W, Huxley R, Saldiva P, Hu J, [Schikowski T](#), Krafft T, Gao P, Zhao Y, Zhao H, Zhao Q, Chen ZJ: **Association of PM_{2.5} mass and its components with ovarian reserve in a northern peninsular province, China: The critical exposure period and components.** *J Hazard Mater* 462: 132735, 2023 (online first). doi: 10.1016/j.jhazmat.2023.132735

Passeron T, Lim HW, Goh CL, Kang HY, Ly F, Morita A, Ocampo-Candiani J, Puig S, Schalka S, Liu W, Demessant AL, Le Floc'h C, Kerob D, Dreno B, [Krutmann J](#): **Do parents' regrets about overexposure impact their preventive measures for their children?** *J Eur Acad Dermatol Venereol* 2023. doi: 10.1111/jdv.19556

Passeron T, Lim HW, Goh CL, Kang HY, Ly F, Morita A, Ocampo-Candiani J, Puig S, Schalka S, Liu W, Demessant-Flavigny AL, Le Floc'h C, Kerob D, Dreno B, [Krutmann J](#): **Sun exposure behaviours as a compromise to paradoxical injunctions: Insight from a worldwide survey.** *J Eur Acad Dermatol Venereol* 37(12): 2481-2489, 2023. doi: 10.1111/jdv.19421

Passeron T, Lim HW, Goh CL, Kang HY, Ribeyre C, Demessant-Flavigny AL, Le Floc'h C, Kerob D, [Krutmann J](#), Comte C, Dreno B, Leccia MT: **Thirty years of promoting sun safety in France: The messages are heard but not followed!** *J Eur Acad Dermatol Venereol* 2023. doi: 10.1111/jdv.19543

Peng Q*, Liu Y*, [Huels A](#), Zhang C, Yu Y, Qiu W, Cai X, Zhao Y, [Schikowski T](#), [Merches K](#), Liu Y, Yang Y, Wang J, Zhao Y, Jin L, Zhang L, [Krutmann J](#)*, Wang S*: **Genetic variants in Telomerase Reverse Transcriptase contribute to solar lentigenes.** *J Invest Dermatol* 143(6): 1062-1072, 2023. doi: 10.1016/j.jid.2022.11.016 (*equal contribution)

- Perdew GH, [Esser C](#), Snyder M, Sherr DH, van den Bogaard EH, McGovern K, Fernández-Salguero PM, Coumoul X, Patterson AD: **The Ah receptor from toxicity to therapeutics: Report from the 5th AHR meeting at Penn State University, USA, June 2022.** *Int J Mol Sci* 24(6): 5550, 2023. doi: 10.3390/ijms24065550
- Piquero-Casals J, Morgado-Carrasco D, Rozas-Muñoz E, Mir-Bonafé JF, Trullàs C, Jourdan E, Piquero-Martin J, Zouboulis CC, [Krutmann J](#): **Sun exposure, a relevant exposome factor in acne patients and how photoprotection can improve outcomes.** *J Cosmet Dermatol* 22(6): 1919-1928, 2023. doi: 10.1111/jocd.15726
- Romero NG, Gutierrez G, Teixidó E, Li L, [Klose J](#), Leung PC, Cañigueral S, [Fritsche E](#), Barenys M: **Developmental neurotoxicity evaluation of three Chinese herbal medicines in zebrafish larvae by means of two behavioral assays: Touch-evoked response and light/dark transition.** *Reprod Toxicol* 121: 108469, 2023. doi: 10.1016/j.reprotox.2023.108469
- [Schiavi A](#), Cirotti C, [Gerber LS](#), [Di Lauro G](#), Petzsch P, Köhrer KE, [Schins RPE](#), [Wahle T](#), Barilà D, [Ventura N](#): **Abl depletion via autophagy mediates the beneficial effects of quercetin against Alzheimer pathology across species.** *Cell Death Discov* 9: 376, 2023. doi: 10.21203/rs.3.rs-2586897/v1
- [Schiavi A](#), [Salveridou E](#), [Brinkmann V](#), [Shaik A](#), Menzel R, Kalyanasundaram S, Nygård S, Nilsen H, [Ventura N](#): **Mitochondria hormesis delays aging and associated diseases in Caenorhabditis elegans impacting on key ferroptosis players.** *iScience* 26(4): 106448, 2023. doi: 10.1016/j.isci.2023.106448
- [Schröter L](#), [Jentsch L](#), [Maqlioni S](#), Muñoz-Juan A, [Wahle T](#), [Limke A](#), [von Mikecz A](#), Laromaine A, [Ventura N](#): **A multisystemic approach revealed aminated polystyrene nanoparticles-induced neurotoxicity.** *Small* 2023. doi: 10.1002/smll.202302907
- [Sies H](#): **Oxidative eustress: the physiological role of oxidants.** *Sci China Life Sci* 66(8): 1947-1948, 2023. doi: 10.1007/s11427-023-2336-1
- Silvonen V, Salo L, Raunima T, Vojtisek-Lom M, Ondracek J, Topinka J, [Schins RPE](#), Lepistö T, Lintusaari H, Saarikoski S, Barreira L, Hoivala J, Markkula L, Kulmala I, Vinha J, Karjalainen P, Rönkkö T: **Lung-depositing surface area (LDSA) of particles in office spaces around Europe: Size-distributions, I/O-ratios and infiltration.** *Build Environ* 246: 110999, 2023. doi: 10.1016/j.buildenv.2023.110999
- [Singh N](#), [Schikowski T](#): **Skin diseases and emerging determinants: the need for interactive research.** *Br J Dermatol* 188(4): 457-458, 2023. doi: 10.1093/bjd/ljad008
- [Sondermann NC](#), [Faßbender S](#), [Hartung F](#), [Hätälä AM](#), [Rolfes KM](#), Vogel CFA, [Haarmann-Stemmann T](#): **Functions of the aryl hydrocarbon receptor (AHR) beyond the canonical AHR/ARNT signaling pathway.** *Biochem Pharmacol* 208: 115371, 2023. doi: 10.1016/j.bcp.2022.115371
- Tanabe S, Beaton D, Chauhan V, Choi I, Choi J, Clerbaux LA, Coppola L, Dumont AF, Esterhuizen M, Filipovska J, FitzGerald R, [Fritsche E](#), Garcia-Reyero N, Goralczyk A, Huliganga E, Kim YJ, [Klose J](#), La Rocca C, Landesmann B, Mally A, Murugadoss S, Omeragic E, Ouédraogo G, Pereira JM, Sadi B, Schaffert A, Song Y, Sovadinova I, Stöger T, Tollesfsen KE, Wittwehr C, Yauk C: **Report of the 3rd and 4th mystery of reactive oxygen species conference.** *ALTEX* 40(4): 689-693, 2023. doi: 10.14573/altex.2307041
- Thiering E, Markevych I, [Kress S](#), Astell-Burt T, Feng X, [Altug H](#), Koletzko S, Bauer CP, von Berg A, Berdel D, Herberth G, [Schikowski T](#), Heinrich J, Standl M: **Gene-environment interaction in the association of residential greenness and 25(OH) vitamin D.** *Environ Pollut* 327: 121519, 2023. doi: 10.1016/j.envpol.2023.121519
- Thürmann L, Bauer M, Ferland M, Messingschlager M, [Schikowski T](#), von Berg A, Heinrich J, Herberth G, Lehmann I, Standl M, Trump S: **Undiagnosed pediatric elevated blood pressure is characterized by induction of proinflammatory and cytotoxic mediators.** *Hypertension* 80(11): 2425-2436, 2023. doi: 10.1161/HYPERTENSIONAHA.123.21489
- [Vogel CFA](#), [Haarmann-Stemmann T](#): **The aryl hydrocarbon receptor as an environmental sensor and mediator of stress and inflammation.** In: Valacchi G, Daiber A (eds): Environmental stressors and oxInflammatory tissues responses. CRC Press, Boca Raton, FL, USA, 2023. eBook ISBN: 9781003328100
- [Vogeley C*](#), [Kress S*](#), Lang D, Vogel CFA, [Hartung F](#), [Brenden H](#), Nakamura M, [Grether-Beck S](#), [Rossi A](#), [Krutmann J](#), [Schikowski T*](#), [Haarmann-Stemmann T*](#): **A gene variant of AKR1C3 contributes to interindividual susceptibilities to atopic dermatitis triggered by particulate air pollution.** *Allergy* 78(5): 1372-1375, 2023. doi: 10.1111/all.15622 (*equal contribution)

Vonneilich N, Becher H, Bohn B, Brandes B, Castell S, Deckert A, Dragano N, Franzke C-W, Führer A, Gastell S, Greiser H, Keil T, Klett-Tammen C, Koch-Gallenkamp L, Krist L, Leitzmann M, Meinke-Franze C, Mikolajczyk R, Moreno Velasquez I, Obi N, Peters A, Pischon T, Reuter M, [Schikowski T](#), Schmidt B, Schulze M, Sergeev D, Stang A, Völzke H, Wiessner C, Zeeb H, Lüdecke D, von dem Knesebeck O: **Associations of migration, socioeconomic position and social relations with depressive symptoms - Analyses of the German national cohort baseline data.** *Int J Public Health* 68: 1606097, 2023. doi: 10.3389/ijph.2023.1606097

[von Mikecz A](#): **Elegant nematodes improve our understanding of human neuronal diseases, the role of pollutants and strategies of resilience.** *Environ Sci Technol* 57(44): 16755-16763, 2023. doi: 10.1021/acs.est.3c04580

Wang M, Flexeder C, Harris CP, Thiering E, Koletzko S, Bauer CP, Schulte-Körne G, von Berg A, Berdel D, Heinrich J, Schulz H, [Schikowski T](#), Peters A, Standl M: **Accelerometry-assessed sleep clusters and cardiometabolic risk factors in adolescents.** *Obesity* (Silver Spring) 2023. doi: 10.1002/oby.23918

Wang M, Flexeder C, Kilanowski A, [Kress S](#), Herberth G, [Schikowski T](#), Peters A, Standl M: **Changes in sleep duration and sleep difficulties from adolescence to young adulthood and the risk of obesity: Bidirectional evidence in the GINIplus and LISA studies.** *Sleep Med* 101: 401-410, 2023. doi: 10.1016/j.sleep.2022.11.031

Zhao Z, Chu J, Xu X, Cao Y, [Schikowski T](#), Geng M, Chen G, Bai G, Hu K, Xia J, Ma W, Liu Q, Lu Z, Guo X, [Zhao Q](#): **Association between ambient cold exposure and mortality risk in Shandong Province, China: Modification effect of particulate matter size.** *Front Public Health* 10: 1093588, 2023. doi: 10.3389/fpubh.2022.1093588

Spotlight 2023

First authorship papers with high impact factors

[Schröter L](#), [Jentsch L](#), [Maglioni S](#), Muñoz-Juan A, [Wahle T](#), [Limke A](#), [von Mikecz A](#), Laromaine A, [Ventura N](#): **A multisystemic approach revealed aminated polystyrene nanoparticles-induced neurotoxicity.** *Small* 2023. doi: 10.1002/smll.202302907 (IF 13.300)

[Bredeck G](#), [Busch M](#), [Rossi A](#), Stahlmecke B, Fomba KW, Herrmann H, [Schins RPE](#): **Inhalable Saharan dust induces oxidative stress, NLRP3 inflammasome activation, and inflammatory cytokine release.** *Environ Int* 172: 107732, 2023. doi: 10.1016/j.envint.2023.107732 (IF 11.800)

[von Mikecz A](#): **Elegant nematodes improve our understanding of human neuronal diseases, the role of pollutants and strategies of resilience.** *Environ Sci Technol* 57(44): 16755-16763, 2023. doi: 10.1021/acs.est.3c04580 (IF 11.400)

[Singh N](#), [Schikowski T](#): **Skin diseases and emerging determinants: the need for interactive research.** *Br J Dermatol* 188(4): 457-458, 2023. doi: 10.1093/bjd/ljad008 (IF 10.300)

[Bredeck G](#), [Dobner J](#), Stahlmecke B, Fomba KW, Herrmann H, [Rossi A](#), [Schins RPE](#): **Saharan dust induces NLRP3-dependent inflammatory cytokines in an alveolar air-liquid interface co-culture model.** *Part Fibre Toxicol* 20: 39, 2023. doi: 10.1186/s12989-023-00550-w (IF 10.000)

[Marini A](#), [Aue N](#), [Jaenicke T](#), [Grether-Beck S](#), Trullas C, Granger C, Jourdan E, [Krutmann J](#): **Assessment of the protective effect against air pollution-induced skin pigmentation of an oral nutritional supplement containing antioxidants: A randomized, double-blinded, placebo-controlled study.** *J Eur Acad Dermatol Venereol* 37(9): e1183-e1186, 2023. doi: 10.1111/jdv.19183 (IF 9.200)

[Limke A](#), [Scharpf J](#), [Blesing F](#), [von Mikecz A](#): **Tire components, age and temperature accelerate neurodegeneration in C. elegans models of Alzheimer's and Parkinson's disease.** *Environ Pollut* 328: 121660, 2023. doi: 10.1016/j.envpol.2023.121660 (IF 8.900)

Abschlussarbeiten / Theses

Abgeschlossene Dissertationen / Dissertations

Mathias Busch: Development and application of intestinal *in vitro* models to investigate the link between plastic particle toxicity, intestinal inflammation, and the NLRP3 inflammasome. Doktorarbeit in Biologie, Heinrich-Heine-Universität Düsseldorf, Juni 2022. (AG Schins)

Katharina Janke: Photoaging and fibroblasts: The role of a novel dermal fibroblast population in tissue regeneration and the response to solar radiation. Doktorarbeit in Biologie, Heinrich-Heine-Universität Düsseldorf, August 2022. (Team Boukamp)

Kristina Bartmann: Development and validation of stem cell-based test methods contributing to a human *in vitro* battery for regulatory developmental neurotoxicity evaluation. Doktorarbeit in Biologie, Heinrich-Heine-Universität Düsseldorf, November 2022. (AG Fritsche)

Saskia Galanjuk: The human induced pluripotent stem cell test as an alternative method for embryotoxicity testing. Doktorarbeit in Biologie, Heinrich-Heine-Universität Düsseldorf, Dezember 2022. (AG Fritsche)

Sara Kress: Effekte von Gen-Umwelt-Interaktionen auf die respiratorische Gesundheit in verschiedenen Altersgruppen und ethnischen Gruppen. Doktorarbeit in Public Health, Heinrich-Heine-Universität Düsseldorf, April 2023. (AG Schikowski)

Abgeschlossene Doktorarbeiten der Medizin / Doctoral theses

Mohammad Omar Shahidyar: Ekzem-Phänotypen und Zusammenhang von Hautbarriere und Ekzementwicklung bei älteren Frauen der SALIA-Kohorte. Doktorarbeit in Medizin, Heinrich-Heine-Universität Düsseldorf, Mai 2022. (AG Schikowski)

Miriam Shadouh: Vergleich der On-site- und Off-site-Anwendung des SCINEXA™-Hautalterungsscores in der SALIA-Kohorte. Doktorarbeit in Medizin, Heinrich-Heine-Universität Düsseldorf, April 2023. (AG Schikowski)

Abgeschlossene Masterarbeiten / Master theses

Wenhao Xie: Investigation of the role of AHR (aryl hydrocarbon receptor) in human intestinal epithelial cells *in vitro*. Masterarbeit in Biochemie, Heinrich-Heine-Universität Düsseldorf, Januar 2022. (AG Esser)

Saskia Hüsken: Development of human-based *in vitro* assays to identify endocrine disrupting chemicals causing developmental neurotoxicity. Masterarbeit in Biochemie, Heinrich-Heine-Universität Düsseldorf, März 2022. (AG Fritsche)

Janine Becht: Effects of butyrate on the toxicological properties of food additive E171 in the intestine. Masterarbeit in Toxikologie, Heinrich-Heine-Universität Düsseldorf, April 2022. (AG Schins)

Lena Jentsch: The effects of nanoplastic particles on neuronal differentiation of SH-SY5Y cells. Masterarbeit in Toxikologie, Heinrich-Heine-Universität Düsseldorf, Mai 2022. (AG Ventura)

Frederick Hartung: Mechanistische Untersuchungen zur Arzneimittel-induzierten Phototoxizität: Bedeutung AHR-abhängiger Enzyme in humanen Keratinozyten. Masterarbeit in Toxikologie, Heinrich-Heine-Universität Düsseldorf, Mai 2022. (AG Haarmann-Stemmann)

Lejla Turkes: Optimierung eines auf hiPSC beruhenden Tests zur Embryotoxizitätstestung. Masterarbeit in Biochemie, Heinrich-Heine-Universität Düsseldorf, Juli 2022. (AG Fritsche)

Noah Henschel: Generation and immunocytochemical characterization of human induced pluripotent stem cell (hiPSC)-derived BrainSpheres for neurotoxicological evaluation. Masterarbeit in Toxikologie, Heinrich-Heine-Universität Düsseldorf, August 2022. (AG Fritsche)

Fabienne Ruhmüller: Role of the aryl hydrocarbon receptor in functions of murine dendritic epidermal T cells. Masterarbeit in Molekularer Biomedizin, Heinrich-Heine-Universität Düsseldorf, September 2022. (AG Esser)

Alina Kuklinski: The AHR-p27 axis: role in melanoma progression *in vitro*. Masterarbeit in Molekularer Biomedizin, Heinrich-Heine-Universität Düsseldorf, Oktober 2022. (AG Haarmann-Stemmann)

Nicolai Görts: Towards new approach methodologies for cognitive function defects. Masterarbeit in Molekularer Medizin, Eberhard Karls Universität Tübingen, März 2023. (AG Fritsche)

Louisa Merit Stark: Establishment of a New Approach Methodology detecting glucocorticoid receptor- and retinoic acid receptor-dependent developmental neurotoxicity in a species overarching context. Masterarbeit in Toxikologie, Heinrich-Heine-Universität Düsseldorf, März 2023. (AG Fritsche)

Ilka Egger: *In vitro* investigation of the altered electrical activity in hiPSC-based Cockayne Syndrome B (CSB) disease models. Masterarbeit in Biologie, Heinrich-Heine-Universität Düsseldorf, April 2023. (AG Fritsche)

Jiwon Jung: The effect of natural compounds in *Caenorhabditis elegans* mitochondrial complex-I deficiency models. Masterarbeit in Translational Neuroscience, Heinrich-Heine-Universität Düsseldorf, Juni 2023. (AG Ventura)

Alexander Meißner: Auswirkungen toxischer per- und polyfluorierter Alkylsubstanzen (PFAS) auf die Membranfluidität als Parameter der Funktion von Immun- und Leberzellen. Masterarbeit in Toxikologie, Heinrich-Heine-Universität Düsseldorf, Oktober 2023. (AG Esser)

Francesca Giannaccini: Assess the protective effect against oxidative stress of selected natural compounds in the multicellular system, *C. elegans*. Diploma thesis in Chimica e tecnologia farmaceutiche, University of Pisa, Italy, Oktober 2023. (AG Ventura)

Abgeschlossene Bachelorarbeiten / Bachelor theses

Fabienne Blesing: Neuromuskuläre Fitness in einem *C. elegans* Alzheimer Modell: Einfluss von Lebensalter und Temperatur. Bachelorarbeit in Biologie, Heinrich-Heine-Universität Düsseldorf, September 2022. (AG von Mikecz)

Linus Schröpfer: Quantifizierung von Bewegungsphänotypen in einem Tau-basierten *C. elegans* Modell für die Alzheimer Erkrankung. Bachelorarbeit in Biologie, Heinrich-Heine-Universität Düsseldorf, September 2022. (AG von Mikecz)

Neue Mitarbeiter*innen / New coworkers

Vanessa Baltruschat arbeitet seit April 2023 als Technische Assistentin in der Core Unit von Dr. Andrea Rossi. Ihre Ausbildung zur Biologielaborantin absolvierte sie 2013 am Universitätsklinikum zu Köln. 2019 schloss sie zudem die Weiterbildung zur Labortechnikerin im Fachbereich Biologie ab. Berufserfahrung sammelte sie über ihre mehrjährige Einstellung am Institut für Humangenetik des Universitätsklinikums zu Köln, sowie der Anthropologie und Humangenetik der Ludwig-Maximilians-Universität München.

Vanessa Baltruschat has been working as a technical assistant in Dr. Andrea Rossi's Core Unit since April 2023. She completed her training as a biology laboratory technician in 2013 at the University Hospital of Cologne. In 2019, she also completed advanced training as a laboratory technician in Biology. She gained professional experience through her employment for several years at the Institute of Human Genetics of the University Hospital of Cologne, as well as the Anthropology and Human Genetics of the Ludwig-Maximilians-University of Munich.



Mailin Becker ist seit August 2023 als Biologisch-technische Assistentin am IUF in der AG von Prof. Ellen Fritsche tätig. Zuvor war sie am Institut für medizinische Mikrobiologie, Immunologie und Parasitologie des Universitätsklinikums Bonn. Dort arbeitete sie an industriellen Forschungsprojekten. 2021 absolvierte sie erfolgreich ihre BTA-Ausbildung und ihr Fachabitur mit dem Schwerpunkt Chemie an der Rheinischen Akademie Köln gGmbH in privater Trägerschaft.

Mailin Becker has been working as a biological-technical assistant at the IUF in Prof. Ellen Fritsche's group since August 2023. Previously, she was at the Institute for Medical Microbiology, Immunology and Parasitology of the University Hospital Bonn. There she worked on industrial research projects. In 2021, she successfully completed her BTA training and her vocational baccalaureate with a focus on Chemistry at the "Rheinische Akademie Köln gGmbH" in private ownership.

Rituparna Bhattacharjee ist seit April 2022 Post-Doktorandin in der Arbeitsgruppe von Prof. Krutmann. Ihr Projekt am IUF befasst sich mit der Bestimmung der Funktion von *Xeroderma pigmentosum* (XP)-Proteinen über ihre bekannte Rolle bei der Reparatur von DNA-Schäden hinaus. Sie wurde in Kolkata, Indien, geboren, wo sie die High School abschloss und auch ihren Bachelor of Science in Mikrobiologie absolvierte. Im Jahr 2015 schloss sie ihren Master of Science in Biochemie in Hyderabad, Indien, ab. Dann zog sie 2016 für ihre Promotion nach Magdeburg und war dort Teil der ABINEP-Graduiertenschule. Sie beschäftigte sich mit der tödlichen Tropenkrankheit zerebrale Malaria und untersuchte die Vorgänge, die zur Entstehung dieser komplexen neurologischen Erkrankung führen. Sie war am Universitätsklinikum und am Leibniz-Institut für Neurobiologie in Magdeburg tätig. Ihre Dissertation hat sie im Februar 2022 erfolgreich abgeschlossen.



Rituparna Bhattacharjee is a post-doctoral researcher in the working group of Prof. Krutmann since April 2022. Her project at IUF deals with determining the function of Xeroderma pigmentosum (XP) proteins beyond their known DNA-damage repair role. She was born in Kolkata, India where she completed her high school and also did her Bachelor of Science in Microbiology. She finished her Master of Science in Biochemistry in Hyderabad, India in 2015. Then she moved to Magdeburg, Germany in 2016 for her PhD and was part of the ABINEP graduate school there. She worked on the fatal tropical disease of cerebral malaria and investigated the events leading to the development of this complex neurological disease. She was working at the University Hospital and the Leibniz Institute for Neurobiology in Magdeburg. She has defended her PhD thesis successfully in February 2022.

Stephanie Binder arbeitet seit Mai 2023 als Postdoc auf einem gemeinsamen DFG-Projekt von Dr. Andrea Rossi und PD Dr. Thomas Haarmann-Stemmann am IUF. Sie studierte Biologie an der Universität Salzburg und promovierte am Institut für „Comprehensive Molecular Analytics“ des Helmholtz-Zentrums München. Jetzt untersucht sie die Rolle von Umweltfaktoren auf die phänotypische Variabilität diverser Krankheitsbilder im Kontext genetischer Kompensationsmechanismen am IUF.

Stephanie Binder joined the IUF as postdoc on a joined DFG project from Dr. Andrea Rossi and Dr. Thomas Haarmann-Stemmann in May 2023. She studied Biology at the University of Salzburg and conducted her PhD studies at the Institute of Comprehensive Molecular Analytics at Helmholtz Centre Munich. Now, she investigates the role of environmental factors in phenotypic variability due to genetic buffering at the IUF.

Lara Boßmann studiert Toxikologie (M. Sc.) an der Medizinischen Fakultät der Heinrich-Heine-Universität Düsseldorf. Ihren Bachelor in Ernährungswissenschaften absolvierte sie an der Hochschule Niederrhein in Mönchengladbach. Im Rahmen ihrer Masterarbeit in der Arbeitsgruppe von Roel Schins untersucht sie die Lungentoxizität von metallhaltigen Stäuben in erweiterten THP-1 *in vitro* Lungenzellmodellen als Alternative zu Tierversuchen.



Lara Boßmann studies Toxicology (MSc) at the Medical Faculty of the Heinrich Heine University Düsseldorf. She completed her Bachelor in Nutritional Sciences at the University of Applied Sciences Niederrhein in Mönchengladbach. As part of her master thesis in the research group of Roel Schins she is investigating the pulmonary toxicity of metal-containing dusts in advanced *in vitro* lung cell models as an alternative to animal testing.

Lindsay Dittmann ist Masterstudentin im Studiengang Biologie an der Heinrich-Heine-Universität Düsseldorf und arbeitet seit April 2023 in der AG Fritsche. In einem Projektpraktikum mit anschließender Masterarbeit unterstützt sie ein Projekt im DFG-GRK 2578. Thematisch geht es um die Auswirkungen von Genotoxinen auf die humane Gehirnentwicklung *in vitro*.

Lindsay Dittmann is a master student in Biology at the Heinrich Heine University Düsseldorf and has been working in the Fritsche lab since April 2023. In a project internship followed by a master thesis, she supports a project of the DFG RTG 2578. Thematically she is working on the effects of genotoxins on human neurodevelopment *in vitro*.



Oliver Felix Eberle studiert Toxikologie an der Heinrich-Heine-Universität Düsseldorf (M.Sc.). Parallel zu seinem Masterstudium arbeitete er als wissenschaftliche Hilfskraft im Institut für funktionelle Genomforschung der Mikroorganismen, wo er zuvor im Rahmen seines Biologiestudiums eine Bachelorarbeit über chlamydiale Adhäsine anfertigte. Seine Masterarbeit ist Teil eines Kooperationsprojektes des IUF mit der Firma Henkel. Er arbeitet seit März 2023 in der AG Haarmann-Stemmann. In diesem Projekt möchte er untersuchen, inwiefern hautsensibilisierende Substanzen in humanen Keratinozyten oxidativen Stress induzieren und ob dies durch polycyclische aromatische Kohlenwasserstoffe stimuliert wird.

Oliver Felix Eberle is currently studying Toxicology at the Heinrich Heine University Düsseldorf (MSc). Simultaneously to his master's course he has been working as a research assistant at the institute of functional genome research of microorganisms, where he previously completed a thesis on chlamydial adhesins as part of his bachelor's degree in biology. His master's thesis is part of a cooperation project of the IUF with Henkel company. He joined the AG Haarmann-Stemmann in March 2023. Within this project, he would like to analyze the formation of reactive oxygen species induced by skin sensitizing substances in human keratinocytes and whether this is stimulated by polycyclic aromatic hydrocarbons.

Jalil Florian El-Bardawil studiert Toxikologie (M.Sc.) an der Heinrich-Heine-Universität Düsseldorf. Zuvor schloss er den Bachelor in Biologie, ebenfalls an der Heinrich-Heine-Universität, ab. Seit April 2022 arbeitet er als Masterstudent in der Arbeitsgruppe von PD Dr. Thomas Haarmann-Stemmann. Sein Fokus liegt hierbei auf der Untersuchung der DNS-Schadensantwort epidermaler Zellen nach UV-Exposition und der Rolle des Aryl-Hydrocarbon-Rezeptors.



Jalil Florian El-Bardawil studies Toxicology (MSc) at the Heinrich Heine University Düsseldorf where he completed his bachelor's degree in Biology. Since April 2022, he has been working as a master's student in the research group of Dr. Thomas Haarmann-Stemmann. He focusses on the DNA damage response of epidermal cells after UV exposure and the role of the aryl hydrocarbon receptor.



Julia Heindirk ist seit dem 1. Juni 2023 als wissenschaftliche Referentin für Prof. Jean Krutmann tätig. Nach dem Biologiestudium an der Friedrich-Alexander-Universität Erlangen-Nürnberg (B. Sc.) und der Heinrich-Heine-Universität Düsseldorf (M. Sc.) war sie einige Jahre in der Privatwirtschaft in Forschung, Produktentwicklung und Produktion im Bereich autologer Blutprodukte und *in-vitro*-Allergiediagnostik tätig.

Julia Heindirk joined the IUF as scientific assistant of Prof. Jean Krutmann in June 2023. After studying Biology at the Friedrich-Alexander-University Erlangen-Nürnberg (BSc) and the Heinrich Heine University Düsseldorf (MSc), she worked for several years in the private sector in research, product development and production in the field of autologous blood products and in vitro allergy diagnostics.

Dina Himida arbeitet seit Juli als Masterstudentin im vom DAAD finanzierten Partnerprojekt der AG Esser mit Dr. Anna Wajda aus Warschau. Es geht um die Frage, ob es eine Rolle des AHR in der Pathogenese der Systemischen Sklerodermie gibt, einer seltenen und nicht gut therapierbaren Autoimmunkrankheit. Dies soll an einem *in vitro* Modell mit humanen Fibroblasten untersucht werden. Dina Himida hat in Ägypten (Misr University in der Nähe von Kairo) einen Bachelor in Biotechnology gemacht. Nach Verzögerungen durch die Corona-Pandemie, in der sie u. a. für ein Covid-19 Testzentrum in Düsseldorf gearbeitet hat, begann sie im Masterprogramm Molekulare Biomedizin der HHU. Ihr Projekt beinhaltet auch einen Forschungsaufenthalt am National Institute of Geriatrics, Rheumatology and Rehabilitation in Warschau.



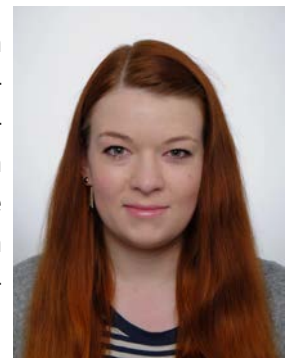
Dina Himida is a master student in the DAAD-financed partner project of AG Esser with Dr. Anna Wajda from Warsaw. Starting in July, she will contribute to the research question whether there is a role for the AHR in systemic scleroderma, a rare and debilitating autoimmune disease. This is to be investigated in an in vitro model with human fibroblasts. Dina Himida did a bachelor's degree in Biotechnology in Egypt (Misr University near Cairo). After delays caused by the corona pandemic, during which she worked for a Covid-19 test center in Düsseldorf, among other things, she began the HHU master's program in Molecular Biomedicine. Her project also includes a research stay in Warsaw, at the National Institute of Geriatrics, Rheumatology and Rehabilitation.



Kai Kremers ist Biologie-Masterstudent an der Heinrich-Heine-Universität Düsseldorf und hat im Februar sein Projektpraktikum zu dem Thema „Ubiquitin-dependent regulation of stress response pathways and aging in *C. elegans*“ hier im IUF in der Arbeitsgruppe von PD Dr. Natascia Ventura angefangen. Im Zuge seiner Masterarbeit untersucht er nun verschiedene Stressfaktoren für die Langlebigkeit, mit Einfluss auf Autophagie in *C. elegans*.

Kai Kremers is a Biology master student at the Heinrich Heine University Düsseldorf and started his project internship on the topic "Ubiquitin-dependent regulation of stress response pathways and aging in C. elegans" here at the IUF in the group of Dr. Natascia Ventura in February. In the course of his master thesis he is now investigating different stress factors for longevity, with influence on autophagy in C. elegans.

Sonja Lehmann ist seit März 2023 Postdoc in der AG Krutmann. Sie beschäftigt sich im Rahmen der neuen DFG-geförderten Forschungsgruppe (FOR 5489; Untersuchungen zur Ambivalenz des AHR-Signalweges in Hautkrankheiten) mit den Wechselwirkungen zwischen AHR Signaling und Retinoiden in der Haut. Sie absolvierte ihren Bachelor of Science (Biologie) an der Universität Bonn und ihren Master of Science (Biomedical Sciences) an der Universität Maastricht. Anschließend promovierte sie in Aachen zum Thema „Mechanismen und funktionale Konsequenzen gestörter Keratin-Netzwerkbildung in genetischen Hauterkrankungen“.



Sonja Lehmann is a Postdoc of the Krutmann group since March 2023. She is working on the crosstalk between AHR signaling and retinoids in skin as part of the new DFG-funded research unit (FOR 5489; Understanding aryl hydrocarbon receptor (AHR) signaling in skin disorders). She completed her Bachelor of Science (Biology) at the University of Bonn and her Master of Science (Biomedical Sciences) at Maastricht University. Subsequently, she focused on mechanisms and functional consequences of impaired keratin network formation in genetic skin disorders during her PhD in Aachen.



Hequn Liu ist seit August 2023 Postdoc in der neu eingerichteten Nachwuchsgruppe „Computational Phenomics“ am IUF, die von Prof. Arne Sahm geleitet wird. Sie studierte Biologie (B. Sc.) an der „Anhui Normal University“ in Wuhu, China und Genetik (Ph. D.) am „Kunming Institute of Zoology, Chinese Academy of Sciences“ in Kunming, China. Bevor sie am IUF anfang, arbeitete sie als wissenschaftliche Mitarbeiterin am französischen Nationalen Gesundheitsinstitut (INSERM) in Frankreich.

Hequn Liu is a postdoc in the newly established junior research group Computational Phenomics at IUF, headed by Prof. Arne Sahm, since August 2023. She studied Biology (BSc) at the Anhui Normal University in Wuhu, China and Genetics (PhD) at the Kunming Institute of Zoology, Chinese Academy of Sciences in Kunming, China. Before she started at the IUF, she worked as a research associate at French National Institute of Health (INSERM) in France.

Adithya Sankar Cheruvil Lilikumar studiert Pharmazeutische und Industrielle Biotechnologie (M. Sc.) an der Martin-Luther-Universität in Halle. Seit April 2023 arbeitet er in der Arbeitsgruppe von Prof. Ellen Fritsche. Im Rahmen seiner Masterarbeit beschäftigt er sich mit der Entwicklung neuer Testverfahren basierend auf der Differenzierung und Funktion radialer Gliazellen sowie Astrozyten, die der Komplementierung einer bereits bestehenden *in vitro* Testbatterie zur Bewertung der Entwicklungsneurotoxizität dienen soll.



Adithya Sankar Cheruvil Lilikumar studies Pharmaceutical and Industrial Biotechnology (MSc) at the Martin Luther University in Halle. In April 2023, he joined the working group of Prof. Ellen Fritsche. As part of his master thesis, he deals with the refinement of an *in vitro* testing battery for developmental neurotoxicity assessment by integration of radial glia- and astrocyte-specific endpoints.

Denis Polozij studiert im Masterstudiengang Toxikologie an der Heinrich-Heine-Universität Düsseldorf. Zuvor hat er Chemie und Biotechnologie an der Hochschule Niederrhein in Krefeld studiert. Derzeit arbeitet er als Masterstudent in der Arbeitsgruppe Fritsche und beschäftigt sich mit dem ONTOX-Projekt. Dabei liegt sein Fokus auf der Erstellung einer physiologischen Karte des sich entwickelnden Gehirns und auf der Entwicklung von Adverse Outcome Pathways.

Denis Polozij is pursuing a master's degree in Toxicology at the Heinrich Heine University Düsseldorf. Prior to that, he studied Chemistry and Biotechnology at the University of Applied Sciences Niederrhein in Krefeld. Currently, he is working as a master's student in the Fritsche research group, focussing on the ONTOX project. His work primarily involves the creation of a physiological map of the developing brain and the development of Adverse Outcome Pathways.

Arne Sahn studierte Bioinformatik und Genomforschung an der Universität Bielefeld. Danach arbeitete er als Doktorand und Postdoc am Leibniz-Institut für Altersforschung in Jena. Am 1. Juli 2022 wurde er auf eine Juniorprofessur für „Computational Phenomics“ berufen (gemeinsame Berufung der Ruhr-Universität Bochum mit dem IUF). Seit Juli 2023 leitet er am IUF die neue Nachwuchsgruppe „Computational Phenomics“. Die Gruppe wird untersuchen, wie Umweltgifte den Alterungsprozess auf molekularer Ebene beschleunigen und die Entwicklung damit verbundener Krankheiten befördern. Dazu wird die Gruppe Multi-Omics-Daten aus Zellkulturen, Tiermodellen und menschlichen Probanden mit bioinformatischen Methoden auswerten.



Arne Sahn studied Bioinformatics and Genome Research at Bielefeld University. He then worked as a PhD student and postdoc at the Leibniz Institute on Ageing in Jena. On 1st of July 2022, he was appointed as Juniorprofessor for Computational Phenomics (joint appointment by the University Bochum and the IUF). Since July 2023, he leads the new junior research group Computational Phenomics at IUF. The group will investigate how environmental toxins accelerate the aging process at the molecular level and promote the development of associated diseases. To this end, the group will evaluate multi-omics data from cell cultures, animal models and human volunteers using bioinformatics methods.



Ilka Scharkin arbeitet seit Mai 2023 als Doktorandin in der Arbeitsgruppe von Prof. Ellen Fritsche. Sie studierte im Masterstudiengang Biologie an der Heinrich-Heine-Universität Düsseldorf und absolvierte ihre Masterarbeit im Bereich *in vitro* Disease Modeling am Beispiel des Cockayne Syndrom B in der AG Fritsche. Ihr Promotionsprojekt wird im Rahmen des Horizon Europe Projektes PARC (Partnership for the assessment of risks from chemicals) stattfinden, wo sie sich mit der Weiterentwicklung und Validierung von hiPSC-basierten Assays zur Risikobewertung von verschiedenen Substanzen im Bereich der akuten und Entwicklungsneurotoxizität beschäftigen wird.

Ilka Scharkin joined the research group of Prof. Ellen Fritsche as a PhD student in May 2023. She previously studied Biology (MSc) at the Heinrich Heine University Düsseldorf and completed her master thesis focussing on in vitro disease modeling of Cockayne Syndrome B in the working group of Prof. Fritsche. Her doctoral project will be part of the Horizon Europe project PARC (Partnership for the assessment of risks from chemicals), where she will be working on the further development and validation of hiPSC-based assays for the risk assessment of diverse substances regarding acute and developmental neurotoxicity.

Retha Setiawan ist Bachelor-Studentin der Applied Biology an der Hochschule Bonn-Rhein-Sieg und Biologisch-technische Assistentin. Seit Oktober 2022 arbeitet sie im Rahmen ihrer Bachelorarbeit in der Arbeitsgruppe von PD Dr. Nataschia Ventura an einem Projekt, bei dem ausgewählte Stämme von *C. elegans* gekreuzt werden, um das genetische Ergebnis und das Verhalten der Nachkommen zu bestimmen.



*Retha Setiawan is a bachelor student in Applied Biology at the Hochschule Bonn-Rhein-Sieg and a lab technician (Biologisch-technische Assistentin). In October 2022, she joined the working group of Dr. Nataschia Ventura for her bachelor thesis working on a project which involves crossing selected strains of *C. elegans* to determine the genetical outcome and behavior in their offsprings.*

Simon Leander Sollberg ist seit Oktober 2022 in der AG Esser als Doktorand beschäftigt. Seinen Bachelor of Science (Biowissenschaften) hat er an der Westfälischen Wilhelms-Universität in Münster und seinen Master of Science an der Rheinischen Friedrich-Wilhelms-Universität in Bonn (Mikrobiologie) absolviert. Im Rahmen seiner Masterarbeit beschäftigte er sich mit der Antikörperantwort auf alle in der EU zugelassenen COVID-19 Schutzimpfungen sowie der russischen und chinesischen Impfstoffe. Am IUF wird er sich im Rahmen eines von der DFG-geförderten Projekts (DFG ES103/10-1) mit der Rolle des AHR in der Immunüberwachung der murinen dendritischen epidermalen T-Zellen beschäftigen.



Simon Leander Sollberg began working as a PhD student in the Esser group in October 2022. He completed his Bachelor of Science (Biosciences) at the Westfälische Wilhelms-Universität in Münster and his Master of Science at the Rheinische Friedrich-Wilhelms-Universität in Bonn (Microbiology). As part of his master's thesis, he studied the antibody response to COVID-19 vaccinations approved in the EU, as well as the Russian and Chinese vaccines. At the IUF, he will work on the role of AHR in the immune surveillance of murine dendritic epidermal T cells as part of a DFG-funded project.



Elisabeth Springer arbeitet seit 2005 als BTA am IUF und hat im März 2022 von der AG Fritsche in die AG Krutmann gewechselt.

Elisabeth Springer works at the IUF since 2005. In March 2022 she changed the working group from the WG Fritsche to the WG Krutmann.

Christiane Spruck arbeitet seit August 2022 als Doktorandin in der Arbeitsgruppe von Prof. Ellen Fritsche. 2019 hat sie ihren Bachelor of Science in Biologie an der Universität zu Köln absolviert. Danach schloss sie erfolgreich ihren Master of Science in Biologie, mit dem Schwerpunkt Molekulare Biomedizin, an der Heinrich-Heine-Universität Düsseldorf ab. Während ihrer Masterarbeit, welche sie am Institut für Toxikologie am Uniklinikum Düsseldorf durchführte, arbeitete sie an der Etablierung einer *ex vivo* Methode. Im Rahmen ihres Promotionsprojektes beschäftigt sie sich nun mit der Etablierung von Tests mit humanen induzierten pluripotenten Stammzellen zur Prüfung auf Entwicklungsimmunotoxizität *in vitro*.



*Christiane Spruck joined the working group of Prof. Ellen Fritsche as a PhD student in August 2022. In 2019, she finished her Bachelor of Science in Biology at the University of Cologne. Afterwards, she completed her Master of Science in Biology, with a focus on molecular biomedicine, at the Heinrich Heine University Düsseldorf. During her master thesis, which she conducted at the Institute of Toxicology at the University Hospital Düsseldorf, she worked on the establishment of an *ex vivo* method. As part of her doctoral project, she is now working on the establishment of human induced pluripotent stem cell assays for testing for developmental immunotoxicity *in vitro*.*



Louisa Merit Stark arbeitet seit Mai 2023 als Doktorandin in der Arbeitsgruppe von Prof. Ellen Fritsche. Im März 2023 absolvierte sie ihren Master in Toxikologie an der Heinrich-Heine-Universität Düsseldorf. Im Rahmen ihrer Masterarbeit beschäftigte sie sich mit der Etablierung einer humanrelevanten *in vitro* Testmethode zur Detektion endokrin-disruptiver Effekte auf die Gehirnentwicklung. Während der Promotion wird sie die Flammschutzmittel-induzierte Entwicklungsneurotoxizität mechanistisch untersuchen.

Louisa Merit Stark joined the working group of Prof. Ellen Fritsche as a PhD student in May 2023. She completed her Master in Toxicology at the Heinrich Heine University Düsseldorf in March 2023 with a thesis about the establishment of a New Approach Methodology detecting endocrine disruption during brain development. During her PhD, she will investigate the modes-of-action of flame retardant-mediated developmental neurotoxicity.

Lena Teschke studiert Biomedical Sciences an der Hochschule Albstadt-Sigmaringen und ist seit Mai 2023 als Masterstudentin in der Arbeitsgruppe von Prof. Ellen Fritsche tätig. Während ihrer Bachelorarbeit am Uniklinikum Münster hat sie sich mit der Entwicklung von Kalibrierungsstrategien und Methodvalidierung in der Durchflusszytometrie befasst. Während ihrer Masterarbeit beschäftigt sie sich mit der Erstellung einer Testmethode für die Hämatopoese auf der Basis von humanen induzierten pluripotenten Stammzellen für entwicklungsbedingte Immunotoxizitätstests *in vitro*. Zudem arbeitet sie an der Erstellung einer physiologischen Karte der Entwicklung des menschlichen Immunsystems.

Lena Teschke studies Biomedical Sciences at the University of Applied Sciences Albstadt-Sigmaringen and joined the research group of Prof. Ellen Fritsche as a master's student in May 2023. During her bachelor's thesis at the University Hospital Münster she focused on the development of calibration strategies and method validation in flow cytometry analysis. For her master's thesis she is working on the establishment of a test method for hematopoiesis based on human induced pluripotent stem cells for developmental immunotoxicity testing in vitro. In addition, she is working on the creation of a physiological map of the developing human immune system.

Anna Tisnikar arbeitet seit August 2023 als BTA in der Arbeitsgruppe Fritsche. Sowohl ihr Bachelor- als auch ihr Masterstudium in Biologie absolvierte sie an der Heinrich-Heine-Universität Düsseldorf. Am IUF untersucht sie nun die Entwicklungsneurotoxizität verschiedener Substanzen im Rahmen des „NTP Screening project“.

Anna Tisnikar is working as a technician in the Fritsche lab since August 2023. She completed both her bachelor's and master's degree at the Heinrich Heine University Düsseldorf. She is now investigating the developmental neurotoxicity of various substances as a part of the "NTP Screening project".

Martina Vogt ist seit April 2022 als Study Nurse in der Arbeitsgruppe von Dr. Tamara Schikowski tätig. Als ausgebildete Medizinisch-technische Laborassistentin (MTLA) mit langjährigen Erfahrungen im internistischen und arbeitsmedizinischen Bereich ist sie für die Organisation und Durchführung der Feldarbeit der SALIA und GINIplus Studie zuständig.

Martina Vogt is working as a study nurse in Dr. Tamara Schikowski's working group since April 2022. As a trained medical technical laboratory assistant (MTLA) with many years of experience in internal medicine and occupational medicine, she is responsible for organizing and conducting the field work of the SALIA and GINIplus study.

Gastwissenschaftler*innen / Guest scientists

Michael Abramson, Professor für klinische Epidemiologie an der Monash University in Melbourne, Australien, war für vier Wochen zu Gast am IUF und arbeitete an einer Studie über Ekzeme und Klimafaktoren in der AG Schikowski. Er leitet die Hazelwood-Gesundheitsstudie, in der die langfristigen gesundheitlichen Auswirkungen eines Feuers in einem Kohletagebau untersucht werden. Im Anschluss an seinen Besuch nahm er am Kongress der „European Respiratory Society“ in Mailand teil.

Michael Abramson, Professor of Clinical Epidemiology at Monash University in Melbourne, Australia, visited the IUF for four weeks and worked on a study concerning eczema and climate factors in the Schikowski group. He leads the Hazelwood Health Study, which is investigating long term health effects from a fire in an open cut coal mine. Following this visit, he attended the European Respiratory Society Congress in Milan.

Link: <https://hazelwoodhealthstudy.org.au/>

Riccardo Guzzo ist Erasmus-Student an der Universität Mailand (Italien), wo er einen Master-Abschluss in Risikobewertung und toxikologischer Forschung macht. Das Ziel des 6-monatigen Praktikums in der AG Fritsche war es, pluripotente Stammzellen und menschliche neuronale Vorläuferzellen in 3D-Aggregaten zu züchten. Diese Zelllinien werden zur Untersuchung wichtiger neurologischer Entwicklungsprozesse im Rahmen des PARC-Projekts eingesetzt. Besonderes Augenmerk wird auf einer Fallstudie über die Auswirkungen möglicher Alternativen für Bisphenol A auf Proliferation, Migration und Differenzierung liegen.

Riccardo Guzzo is an Erasmus student from the University of Milan (Italy) where he is graduating in a master regarding risk assessment and toxicological research. The aim of the 6 months traineeship in the lab of Ellen Fritsche was to learn to induce pluripotent stem cells and human neuronal progenitor cells grown as 3D aggregates. These cell lines will be used to investigate key neurodevelopmental processes as a part of the PARC project. Particular attention will be given to a case study on the effects of possible alternatives for bisphenol A on proliferation, migration and differentiation.

Roberta Pensotti ist Doktorandin im Bereich Konvergierende Technologien für Biomolekulare Systeme (TeCSBi) an der Universität Mailand-Bicocca (Italien) unter der Leitung von Prof. Maria Elena Regonesi. Sie wird die nächsten sechs Monate, von Anfang Oktober 2023 bis Ende März 2024, als Gast des Teams von PD Dr. Ventura am IUF verbringen. Ihr Projekt konzentriert sich auf die Untersuchung des Alterungsprozesses aus phänotypischer und molekularer Sicht, um Strategien zur Förderung eines gesünderen Alterns zu identifizieren. Hier wird sie lernen, wie man Genexpressionsanalysen mit Hilfe des Fadenwurms *Caenorhabditis elegans* als Modellorganismus durchführt.

*Roberta Pensotti is a PhD student in Converging Technologies for Biomolecular Systems (TeCSBi) at the University of Milano-Bicocca (Italy) under the supervision of Prof. Maria Elena Regonesi. She will spend the next six months at the IUF, from the beginning of October 2023 to the end of March 2024, as a guest of Dr. Ventura's team. Her project focuses on studying the aging process from the phenotypic and molecular point of view, in order to identify strategies to promote a healthier aging. Here, she will learn how to perform analysis of gene expression using the nematode *Caenorhabditis elegans* as a model organism.*

Lab exchanges

Charlotte Esser from IUF and **Anna Wajda** from the National Institute of Geriatrics, Rheumatology and Rehabilitation (NIGRR) in Warsaw, Poland, acquired a DAAD funded exchange of persons for their work on the „Role of the AHR for autoimmune dysbalance in the skin“. Charlotte Esser stayed with her cooperation partner in March and in exchange, Anna Wajda visited IUF in May/June. **Adam Ejma-Multanski** visited IUF in September and **Dina Himida**, a Master student from the Esser lab, went to Warsaw in October to perform experiments on AHR and systemic sclerosis.

Travels, visitor's stays in other research institutions

Ashtyn Areal visited Professor Rajen Naidoo at the University of Kwa-Zulu Natal, South Africa, to discuss cooperation possibilities at the PhD level.

Sara Kress completed a three-week research stay at Monash University in Melbourne, Australia. During her stay she worked on the project "Long-term impacts of PM_{2,5} from a coal mine fire on eosinophilic airway inflammation".

Laura Schröter joined the lab of Anna Laromaine at the Institute of Materials Science of Barcelona (ICMAB-CSIC) to perform nanoplastic particles characterization relevant for her doctoral thesis.

Drittmittelprojekte / 3rd party funded projects

AFM-Telethon / Andrea Rossi / Project funding / 2023-2025 / ~ 126.300 Euro

Small molecules that enhance Prime Editing in therapeutic applications

BMBF / IUF (leading PI: Tamara Schikowski) / 2023-2028 / ~ 1,25 Mio. Euro (Probandenpauschale)

NAKO Gesundheitsstudie (3. Förderperiode)

DAAD / Charlotte Esser / Projektbezogener Personenaustausch (PPP) / 2023-2024

Role of the aryl hydrocarbon receptor (AHR) for autoimmune dysbalances in the skin

Partner: Anna Wajda, National Institute for Geriatrics, Rheumatology and Rehabilitation (NIGRiR), Warsaw, Poland

DFG / Jean Krutmann / Forschungsgruppe – Koordinationsprojekt / 2023-2026 / ~ 295.000 Euro

Untersuchungen zur Ambivalenz des AHR-Signalweges in Hautkrankheiten

Understanding aryl hydrocarbon receptor (AHR) signaling in skin disorders

DFG / Charlotte Esser, Doreen Reichert (Co-PI) / Forschungsgruppe – Teilprojekt / 2023-2026 / ~ 501.000 Euro

Die Rolle des AHR für die Darm-Haut-Achse

The role of AHR-signaling for the gut-skin axis

DFG / Thomas Haarmann-Stemann / Forschungsgruppe – Teilprojekt / 2023-2026 / ~ 525.000 Euro

Von der aktinischen Keratose zum invasiven Plattenepithelkarzinom: Bedeutung der AHR-p27KIP1 Achse für die maligne Transformation / *From actinic keratosis to invasive squamous cell carcinoma: Impact of AHR and p27KIP1 on malignant transformation*

DFG / Jean Krutmann, Sonja Faßbender (Co-PI) / Forschungsgruppe – Teilprojekt / 2023-2026 / ~ 539.000 Euro

Wechselwirkungen zwischen AHR Signalantworten und Retinoiden in der Haut

Crosstalk between AHR signaling and retinoids in skin

DFG / Sonja Faßbender / Sachbeihilfe – Folgeprojekt / 2023-2025 / ~ 271.000 Euro

Kontrolle der kutanen Homöostase durch Keratinozyten mittels der UVB-induzierten Transkriptionsfaktoren HIF-1a und AHR / *Control of skin homeostasis by keratinocytes dependent on UVB-inducible PAS family*

transcription factors HIF-1a and AhR

DFG / Ellen Fritsche / Sachbeihilfe / 2022-2025 / ~ 304.000 Euro

Molekulare und zelluläre Untersuchungen zur Identifizierung der Wirkmechanismen von Flammenschutzmitteln und deren kombinierten Effekte auf die Gehirnentwicklung in Zusammenhang ihrer Kinetik *in vitro*

Molecular and cellular studies for the understanding of flame retardants single modes-of-action and mixture effects related to their kinetics in vitro

DFG / Thomas Haarmann-Stemann / Sachbeihilfe / 2023-2025 / ~ 131.000 Euro

Phänotypische Variabilität durch genetische Pufferung: Die Rolle von Umweltfaktoren

Phenotypic variability due to genetic buffering: The role of environmental factors

DFG / Andrea Rossi / Sachbeihilfe / 2023-2025 / ~ 245.000 Euro

Phänotypische Variabilität durch genetische Pufferung: Die Rolle von Umweltfaktoren
Phenotypic variability due to genetic buffering: The role of environmental factors

DFG / Natascia Ventura / Sachbeihilfe – Folgeprojekt / 2022-2025 / ~ 514.000 Euro

Lebensdauer verlängernde Naturstoffe als Suppressoren von mitochondrialen Komplex I-assoziierten Erkrankungen / *Pro-longevity natural compounds as suppressors of mitochondrial complex I-associated disease*

**DFG / Thomas Haarmann-Stemann / Zuschuss zur Durchführung einer Internationalen wiss. Veranstaltung
6. Internationales AHR-Meeting – Forschung, Prävention, Therapie, Düsseldorf, 12.-15.6.2024**

EFSA / Ellen Fritsche / 2023-2027 / ~ 670.000 Euro

New Approach Methodologies (NAMs) to study developmental glial cell toxicity of food toxicants (BRAIN HEALTH)

DFG / Ellen Fritsche / ANR-DFG French-German Collaboration for Joint Projects in Natural, Life and Engineering Sciences / 2024-2026 / ~ 370.000 Euro

Wirkung von Succinat-Dehydrogenase-Inhibitor Fungiziden auf die Gehirnentwicklung (FUSION)
Effects of the fungicides – Succinate Dehydrogenase Inhibitors (SDHi) – on neurodevelopment
Consortium: UP Cité, Frankreich; INSERM, Frankreich; MNHN, Frankreich; HHU (N. Ventura), IUF (E. Fritsche)

DFG / Natascia Ventura (Coordinator of the German partners) / ANR-DFG French-German Collaboration for Joint Projects in Natural, Life and Engineering Sciences / 2024-2026 / ~ 314.000 Euro

Wirkung von Succinat-Dehydrogenase-Inhibitor Fungiziden auf die Gehirnentwicklung (FUSION)
Effects of the fungicides – Succinate Dehydrogenase Inhibitors (SDHi) – on neurodevelopment
Consortium: UP Cité, Frankreich; INSERM, Frankreich; MNHN, Frankreich; HHU (N. Ventura), IUF (E. Fritsche)

EU Horizon / Ellen Fritsche / 2024-2028 / ~ 607.000 Euro

Accessible Innovative Methods for the Safety & Sustainability Assessment of Chemicals & Materials (CHIASMA)

EU Horizon / Tamara Schikowski, Jean Krutmann / 2023-2025 / ~ 208.000 Euro

MELCAYA: Novel health care strategies for melanoma in children, adolescents and young adults
Coordinator: Clinic Foundation for Biomedical Research, Barcelona, Spain
Participation in work package 1: Identification of risk factors, exposomics and genetic susceptibility of melanoma in children, adolescents and young adults

Gemeinnützige Umwelthaus GmbH / Tamara Schikowski / 2022-2023 / ~ 46.000 Euro

UFP-Wirkungsstudie

Landesamt für Gesundheit und Lebensmittelsicherheit Bayern / Charlotte Esser / 2022-2023 / ~ 18.400 Euro

Verknüpfung der membranfluiditätssteigernden Wirkung von PFAS als gemeinsamer Wirkmechanismus mit den toxikologischen Endpunkten Lebertoxizität und Immuntoxizität

Leibniz Association / Ellen Fritsche / strategic funding / ~ 50.000 Euro

Leibniz Research Network Stem Cells and Organoids

Leibniz Research Alliance Resilient Ageing / Arne Sahm / Seed funding / 2024-2026 / ~ 35.000 Euro

Epigenetic ageing signatures of chronic CO₂ exposure in the naked mole rat (Cooperation with the IZW)

PEPPER (public-private partnership platform) / Ellen Fritsche / 2022-2023 / ~ 78.000 Euro

PEPPER pre-validation of the NPC1_RAR_GR assay

Research Commission, Medical Faculty, HHU Düsseldorf / Natascia Ventura (Co-PI) / 2022-2024 / ~ 120.000 Euro

Identification of novel regulatory pathways to suppress ferroptosis and combat neurodegenerative diseases

Clariant (Industry) / Ellen Fritsche / 2022-2024 / ~ 141.000 Euro

Establishment of a human induced pluripotent stem cell (hiPSC)-based assay for testing for developmental immunotoxicity *in vitro*

Crop Life Europe (Industry) / Ellen Fritsche / 2022-2023 / ~ 109.000 Euro

Neurosphere Assay Services

Miltenyi Biotec (Industry) / Andrea Rossi / for 6 months / consumables

Cooperation on stem cells pluripotency

Syngenta (Industry) / Ellen Fritsche / 2022-2023 / ~ 459.000 Euro

Cross-species characterization of the molecular and cellular effects of thyroid hormones on the development of neural progenitor cells *in vitro*

Preise und Stipendien / Awards and stipends

Kongresspreise / Congress awards

Frederick Hartung, WG Haarmann-Stemmann: ADF ECARF Award for European Allergy Research 2023, ADF Meeting, talk and poster title: A gene variant of AKR1C3 contributes to interindividual susceptibilities to atopic dermatitis triggered by particulate air pollution (Authors: F Hartung, C Vogeley, S Kress, A Rossi, J Krutmann, T Schikowski, T Haarmann-Stemmann)

Julia Kapr, WG Fritsche: First Runner Up, IC-3R Brussels Video Contest 2022, video on 3R principle

Julia Kapr, WG Fritsche: First Runner Up Presentation Award, EUSAAT Kongress 2022, talk title: *In vitro* disease modeling of the Cockayne Syndrome B neuropathology using patient-derived iPSC – a 3R implementation approach

Eliska Kuchovska, WG Fritsche: Best poster award, ASPIS Open Symposium 2022, poster title: *In vitro* New Approach Methodologies (NAMs) for assessing effects of chemicals leading to cognitive function defects in children – the contribution of the ONTOX project

Inge Scharpf, WG von Mikecz: Best poster award (3rd place), 25th ETH-Conference on Combustion Generated Nanoparticles, poster title: Effects of traffic-related nanoparticles in the animal model *C. elegans*: Neurodegeneration and neurodegenerative diseases

Reisestipendien / Travel awards

Kristina Bartmann, WG Fritsche: Travel Award by Axion Biosystems for the 12th World Congress on Alternatives and Animal Use in the Life Sciences 2023 (Canada)

Sonja Faßbender, WG Krutmann: ISID 2023 Travel grant (Japan)

Frederick Hartung, WG Haarmann-Stemmann: ISID 2023 Travel grant (Japan)

Julia Kapr, WG Fritsche: EUSAAT 2022 Young Scientist Travel Award (Austria)

Katharina Rolfes, WG Haarmann-Stemmann: ISID 2023 Travel grant (Japan)

Kevin Schlüppmann, WG Fritsche: EUSAAT 2022 Young Scientist Travel Award (Austria)

Nidhi Singh, WG Schikowski: Travel award for the Workshop 'Challenges and opportunities regarding exposure assessment in environmental epidemiology' (Germany)

Stipendien / Stipends

Frederick Hartung, WG Haarmann-Stemmann: Doctoral scholarship, Jürgen Manchot Foundation (06/2022-05/2024), thesis title: Influence of polycyclic aromatic hydrocarbons on cutaneous prostaglandin D2 metabolism and associated inflammatory responses

Natalie Sondermann, WG Haarmann-Stemmann: Prolongation of the doctoral scholarship, Jürgen Manchot Foundation (10/2022-09/2023)

Berufungen, Gremien / Appointments, committees

Ellen Fritsche:

- MAK-Kommission (Wiederberufung)
- BMBF Expertinnen- und Experten-Kreis EU-Gesundheitsforschung
- Expertin des deutschen National Hubs innerhalb der europäischen Partnerschaft zur Risikobewertung von Chemikalien (PARC) und Mitglied des vom Bundesinstitut für Risikobewertung (BfR) fachlich geleiteten Sub Hubs „Human Tox“
- IC-3Rs (Innovation Center 3R Alternatives) Steering Committee, Vrije Universiteit Brussel (VUB)
- OECD (Organization for Economic Collaboration and Development) Expert Group on Developmental Neurotoxicity (DNT)-*In Vitro* Battery (IVB)

Jean Krutmann

- Associate Editor, Dermatitis (Mary Ann Liebert)

Andrea Rossi:

- Lab Resource editor, Editorial Board of Stem Cell Research (Elsevier)

Tamara Schikowski:

- Vorstand der NAKO Gesundheitsstudie
- Co-Chair of the Annual Conference Committees of the International Society of Environmental Epidemiology
- Co-author of the UNEP Environmental Effects Assessment Panel (EEAP)
- Member of the International Scientific Committee for the International Society of Environmental Epidemiology's annual conference in Taiwan

Ashtyn Areal, WG Schikowski:

- Member of the Student and Early Researcher Network (SNRN) steering committee of the International Society of Environmental Epidemiology (ISEE)
- Official student representative to the Annual Conference Committees of the ISEE
- Student representative to the Membership Committee of the ISEE
- Student representative to the International Scientific Committee for the ISEE's annual conference in Taiwan

Transfer in Politik, Gesellschaft & Industrie / Transfer in politics, society & industry

Charlotte Esser hat bei „Book a Scientist“ das Thema „Wie nimmt der Körper Chemikalien wahr? Antworten aus Immunsystem, Haut und Darm“ angeboten. Bei diesem Gesprächsformat können Interessierte nach dem Speed Dating-Prinzip 25-minütige Einzelgespräche mit Leibniz-Wissenschaftlerinnen und -Wissenschaftlern zu festgelegten Themen „buchen“. Die Personen, die Termine buchen, sollen alles fragen können, was sie zu einem bestimmten Thema interessiert und darüber mit den Leibniz-Expertinnen und Experten ins Gespräch kommen. Dabei wird auch Einblick gegeben wie Wissenschaft methodisch funktioniert.

Charlotte Esser offered the following topic for "Book a Scientist": "How does the body sense chemicals? Answers from the immune system, skin and gut". This conversation format allows interested parties to "book" 25-minute one-on-one conversations with Leibniz scientists on fixed topics according to the speed dating principle. The persons who book the meetings should be able to ask anything they are interested in about a particular topic and talk about it with the Leibniz experts. Thereby we also provide an insight into how science works methodically.

Ellen Fritsche beteiligte sich an der Sitzung der OECD-Sachverständigengruppe (Organization for Economic Collaboration and Development) zur „developmental neurotoxicity-in vitro battery“ in Durham, North Carolina, USA, wo sie über die Fortschritte bei verschiedenen Projekten berichtete. Sie nahm auch am Workshop der Europäischen Chemikalienagentur (ECHA) zum Thema „New Approach Methodologies: Towards an Animal Free Regulatory System for Industrial Chemicals“ in Helsinki, Finnland, teil.

Ellen Fritsche participated in the meeting of the OECD expert group (Organization for Economic Collaboration and Development) on the "developmental neurotoxicity-in vitro battery" in Durham, North Carolina, USA, where she reported on the progress of various projects. She also took part in the European Chemicals Agency (ECHA) workshop on "New Approach Methodologies: Towards an Animal Free Regulatory System for Industrial Chemicals" in Helsinki, Finland.

Roel Schins beteiligte sich am Stakeholder-Workshop zum Abschluss des EU-Projektes TUBE in Brüssel, zu dem Interessenvertreter*innen (einschließlich EU) eingeladen waren. Der Workshop konzentrierte sich auf Empfehlungen zur Luftverschmutzungspolitik in Bezug auf die verkehrsbedingte Exposition gegenüber ultrafeinen Partikeln.

Roel Schins participated in the finalising workshop of the EU TUBE project in Brussels, to which stakeholders (including EU representatives) were invited. The workshop focused on recommendations on air pollution policy in relation to traffic-related exposure to ultrafine particles.

Julia Tigges und **Ellen Fritsche** nahmen an der Auftaktveranstaltung des 3R Kompetenznetzwerks NRW an der Universität Bonn teil.

Julia Tigges and Ellen Fritsche participated in the kick-off event of the 3R Competence Network NRW at the University of Bonn.

Kongresse, Vorträge und Poster / Congresses, talks and poster

26.1.2022

Symposium Photodermatologie XII, La Roche Posay, online

Jean Krutmann, digital presentations: 'Lichtschutz entsprechend Phototyp' and 'Photoprotection of the future: challenges and opportunities'

3.-5.2.2022

4th Japan-Germany Symposium on Advanced Preventive Medicine, online

Sara Kress, WG Schikowski, talk: Gene-environment interaction effects on respiratory health among ancestry groups

17.2.2022

SAAOP (Society for the Advancement of Adverse Outcome Pathways) Symposium, online

Ellen Fritsche, talk: AOP user experience – Guiding research

23.-26.2.2022

ADF – 48. Jahrestagung der Arbeitsgemeinschaft Dermatologische Forschung, Innsbruck, Austria and online

Jennifer Schindler, WG Krutmann, poster: Investigations on the relevance of the interactions between the transcription factors AhR and HIF-1 α in the context of UV-inducible cutaneous signaling response (Authors: J Schindler, S Faßbender, M Majora, M Pollet, H Weighardt, J Krutmann)

1.3.2022

Online Seminar Series of the Allergy and Lung Health Unit of the University of Melbourne, Australia

Sara Kress, WG Schikowski, online talk: Gene-environment interaction effects on respiratory health

7.-9.3.2022

EFSA (European Food Safety Authority) Workshop: NAMs for Developmental Neurotoxicity (DNT), online

Ellen Fritsche, talk: The DNT IVB: Assays, methods and data gaps

7.-10.3.2022

7th German Pharm-Tox Summit (GPTS) der Deutschen Gesellschaft für experimentelle und klinische Pharmakologie und Toxikologie (DGPT), online

- Charlotte Esser, Preisjurorin
- Gerrit Bredeck, WG Schins, talk: Oxidative and NLRP3 dependent inflammatory potential of Saharan dust compared to crystalline and amorphous silica particles (Authors: G Bredeck, M Busch, A Rossi, B Stahlmecke, KW Fomba, R Schins)
- Thomas Haarmann-Stemmann, talk: Identification of the EGF receptor extracellular domain as a cell-surface sensor for dioxins and structurally related persistent organic pollutants (Authors: C Vogeley, N Sondermann, S Woeste, A Momin, A Rossi, S Arold, T Haarmann-Stemmann)
- Christian Vogeley, talk, WG Haarmann-Stemmann: PAHs induce AKR1C3 expression through a non-canonical AHR signaling pathway: Implications for prostaglandin metabolism and Th2-related skin inflammation (Authors: C Vogeley, S Kress, S Woeste, A Rossi, D Lang, M Nakamura, J Krutmann, T Schikowski, T Haarmann-Stemmann)

- Mathias Busch, WG Schins, virtual poster: THP-1 cells as a suitable screening tool for NLRP3 inflammasome activation applied to micro- and nanoplastics (Authors: M Busch, G Bredeck, F Waag, K Rahimi, H Ramachandran, T Bessel, S Barcikowski, A Herrmann, A Rossi, R Schins)
- Angela Kämpfer, WG Schins, virtual poster: The impact of butyrate on particle-induced toxicity in intestinal *in vitro* models (Authors: A Kämpfer, J Becht, H Kohlleppel, R Schins)
- Silvia Maglioni, WG Ventura, virtual poster: Lutein rescues a nlg-1-mediated synaptic defect in a *C. elegans* mitochondrial complex I-deficiency model (Authors: S Maglioni, A Schiavi, M Melcher, V Brinkmann, Z Luo, A Laromaine, N Raimundo, J Mayer, F Distelmaier, N Ventura)

11.3.2022

OECD (Organisation for Economic Co-operation and Development): Meeting of the Expert Group on Developmental Neurotoxicity (DNT), online

Ellen Fritsche, talk: Novel developments

17.3.2022

MAK Kommission (Senatskommission zur Prüfung gesundheitsschädlicher Arbeitsstoffe), online

Ellen Fritsche, Vortrag: Die aktuelle *In-vitro*-Batterie zur Erfassung von Entwicklungsneurotoxizität: Testmethoden und mögliche regulatorische Anwendungen

21.3.2022

BIGS – Biomedical Image Analysis Graduate Seminar, ISAS, Dortmund

Arif Dönmez, WG Fritsche, talk: Robust detection and quantification of beating cells in microscopic videos of cardiomyocytes – CardioVision

22.3.2022

Seminar, University of California San Francisco, lab Prof. Kriegstein, San Francisco, USA

Ellen Fritsche, talk: Novel approaches for the study of developmental neurotoxicity (DNT) for regulatory applications

27.3.-5.4.2022

SOT – 61st annual meeting of the Society of Toxicology, San Diego, California, USA

Ellen Fritsche, chair and talks (topic of session: Assay gaps in the developmental neurotoxicity (DNT) new approach methodologies (NAMs) battery for human health risk assessment / titles of talks: 'Glia and endocrine-related endpoints contribute to hazard assessment of the current OECD-EFSA developmental neurotoxicity (DNT)-*in vitro* battery', and 'Assessment of human neuronal network formation and function using 2D and 3D hiPSC-derived cell systems')

28.3.2022

AAD – Annual Meeting of the American Academy of Dermatology, Skin-Environmental Interface Forum, Boston, Massachusetts, USA, and online

Jean Krutmann, digital talk: Cutaneous effects of anthropogenic air pollution

6.-9.4.2022

DGDR (Deutsche Gesellschaft für DNA-Reparaturforschung)-Krupp 2022 Symposium on DNA Repair and Human Disease, Jena

Melanie Pahl, WG Fritsche, poster: Investigation of the impact of genotoxins on neural stem-/progenitor cell functions during different developmental stages (Authors: M Pahl, J Klose, N Förster, A Mosig, E Fritsche)

19.4.-20.4.2022

Modernizing Neurotoxicology at NIEHS (National Institute of Environmental Health Sciences): Technologies to Applications in Environmental Health Sciences, virtual workshop

Ellen Fritsche, talk: Status and gaps of the current DNT *in vitro* battery

5.-6.5.2022

Workshop on challenges and opportunities regarding exposure assessment in environmental epidemiology, Helmholtz Munich, and online

Nidhi Singh, WG Schikowski, talk: Building a harmonized climate and air pollution information for impact assessment on skin aging: current challenges in India

5.-8.5.2022

RADLA (Reunion Annual de Dermatologos Latinoamericanos) Congress, La Roche-Posay Symposium, digital

Jean Krutmann, digital talk: Sun exposure and associated risks

6.-7.5.2022

13. Treffen des Stammzellnetzwerks NRW, Herne

Julia Hartmann, WG Fritsche, talk: Generation of brain region-specific neural models for compound screening using a combined 2D-3D approach

10.5.2022

Mystery of ROS (III) Meeting, online

Ellen Fritsche: Multicellular 3D neurospheres' responses to oxidative stress: generation of an AOP for developmental neurotoxicity

11.5.2022

OECD WNT (Working Group of National Co-ordinators of the Test Guidelines programme) Meeting, online

Timothy Shafer (US-EPA) & Ellen Fritsche (IUF), talk: The DNT IVB: Assays, methods and data gaps

16.5.2022

Seminar series of the RTG (research training group) 2408, Magdeburg

Ellen Fritsche, talk: Developmental neurotoxicity (DNT) in light of regulatory toxicology

18.-21.5.2022

SID – Society of Investigative Dermatology Annual Meeting, Portland, Oregon, USA, and online

- Jean Krutmann, online presentation: Intrinsic versus extrinsic skin aging: Extrinsic differ from intrinsically aged human skin fibroblasts in their metabolic adaptive responses and by carrying a signature of catastrophic failure (Authors: S Schneider, M Pollet, M Majora, S Faßbender, A Marini, J Hüsemann, M Knechten, H Schwender, J Krutmann)
- Charlotte Esser, poster: Robust detection of microbial patterns on different skin regions by flow cytometry (Authors: J Kupschus, S Janssen, A Hoek, J Kuska, J Rathjens, C Sonntag, K Ickstadt, L Budzinski, H-D Chang, A Rossi, C Esser, K Hochrath)
- Natalie Sondermann, WG Haarmann-Stemmann, poster: Identification of the EGF receptor as a cell-surface sensor for ubiquitous organic pollutants (Authors: N Sondermann, C Vogeley, S Woeste, A Momin, A Rossi, S Arold, T Haarmann-Stemmann)
- Thomas Haarmann-Stemmann, poster: Gene-environment interaction effects of AKR1C3 and particulate matter exposure in atopic eczema (Authors: C Vogeley, S Kress, A Rossi, D Lang, J Krutmann, T Schikowski, T Haarmann-Stemmann)

Associated Photobiology Symposium, online

- Thomas Haarmann-Stemmann, talk: Simultaneous exposure studies reveal an interaction of UVA and UVB radiation: Impact on keratinocyte apoptosis

19.5.2022

International Neurotoxicity Association Webinar, onlineEllen Fritsche, talk: Expansion of the current OECD-EFSA developmental neurotoxicity (DNT)-*in vitro* battery

20.-21.5.2022

Benjamin-von-Lipschütz-Symposium, Düsseldorf

Jean Krutmann, talk: The exposome and skin aging

28.5.2022

Climate Change and Skin Health Summit, Australasian College of Dermatologists, online

Jean Krutmann, digital talk: Exposomics of skin aging: air pollution, UV and climate change

7.6.2022

European Society of Toxicology *In Vitro* Training Course, LuxemburgEllen Fritsche, talk: *In vitro* methods for testing for developmental neurotoxicity (DNT)

13.-14.6.2022

LIVe2022 – Lung *in vitro* event for innovative & predictive models, Nice, France

Gerrit Bredeck, WG Schins, poster: Saharan dust induces NLRP3-dependent pro-inflammation in submerged monocultures and air liquid interface co-cultures modelling the alveolar epithelium (Authors: G Bredeck, M Busch, A Rossi, B Stahlmecke, KW Fomba, R Schins)

16.-17.6.2022

DNM22 – Dutch Neuroscience Meeting, Tiel, the Netherlands

Roel Schins, session chair and talk (topic of session: The impact of pollutant particles on aging and neurodegeneration / title of talk: The effects of traffic-related air pollution exposure on Alzheimer's disease-like pathology in mice)

19.-23.6.2022

AHR Symposium: Toxicity to Therapeutics, Pennsylvania State University, USACharlotte Esser, virtual talk: AHR signaling dampens the inflammatory signature in neonatal skin $\gamma\delta$ T cells (Authors: C Esser, L Häselbarth, M Schellner, K Merches)

19.-24.6.2022

Gordon Research Conference on Endocrine Disruptors 2022, Newry, Maine, USAKatharina Koch, WG Fritsche, talk: Application of a human *in vitro* testing battery for endocrine disruptor-induced developmental neurotoxicity to refine EDC hazard assessment (Authors: K Koch, K Schlüppmann, S Hüsken, J Klose, A Dönmez, HE Keßel, N Förster, E Fritsche)

20.-21.6.2022

ICCA-LRI (International Council of Chemical Associations – Long-Range Research Initiative) Workshop Advancing Chemical Risk Evaluations Through Use of New Approach Methods (NAMs): Challenges and Opportunities, Tokyo, Japan and online

Ellen Fritsche, talk: An *in vitro* battery for developmental neurotoxicity evaluation: from basic science to a regulatory paradigm shift in 21st century Toxicology

20.-21.6.2022

ISEE-AWPC & ISES-AC (International Society for Environmental Epidemiology Asia and Western Pacific Chapter & International Society of Exposure Science Asia Chapter) Joint Conference, online

Nidhi Singh, WG Schikowski, talk: Association between temperature and skin aging: A cross-sectional analysis from three metropolitan cities of India

21.-23.6.2022

25th ETH-Nanoparticles Conference, online

- Anna von Mikecz, plenary talk: From roadside to lab with elegant roundworms
- Inge Scharpf, WG von Mikecz, short presentation and poster: Effects of traffic-related nanoparticles in the animal model *C. elegans*: Neurodegeneration and neurodegenerative diseases (Authors: I Scharpf, A Limke, F Blesing, L Schröpfer, T Schikowski, A von Mikecz)

21.-24.6.2022

EFSA ONE – Health, Environment, Society – Conference, Brussels, Belgium and online

- Eliska Kuchovska, WG Fritsche, poster: First steps for creating an ontology for cognitive function deficits for regulatory application (Authors: E Kuchovska, E Fritsche)
- Kevin Schlüppmann, WG Fritsche, poster and platform presentation: Refining EDC hazard assessment by integrating an *in vitro* testing battery for endocrine disruptor-induced developmental neurotoxicity (Authors: K Koch, K Schlüppmann, S Hüsken, J Klose, A Dönmez, E Keßel, N Förster, E Fritsche)
- Etta Zühr, WG Fritsche, poster presentation: Refinement of an *in vitro* testing battery for developmental neurotoxicity evaluation by integrating radial glia- and astrocyte-specific endpoints (Authors: E Zühr, K Koch, E Fritsche)

23.-24.6.2022

DGfA – Annual Meeting of the German Society for Research on Aging, Cologne

Silvia Maglioni, WG Ventura, poster presentation: High-content *C. elegans* screen identifies natural compounds impacting mitochondria-lipid homeostasis and promoting healthspan (Authors: S Maglioni, N Arsalan, S Afshar, A Schiavi, M Beller, N Ventura)

27.6.-1.7.2022

13th International Conference on Air Quality, Thessaloniki, Greece

Ashtyn Areal, WG Schikowski, talk: The effect of air pollution on respiratory health outcomes when modified by air temperature: a systematic review and meta-analysis

29.-30.6.2022

1st Face to Face Meeting Leibniz Research Network Stem Cells and Organoids, Düsseldorf

- Ellen Fritsche, talk: Developmental neurotoxicity *in vitro* screening goes OECD
- Julia Hartmann, talk: Brainregion-specific hiPSC-derived BrainSphere models for use in neurotoxicity testing
- Julia Kapr, WG Fritsche, talk: Defective autophagy disturbs neural migration and network activity in hiPSC-derived Cockayne Syndrome B disease models

- Julia Tigges, WG Fritsche, talk: Quality control of stem cells in an academic setting
- Arif Dönmez, WG Fritsche, poster: CardioVision: Robust detection and quantification of beating cells in microscopic 2D videos of cardiomyocytes
- Eliska Kuchovska, WG Fritsche, poster: First steps for creating an ontology for cognitive function defects for regulatory application (Authors: E Kuchovska, N Görts, E Fritsche)
- Etta Zühr, WG Fritsche, poster: Refinement of an *in vitro* testing battery for developmental neurotoxicity assessment by integration of radial glia- and astrocyte-based test methods (Authors: E Zühr, K Koch, E Fritsche)

24.-27.7.2022

C. *elegans* Topic Meeting: Neuronal Development, Synaptic Function and Behavior, Vienna, Austria

Nataschia Ventura, poster: Neurotrophin-mediated neurodevelopmental defects are induced by mitochondrial dysfunction and prevented by lutein in *C. elegans* (Authors: S Maglioni, A Schiavi, M Melcher, V Brinkmann, Z Luo, A Laromaine, N Raimundo, JN Meyer, F Distelmaier, N Ventura)

23.8.2022

ReThink3R 2.0 Summer School, Berlin

Ellen Fritsche, talk: Alternative methods in toxicity testing – Developmental neurotoxicity as a case study moving towards regulatory acceptance

27.-28.8.2022

JDA – 86th Annual Meeting of the Eastern Division of the Japanese Dermatological Association, Niigata, Japan, and online

Jean Krutmann, digital talk: The skin aging exposome

28.-31.8.2022

IPTC – International Particle Toxicology Conference, Santa Fe, New Mexico, USA

- Roel Schins, session chair and talk (topic of session: Global PM issues / title of talk: The effects of traffic-related air pollution exposure on Alzheimer's disease-like pathology in mice)
- Gerrit Bredeck, WG Schins, talk: Endotoxin exacerbates the NLRP3-dependent inflammatory potency of Saharan dust

7.-9.9.2022

Jahrestagung der Deutschen Gesellschaft für Immunologie, Medizinische Hochschule Hannover (MHH)

Charlotte Esser, chairperson, workshop on Treg and Th cells

9.-11.9.2022

YARE – 23th Annual Meeting of the Young Active Research in Endocrinology, Herrsching am Ammersee

Kevin Schlüppmann, WG Fritsche, platform presentation: Refining EDC hazard assessment by integrating an *in vitro* testing battery for endocrine disruption (ED)-induced developmental neurotoxicity (DNT)

15.-18.9.2022

10th International Conference on Oxidative Stress in Skin Biology and Medicine, Andros, Greece

Thomas Haarmann-Stemann, chair and talk (topic of session: Redox regulation and exposomes / title of talk: Exposure to airborne PAHs shapes cutaneous prostaglandin D2 metabolism: Impact for the pathogenesis of atopic dermatitis)

18.-21.9.2022

ICT – XVIth International Congress of Toxicology, Maastricht, the Netherlands

- Eliska Kuchovska, WG Fritsche, talk: First steps for creating an ontology for cognitive function defects for regulatory application (Authors: E Kuchovska, A Gamba, LCM Ladeira, B Staumont, R Lesage, I-L Steffensen, G Lopez Soop, T Hofer, O Myhre, H Dirven, L Geris, E Fritsche)
- Gerrit Bredeck, WG Schins, poster: Saharan dust induced NLRP3-dependent pro-inflammation in submerged monocultures and air liquid interface co-cultures modelling the alveolar epithelium (Authors: G Bredeck, M Busch, A Rossi, B Stahlmecke, KW Fomba, R Schins)
- Mathias Busch, WG Schins, poster: THP-1 cells as a suitable screening tool for NLRP3 inflammasome activation applied to micro- and nanoplastics (Authors: M Busch, G Bredeck, F Waag, K Rahimi, H Ramachandran, T Bessel, S Barcikowski, A Herrmann, A Rossi, R Schins)
- Angela Kämpfer, WG Schins, poster: Effects of butyrate in intestinal *in vitro* models exposed to food-grade titanium dioxide (E171) (Authors: A Kämpfer, J Becht, R Schins)
- Laura Schröter, WG Ventura, poster: A multisystemic approach to investigate the role of polystyrene nanoparticles on neurodegeneration (Authors: L Schröter, A Limke, A von Mikecz, S Maglioni, L Jentsch, N Ventura)

18.-21.9.2022

ISEE – 34th Annual Conference of the International Society for Environmental Epidemiology, Athens, Greece and online

- Ashtyn Areal, WG Schikowski, poster: The effect of temperature modified by season on lung function in the GINplus/LISApplus cohort: A 15-year follow-up (Authors: A Areal, N Singh, Q Zhao, D Berdel, S Koletzko, A von Berg, M Gappa, J Heinrich, M Standl, T Schikowski)
- Sara Kress, WG Schikowski, poster: The role of polygenic susceptibility on air pollution-associated asthma between Caucasian and Asian elderly women (Authors: S Kress, A Hara, C Wigmann, T Sato, K Suzuki, K-O Pham, Q Zhao, A Tajima, H Schwender, H Nakamura, T Schikowski)
- Nidhi Singh, WG Schikowski, poster: Association between climate and skin aging: A cross-sectional analysis from three metropolitan cities of India (Authors: N Singh, P Jahan, P Vijay, H Phuleria, J Krutmann, T Schikowski)

21.9.2022

IC-3Rs – 6th Symposium of the Innovation Centre for 3R alternative methods, Jette, Belgium

Julia Kapr, WG Fritsche, poster and video (title of poster: Disease modeling of the neuropathology of nucleotide excision repair (NER) syndromes *in vitro* / video on 3R Principle)

26.-28.9.2022

EUSAAT – European Congress on Alternatives to Animal Testing, Linz, Austria

- Kristina Bartmann, WG Fritsche, talk: Assessment of human neuronal network formation and function using 2D and 3D hiPSC-derived cell systems
- Ellen Fritsche, talk: Human test methods for developmental neurotoxicity evaluation: Set-up, scientific validation and statistical analyses
- Julia Kapr, WG Fritsche, talk: *In vitro* disease modeling of the Cockayne Syndrome B neuropathology using patient-derived iPSC – a 3R implementation approach
- Jördis Klose, WG Fritsche, talk: Phenomics and transcriptomics applied for key event identification resulting in an AOP network regarding developmental neurotoxicity
- Katharina Koch, WG Fritsche, talk: An *in-vitro* approach to assess endocrine modes of action leading to developmental neurotoxicity (Authors: K Koch, K Schlüppmann, S Hüsken, J Klose, A Dönmez, HE Keßel, N Förster, E Fritsche)

- Melanie Pahl, WG Fritsche, poster: Cell type and developmental time-dependent effects of genotoxins on neural stem-/progenitor cell functions *in vitro* (Authors: M Pahl, J Klose, E Fritsche)
- Kevin Schlüppmann, WG Fritsche, poster: Development of the NPC1ab_RAR_GR assay, an *in vitro* test method to identify putative endocrine disrupting chemical perturbing glucocorticoid receptor and retinoic acid receptor signalling (Authors: K Schlüppmann, S Hüsken, L Stark, A Dönmez, E Keßel, N Förster, K Koch, E Fritsche)
- Etta Zühr, WG Fritsche, poster: Refinement of an *in vitro* testing battery for developmental neurotoxicity assessment by integration of radial glia- and astrocyte-based test methods (Authors: E Zühr, K Koch, E Fritsche)

28.9.2022

Advanced Training course on “3Rs in Toxicity Testing” within the educational program of the German Society of Toxicology, online

Ellen Fritsche, talk: New approach methodologies (NAMs) in (developmental) neurotoxicity testing

6.10.2022

Annual meeting of the German Committee on Chemistry, Air Quality, Climate (CLK), the Working Committee on Particulate Matter (AAF) and the Working Group on Atmospheric Chemistry (AKAC), Frankfurt

Roel Schins, invited talk: Discussion on the new air quality guideline values for particulate matter

11.10.2022

BB3R (Berlin-Brandenburger Forschungsplattform 3R) Autumn School 2022, Berlin

Ellen Fritsche, talk: Academic application of Good Cell Culture Practice for induced pluripotent stem cells

13.10.2022

Stammzellnetzwerk NRW Spotlight Series, online

Julia Tigges, WG Fritsche, talk: Quality control of stem cells in an academic setting

20.10.2022

ASCCT (American Society for Cellular and Computational Toxicology) Meeting, Chapel Hill, North Carolina, USA

Ellen Fritsche, talk: The DNT *in vitro* battery on the road to regulation

22.10.2022

L'Oréal DERMA 2022, Riyadh, Saudi Arabia, and online

Jean Krutmann, digital talk: Biological effects of UVA rays

4.11.2022

20 Years BfR (Bundesinstitut für Risikobewertung) Symposium, Berlin

Ellen Fritsche, talk: An *in vitro* battery addressing developmental neurotoxicity

16.-18.11.2022

Meeting Immunotoxicology and Chemical Allergy Specialty Section (ITCASS) & European Research Group on Experimental Contact Dermatitis (ERGECD), Amsterdam, the Netherlands

Natascha Künzel, WG Esser, talk: Establishment of a $\gamma\delta$ T cell-competent human skin model

17.-18.11.2022

13th International Conference Skin Ageing & Challenges, Lisbon, Portugal

- Jean Krutmann, congress president
- Charlotte Esser, talk: FlowSoFine™ – a novel tool for analyzing microbial community structure changes on skin from flow cytometry data (Authors: C Esser, J Kupschuss, S Janssen, A Hoek, J Kuska, J Rathjens, C Sonntag, K Ickstadt, L Budzinski, H-D Chang, A Rossi, K Hochrath)
- Thomas Haarmann-Stemmann, chair and talk (Topic of session: Wound healing and skin regeneration / Title of talk: A gene variant of AKR1C3 contributes to interindividual susceptibilities to atopic dermatitis triggered by particulate air pollution)

21.-23.11.2022

Mitochondrial Medicine – Therapeutic Development 2022, Wellcome Genome Campus, Hinxton, UK, and online

- Natascia Ventura, poster presentation and light talk: New *Caenorhabditis elegans* models for mitochondrial complex I deficiency to identify early neuronal defects for the development of targeted therapeutics (Authors: S Maglioni, A Schiavi, M Melcher, V Birkmann, Z Luo, A Laromaine, N Raimundo, JN Meyer, F Distelmaier, N Ventura)
- Silvia Maglioni, WG Ventura, talk and poster presentation (title of talk: Lutein rescues a nlg-1-mediated synaptic defect in a *C. elegans* mitochondrial complex I-deficiency model / title of poster presentation: Lutein rescues a neuroligin-mediated synaptic defect upon Complex I deficiency; Authors: S Maglioni, A Schiavi, M Melcher, V Brinkmann, Z Luo, A Laromaine, N Raimundo, JN Mayer, F Distelmaier, N Ventura)

21.-25.11.2022

ESTIV – 21st International Congress of the European Society of Toxicology *In Vitro*, Sitges, Spain

- Ellen Fritsche, talk: Developmental neurotoxicity (DNT) as a case study on how to assemble an *in vitro* testing battery for a complex regulatory *in vivo* endpoint
- Jördis Klose, WG Fritsche, talk: *In vitro* screening for developmental neurotoxicity of flame retardants using a 3D human primary neural progenitor cell assay: a case study
- Eliska Kuchovska, WG Fritsche, talk: First steps for creating an ontology for cognitive function defects for regulatory application (Authors: E Kuchovska, A Gamba, LCM Ladeira, B Staumont, R Lesage, I-L Steffensen, G Lopez Soop, T Hofer, O Myhre, H Dirven, L Geris, E Fritsche)
- Katharina Koch, WG Fritsche, poster: Application of a human *in vitro* testing battery for endocrine disruptor (ED)-induced developmental neurotoxicity (DNT) to refine EDC hazard assessment (Authors: K Koch, K Schlüppmann, S Hüsken, L Stark, A Dönmez, N Förster, E Fritsche)

Associated ASPIS Open Symposium

- Eliska Kuchovska, WG Fritsche, poster: *In vitro* New Approach Methodologies (NAMs) for assessing effects of chemicals leading to cognitive function defects in children – the contribution of the ONTOX project (Authors: E Kuchovska, M Lislien, O Myhre, H Dirven, E Fritsche)

28.11.2022

BIGS – Biomedical Image Analysis Graduate Seminar, Institute for Artificial Intelligence in Medicine – IKIM, University Hospital Essen & University of Duisburg-Essen

Arif Dönmez, WG Fritsche, talk: On the ambiguity in classification – Geometric Deep Learning

9.12.2022

ECHA (European Chemicals Agency) Online-Seminar

Ellen Fritsche, talk: Background and strategies for mechanism-based neurotoxicity assessments *in vitro*

16.12.2022

NIPH (Norwegian Institute of Public Health), Oslo, Norway

Ellen Fritsche, talk: The DNT *in vitro* battery: Current status and future perspectives – and a little bit else...

2023

18.1.2023

Presentation at the RIFM (Research Institute for Fragrance Materials) Expert Group Meeting, La Jolla, California, USA

Ellen Fritsche, talk: NAMs for acute and developmental neurotoxicity evaluation in light of European Union projects

24.1.2023

TWINALT (Twinning towards excellence in alternative methods for toxicity assessment) Training Course, online

Ellen Fritsche, talk: The DNT *in vitro* battery for DNT evaluation

8.2.2023

US-FDA (United States Food and Drug Administration) Seminar, online

Ellen Fritsche, talk: Background and strategies for mechanism-based neurotoxicity assessments *in vitro*

14.2.2023

Seminar at EURL-ECVAM (EU Reference Laboratory for alternatives to animal testing), JRC (Joint Research Centre), Ispra, Italy

Ellen Fritsche, talk: Establishment of a human cell-based *in vitro* battery to assess developmental neurotoxicity hazard of chemicals

23.-25.2.2023

ADF – 48. Jahrestagung der Arbeitsgemeinschaft Dermatologische Forschung, Innsbruck, Austria

- Thomas Haarmann-Stemmann, Chair of the session 'Oral Presentations V'
- Frederick Hartung, WG Haarmann-Stemmann, talk and poster: A gene variant of AKR1C3 contributes to interindividual susceptibilities to atopic dermatitis triggered by particulate air pollution (Authors: F Hartung, C Vogeley, S Kress, A Rossi, J Krutmann, T Schikowski, T Haarmann-Stemmann)
- Katharina Rolfes, WG Haarmann-Stemmann, poster: Interactions of different wavelengths present in sunlight: Impact on apoptosis, DNA-damage and skin carcinogenesis (Authors: K Rolfes, J Krutmann, T Haarmann-Stemmann)

6.-9.3.2023

8th German Pharm-Tox Summit (GPTS) der Deutschen Gesellschaft für experimentelle und klinische Pharmakologie und Toxikologie (DGPT), Ulm

- Gerrit Bredeck, WG Schins, talk: Endotoxin exacerbates the NLRP3-dependent inflammatory potency of Saharan dust
- Frederick Hartung, WG Haarmann-Stemmann, talk: Disruption of the 6-formylindolo[3,2-b]carbazole (FICZ) metabolism sensitizes keratinocytes for drug-induced phototoxicity (Authors: F Hartung, T Haarmann-Stemmann)

Advanced Course in Toxicology, Thema: Moderne Ansätze in der Risikoabschätzung: Weight of Evidence und Unsicherheitsanalyse und -quantifizierung

- Ellen Fritsche, talk: Entwicklungsneurotoxizität (DNT)

8.3.2023

JRC EURION (Joint Research Centre, European Cluster to Improve Identification of Endocrine Disruptors) workshop on IATAs (Integrated Approach for Testing and Assessment), online

Ellen Fritsche, talk: The ENDpoiNTs project: IATA case study proposal

8.3.2023

Treffen des Demenznetzes Düsseldorf, digital

Anna von Mikecz, Vortrag: Reifenabrieb, Lebensalter und Temperatur beschleunigen die Neurodegeneration in *C. elegans* AD und PD Modellen

16.3.2023

Sitzung der Sektion Lebenswissenschaften der Leibniz-Gemeinschaft, Berlin

Julia Tigges, AG Fritsche: Vorstellung des Leibniz-Forschungsnetzwerks „Stammzellen und Organoide“

19.-23.3.2023

SOT – 62nd Annual Meeting and ToxExpo of the Society of Toxicology, Nashville, Tennessee, USA

- Ellen Fritsche, talk (*In Vitro* Lecture and Luncheon): Dedication to the use of *in vitro* alternative techniques to study toxicological mechanisms: Case study of developmental neurotoxicity
- Kristina Bartmann, WG Fritsche, poster: Innovative methods for regulatory developmental and adult neurotoxicity testing *in vitro* in the Horizon Europe PARC project (Authors: K Bartmann, J Hartmann, M Taroncher, F Bendt, L-C Saborowski, E Fritsche)
- Jördis Klose, WG Fritsche, poster: The developmental neurotoxicity *in vitro* testing battery (DNT IVB) for neurodevelopmental hazard assessment (Authors: J Klose, K Bartmann, A Dönmez, K Koch, E Zühr, A Mosig, E Fritsche)

20.3.2023

Fresenius Conference, online

Ellen Fritsche, talk: NPC assays and their impact on the revelation of thyroid hormone sensitive targets for assessing hormonal disruption

28.-29.3.2023

Deutsche Biotechnologietage, Wiesbaden

Nidhi Singh, AG Schikowski, Vortrag: Klima, Luftverschmutzung und Gesundheit

28.3.-31.3.2023

Seminar at the National Institute for Geriatrics, Rheumatology and Rehabilitation, Warsaw, Poland (Guest visit to collaboration partner Anna Wajda / DAAD project)

Charlotte Esser, talk: AHR signaling in the skin – consequences for barrier strength, immune cells and more

4.4.2023

Invited Seminar, University of Tor Vergata, Rome, Italy

Nataschia Ventura, talk: Lessons from *C. elegans*: Mitochondria in neuronal aging and diseases, from evolutionarily conserved mechanisms to therapy

23.4.2023

Webinar on Hyperpigmentation and Post-procedure skin protection: Focus on broad-spectrum sunscreens, Sun Pharmaceuticals Industries, online

Jean Krutmann, digital talk: Innovations in sun protection: Focus beyond UV protection

23.-27.4.2023

EMBO Workshop Ferroptosis: When metabolism meets cell death, Seeon

Natascia Ventura, poster presentation: Mitochondria preconditioning delays aging and associated diseases in *C. elegans* impacting on key ferroptosis players (Authors: A Schiavi, E Salveridou, B Brinkmann, S Shaik, R Menzel, S Kalyanasundaram, S Nygård, H Nilsen, N Ventura)

3.-5.5.2023

FRM – Federation of European Neuroscience Societies (FENS) Regional Meeting, Algarve, Portugal

Roel Schins, invited talk: Air pollution exposure effects on the brain in mouse models of disease

8.- 9.5.2023

Visit at the Department for Geriatric and Environmental Dermatology of Nagoya City University in Nagoya, Japan (Invitation from Prof. Motoki Nakamura and Prof. Akimichi Morita)

- Frederick Hartung, WG Haarmann-Stemmann, talk: Role of the aryl hydrocarbon receptor (AHR) in atopic dermatitis triggered by particulate air pollution
- Katharina Rolfes, WG Haarmann-Stemmann, talk: Interactions of different wavelengths present in sunlight: Impact on apoptosis, DNA repair and skin carcinogenesis
- Thomas Haarmann-Stemmann, lecture: The Aryl Hydrocarbon Receptor (AHR) – A promising target for the prevention & treatment of cancer

10.-13.5.2023

ISID – 1st International Societies for Investigative Dermatology Meeting, Tokyo, Japan

- Sonja Faßbender, WG Krutmann, plenary talk: Naive HIF-1a/AhR keratinocyte-conditional double knockout mice resemble UVB-irradiated wildtype mice (Authors: S Fassbender, J Schindler, H Ramachandran, T Nguyen, M Majora, T Haarmann-Stemmann, C Esser, A Rossi, H Weighardt, J Krutmann)
- Marc Majora, WG Krutmann, talk: Mitochondrial dysfunction in *Xeroderma pigmentosum* type A (XPA) causes UV-induced collapse of proteostasis due to lack of ATP (Authors: M Majora, R Bhattacharjee, S Dangeleit, A Rossi, J Krutmann)
- Tamara Schikowski, talk: Atopic dermatitis in adolescents: Role of carbonyl reductase 3 genetic risk score under constant chronic exposure to particulate matter (Authors: S Kress, M Lau, C Wigmann, F Hartung, T Haarmann-Stemmann, T Schikowski)
- Tamara Schikowski, talk: Higher ambient temperature contributes to extrinsic skin aging (Authors: N Singh, S Grether-Beck, T Schikowski, J Krutmann)
- Katharina Rolfes, WG Haarmann-Stemmann, e-poster presentation: Impact of low dose UVA radiation on UVB radiation-induced DNA damage and skin carcinogenesis (Authors: K Rolfes, M Pollet, J Krutmann, T Haarmann-Stemmann)
- Charlotte Esser, poster: Keratinocytes control skin homeostasis via UVB-inducible transcription factors HIF-1a and AhR (Authors: S Fassbender, J Schindler, H Ramachandran, M Majora, T Haarmann-Stemmann, C Esser, A Rossi, H Weighardt, J Krutmann)
- Frederick Hartung, WG Haarmann-Stemmann, poster: Drug-induced phototoxicity: Disruption of 6-formylindolo[3,2-b]carbazole metabolism sensitizes keratinocytes to UVA-induced apoptosis (Authors: F Hartung, K Rolfes, T Haarmann-Stemmann)

- Thomas Haarmann-Stemmann, session co-chair and poster (title of session: Concurrent Mini-Symposium 8, Clinical Research: Epidemiology and Observational Research II / title of poster: AHR controls keratinocyte stress responses to UVB radiation: Role of the p27 tumor suppressor protein; Authors: V Gilardino, K Rolfes, J Krutmann, T Haarmann-Stemmann)

15.-18.5.2023

Inhaled Particles and NanOEH Conference 2023, Manchester, UK

- Gerrit Bredeck, WG Schins, talk: Endotoxin exacerbates the NLRP3-dependent inflammatory potency of Saharan dust
- Roel Schins, talk: Inhalation exposure to traffic-related air pollution accelerates Alzheimer's disease like pathology in a murine model

21.-25.5.2023

International Neurotoxicology Association (INA-18) Meeting, Durham, North Carolina, USA

Ellen Fritsche, talk: Gaining confidence in the developmental neurotoxicity (DNT) *in vitro* battery (IVB)

5.6.2023

Neurotoxicity workshop, Inserm T3S, Paris, France

Ellen Fritsche, talk: NAMs for developmental neurotoxicity

11.-15.6.2023

EuroMit23 – International Meeting on mitochondrial pathology, Bologna, Italy

- Natascia Ventura, poster presentation: Mitochondrial hormesis delays aging and associated diseases in *C. elegans* impacting on key ferroptosis players (Authors: A Schiavi, E Salveridou, B Brinkmann, S Shaik, R Menzel, S Kalyanasundaram, S Nygård, H Nilsen, N Ventura)
- Lena Jentsch, WG Ventura, poster presentation: Establishing mammalian cell models for research of NDUFS1-associated diseases (Authors: L Jentsch, L Schröter, S Maglioni, O Valente, A Rossi, N Ventura)

19.-23.6.2023

27th Wilhelm Bernhard Workshop on the Cell Nucleus, Prague, Czech Republic

- Anna von Mikecz, chairperson of the session 'Novel methods in nuclear research and diagnostics'
- Annette Limke, WG von Mikecz, plenary talk: Pollutants – single worm proteomics bring the environment to the lab
- Tri Le, WG von Mikecz, plenary talk: Gene expression profiles of GABAergic neuronal loss by nanoparticle

20.-22.6.2023

26th ETH Nanoparticles Conference, Zürich, Schweiz

Inge Scharpf, WG von Mikecz, talk: Tire wear and ambient temperature – their accelerating effect on neurodegenerative diseases and aging in the animal model *Caenorhabditis elegans* (Authors: I Scharpf, A Limke, F Blesing, A von Mikecz)

24.-28.6.2023

24th International *C. elegans* Conference, Glasgow, Scotland

Silvia Maglioni, WG Ventura, poster presentation: Rescuing synaptic defects in mitochondrial Complex I deficiency models with natural compounds (Authors: S Maglioni, A Schiavi, M Melcher, V Brinkmann, Z Luo, J Jung, A Laromaine, N Raimundo, JN Meyer, F Distelmaier, N Ventura)

26.-30.6.2023

MPS (Microphysiological systems) World Summit 2023, Berlin

Julia Kapr, WG Fritsche, poster presentation: hiPSC-derived BrainSpheres mimic neuropathological phenotypes of the Cockayne Syndrome B *in vitro*

3.-8.8.2023

25th World Congress of Dermatology, Singapore

Susanne Grether-Beck, talk: Prevention of skin ageing: Do sunscreens help?

17.-18.08.2023

Scaht (Swiss Centre for Applied Human Toxicology) Annual Research Retreat, Bern, Schweiz

Ellen Fritsche, keynote: NAMs for (developmental) neurotoxicity evaluation on their road to regulatory application

27.-31.8.2023

ESP – 20th Congress of the European Society for Photobiology, Lyon, France

- Thomas Haarmann-Stemann, invited talk: Role of the aryl hydrocarbon receptor in the pathogenesis of cutaneous squamous cell carcinoma
- Katharina Rolfes, WG Haarmann-Stemann, talk: UVB radiation-induced skin carcinogenesis and the impact of a low dose UVA irradiation (Authors: KM Rolfes, M Pollet, J Krutmann, T Haarmann-Stemann)

27.-31.8.2023

WC12 – 12th World Congress on Alternatives and Animal Use in the Life Sciences, Niagara Falls, Canada

- Ellen Fritsche, talk: The DNT IVB – a challenging road to change
- Eliska Kuchovska, WG Fritsche, talk: Mapping of DNT NAMs' signaling pathways in human physiology and disease (Authors: E Kuchovska, K Bartmann, LCM Ladeira, A Dönmez, L-C Saborowski, F Bendt, M Schade, G Raad, R Lesage, A Gamba, B Staumont, L Geris, E Fritsche)
- Kristina Bartmann, WG Fritsche, poster: Assessment of human neural network formation and function using 2D and 3D hiPSC-derived cell systems (Authors: K Bartmann, J Hartmann, E Kuchovska, A Dönmez, E Fritsche)
- Jördis Klose, WG Fritsche, poster: Developmental neurotoxicity *in vitro* assays applied for molecular initiation and key event identification to create an AOP network related to cognitive function defects (Authors: J Klose, E Kuchovska, E Fritsche)

3.-5.9.2023

Meeting on compartmentalized redox biology, Düsseldorf

Natascia Ventura, poster presentation: Mitochondrial hormesis delays aging and associated diseases in *C. elegans* impacting on key ferroptosis players (Authors: A Schiavi, E Salveridou, B Brinkmann, S Shaik, R Menzel, S Kalyanasundaram, S Nygård, H Nilsen, N Ventura)

4.9.2023

Retreat of the iBrain Graduate School, Düsseldorf

- Anna von Mikecz, chairperson of session 4
- Tri Le, WG von Mikecz, talk: Neurodegeneration by pollutants: Neurotoxicity and vulnerable age-groups in *Caenorhabditis elegans*

10.-13.9.2023

EUROTOX 2023, Ljubljana, Slovenia

- Ellen Fritsche, talk: AOPs for Neurotoxicity
- Roel Schins, session chair and talk (title of session: Particle and fiber toxicology / title of talk: Toxicology of ingested particles)
- Melanie Pahl, WG Fritsche, talk: Comparative analysis of human and rat neural stem-/progenitor cell functions during developmental time-dependent genotoxin exposure *in vitro* (Authors: M Pahl, J Klose, E Fritsche)
- Katharina Koch, WG Fritsche, poster: Unraveling hormonal dependencies and associated species-specificities of neurodevelopmental key events to improve EDC risk assessment (Authors: K Koch, K Schlüppmann, S Hüsken, L Stark, S Masjosthusman, J Klose, N Förster, A Dönmez, E Fritsche)
- Eliska Kuchovska, WG Fritsche, poster: Mapping of DNT NAMs' signaling pathways in human physiology and disease for regulatory application (Authors: E Kuchovska, K Bartmann, LCM Ladeira, A Dönmez, L-C Saborowski, F Bendt, M Schade, G Raad, R Lesage, A Gamba, B Staumont, L Geris, E Fritsche)
- Kevin Schlüppmann, WG Fritsche, poster: Development of the NPC1_RAR_GR assay to identify putative endocrine disrupting chemicals (EDCs) disturbing glucocorticoid receptor (GR) or retinoic acid receptor (RAR) signaling *in vitro* (Authors: K Schlüppmann, S Hüsken, L Stark, A Dönmez, N Förster, K Koch, E Fritsche)
- Natalie Sondermann, WG Haarmann-Stemann, poster: Impact of persistent organic pollutants on EGFR activity in human keratinocytes: Clues for a direct interaction with the EGFR extracellular domain (Authors: NC Sondermann, T Haarmann-Stemann)
- Etta Zühr, WG Fritsche, poster: Refinement of an *in vitro* testing battery for developmental neurotoxicity assessment by integration of radial glia- and astrocyte-specific endpoints (Authors: E Zühr, K Koch, E Fritsche)

14.-15.9.2023

8th Skin & Hair Summit, L'Oréal, Gizeh, Egypt

Jean Krutmann, talk: Update on photoprotection: Relevance of UVA rays

19.-20.9.2023

5th Japan-Germany Symposium on Advanced Preventive Medicine, Düsseldorf

- Thomas Haarmann-Stemann, chair and talk (title of session: Preventive medicine / title of talk: A gene variant of AKR1C3 contributes to interindividual susceptibilities to atopic dermatitis triggered by particulate air pollution)
- Katharina Rolfes, WG Haarmann-Stemann, talk: Impact of low dose UVA radiation on UVB radiation-induced DNA damage and skin carcinogenesis

19.-21.9.2023

Joint 3R Symposium 2023, Jette, Belgium

- Ellen Fritsche, talk: The *in vitro* test battery for developmental neurotoxicity assessment towards regulatory acceptance (DNT IVB)
- Eliska Kuchovska, WG Fritsche, talk: Neurodevelopmental toxicity in the European H2020 ONTOX project

11.-14.10.2023

EADV – European Academy of Dermatology and Venerology Congress, Berlin

- Jean Krutmann, session chair and talk (title of session: Hyperpigmentation / title of talk: Pathogenesis of melasma)

12.10.2023

3R-Symposium NRW – New Approaches in Organoid Research for Replacement, Bonn

Ellen Fritsche, talk: Fit-for-purpose *in-vitro* methods for studying neurotoxicity

8.-10.11.2023

Advanced Materials Safety 2023 Conference, Saarbrücken

- Roel Schins, talk: 3D *in vitro* models of the intestine for safety testing of advanced materials (Authors: AAM Kämpfer, M Busch, G Bredeck, A Sofranko, V Büttner, J Becht, E Scarcello, T Wahle, C Albrecht, RPF Schins)
- Mathias Busch, WG Schins, poster: Use of THP-1 cells as a promising tool to assess NLRP3 inflammasome activation by particulate polymers (Authors: M Busch, G Bredeck, K Rahimi, H Ramachandran, A Herrmann, A Rossi, RPF Schins)
- Tamara Hornstein, Team Unfried, poster: Pro-inflammatory effects of carbon nanoparticles by reduction of neutrophil apoptosis rates (Authors: T Hornstein, T Spannbrucker, K Unfried)

9.-10.11.2023

2nd Face to Face Meeting Leibniz Research Network Stem Cells and Organoids, Düsseldorf

- Ellen Fritsche and Eliska Kuchovska, WG Fritsche: Chairs of the session 'Stem cells for testing and screening'
- Arif Dönmez, WG Fritsche, talk: Embedding concentration-response analysis data into a latent space: A comprehensive study of classification and toxicological fingerprints of compounds (Authors: A Dönmez, E Fritsche)
- Lena Jentsch, WG Ventura, talk: Development of cellular models for Complex I(NDUFS1)-deficiency associated diseases (Authors: L Jentsch, L Schröter, O Valente, A Rossi, N Ventura)
- Katharina Koch, WG Fritsche, talk: Unraveling hormonal dependencies and associated species-specificities of neurodevelopmental key events to improve EDC risk assessment (Authors: K Koch, K Schlüppmann, LM Stark, S Hüsken, S Masjosthusmann, J Klose, A Dönmez, N Förster, E Fritsche)
- Ilka Scharkin, WG Fritsche, talk: *In vitro* investigation of altered electrical activity in hiPSC-based Cockayne Syndrome B (CSB) disease models (Authors: I Scharkin, J Kapr, A Rossi, H Ramachandran, M Pollet, S Dangeleit, K Koch, J Krutmann, E Fritsche)
- Christiane Spruck, WG Fritsche, talk: Establishment of a protocol for primitive hematopoiesis based on human induced pluripotent stem cells (hiPSC) for developmental immunotoxicity testing *in vitro* (Authors: C Spruck, L Teschke, G Brockerhoff, S Fayyaz, F Grimm, K Koch, J Tigges, E Fritsche)
- Lindsay Dittmann, WG Fritsche, poster: Molecular and cellular effects on human and rat neural stem-/progenitor cells during time-dependent genotoxin exposure *in vitro* (Authors: L Dittmann, M Pahl, J Klose, E Fritsche)
- Denis Polozij, WG Fritsche, poster: Mapping the brain physiological maze: innovative tool for advancing developmental neurotoxicology (Authors: D Polozij, LCM Ladeira, B Staumont, L Geris, E Fritsche, E Kuchovska)
- Adithya Sankar Cheruvil Lilikumar, WG Fritsche, poster: Establishment of novel cell-based models to assess chemical-induced astrocyte toxicity to complement the classical DNT *in vitro* battery (Authors: A Sankar Cheruvil Lilikumar, E Zühr, K Koch, E Fritsche)
- Ilka Scharkin, WG Fritsche, poster: Refinement of stem cell-based *in vitro* assays towards a regulatory use for developmental and adult neurotoxicity testing of chemicals in the Horizon Europe PARC Project (Authors: I Scharkin, K Bartmann, J Hartmann, A Dönmez, E Fritsche)

- Kevin Schlüppmann, WG Fritsche, poster: Development of the NPC1_RAR_GR assay to identify putative endocrine disrupting chemicals (EDCs) disturbing glucocorticoid receptor (GR) or retinoic acid receptor (RAR) signaling *in vitro* (Authors: K Schlüppmann, S Hüsken, L Stark, A Dönmez, N Förster, K Koch, E Fritsche)
- Louisa Merit Stark, WG Fritsche, poster: Applicability of neural progenitor cell-derived oligodendrocytes for the mode-of-action-based identification of developmental neurotoxicants *in vitro* (Authors: LM Stark, J Klose, K Schlüppmann, T Nešporová, S Masjosthusmann, K Koch, E Fritsche)
- Lena Teschke, WG Fritsche, poster: hiPSC-based establishment of a protocol and test method for developmental immunotoxicity *in vitro* (Authors: L Teschke, C Spruck, G Brockerhoff, S Fayyaz, F Grimm, K Koch, J Tigges, E Fritsche)
- Etta Zühr, WG Fritsche, poster: Closing gaps of the DNT *in vitro* testing battery by implementing radial glia- and astrocyte-based test methods (Authors: Etta Zühr, A Sankar Cheruvil Lilikumar, K Koch, E Fritsche)

9.-10.11.2023

14th International Conference on Skin Ageing & Challenges, Lisbon, Portugal

- Jean Krutmann: Congress president, chair person and talk (title of session: Climate change & environment: Consequences for skin health / title of talk: Increased temperature in skin aging: Mechanistic insights)
- Tamara Schikowski, talk: Climate change & skin: An overview
- Nidhi Singh, WG Schikowski, talk: The role of climate change in skin aging: Epidemiological evidence

14.-15.11.2023

Workshop on the State of the Science on Assessing Developmental Neurotoxicity (DNT) Using New Approach Methods (NAMs), Maryland, USA

Ellen Fritsche, talks: 'Identifying and closing the gaps of the DNT *in vitro* battery: Towards a reduction of uncertainty' and 'Availability of DNT IVB methods as a prerequisite for regulatory acceptance in Europe: A start-up perspective in the context of European projects'

Veranstaltungen / Events

KAUVIR

Vom 27. bis 29. April 2022 fand die Spring School „Kompetenzerhalt im Strahlenschutz – UV meets ionizing radiation: Exposure, prevention, and therapy“ auf Schloss Mickeln in Düsseldorf statt. Das Programm richtete sich insbesondere an Promovierende und Postdocs aus dem Bereich Strahlenforschung und bot Vorträge zu den Themenblöcken „Exposure and prevention“, „Radiation and cancer models“, „Radiation therapy“ und „UV radiation“. Darüber hinaus gab es Poster Sessions, zwei Keynote Lectures und Zeit für weiteren Austausch. Die Veranstaltung wurde vom BMBF geförderten KAU VIR-Konsortium organisiert, an dem das IUF beteiligt ist.

From April 27 to 29, 2022, the Spring School “Competence maintenance in radiation protection – UV meets ionizing radiation: Exposure, prevention, and therapy” took place at Mickeln Castle in Düsseldorf. The program was especially aimed at PhD students and postdocs in the field of radiation research and offered lectures on the topics “Exposure and prevention”, “Radiation and cancer models”, “Radiation therapy” and “UV radiation”. In addition, there were poster sessions, two keynote lectures and time for further exchange. The event was organized by the BMBF funded KAU VIR consortium, in which IUF participates.

DUSTRISK

Am 12. und 13. Juli 2022 fand ein Projektmeeting von DUSTRISK (A risk index for health effects of mineral dust and associated microbes) am IUF statt, bei dem die Datenauswertung und Diskussion des Zwischenstandes auf der Agenda standen. Das Projekt wird im Rahmen des Leibniz-Wettbewerbs im Förderprogramm Kooperative Exzellenz gefördert. In dem Projekt kombinieren vier Leibniz-Institute (DSMZ, TROPOS, FZB und IUF), die Universität der Inselrepublik Cabo Verde und weitere

Partner ihre Expertise, um die schädlichen Aspekte von Mineralstäuben in Kombination mit anhaftenden Mikroben zu untersuchen und einen entsprechenden Risikoindex für gesundheitliche Effekte zu entwickeln.

On July 12 and 13, 2022, a project meeting of DUSTRISK (A risk index for health effects of mineral dust and associated microbes) took place at IUF, where data evaluation and discussion of the interim status were on the agenda. The project is funded by the Leibniz competition in the Cooperative Excellence funding program. In the project, four Leibniz Institutes (DSMZ, TROPOS, FZB and IUF), the University of the Island Republic of Cabo Verde and other partners combine their expertise to investigate the harmful aspects of mineral dusts in combination with associated microbes and to develop a corresponding risk index for health effects.

Leibniz-Forschungsnetzwerk / Leibniz Research Network

Das erste Präsenztreffen des Leibniz-Forschungsnetzwerks „Stammzellen und Organoide“, das vom IUF koordiniert wird, fand am 29. und 30. Juni 2022 im Haus der Universität in Düsseldorf statt. Unter den 50 Teilnehmer*innen waren Mitglieder von 12 Leibniz-Instituten, internationale Gastsprecher, das Stammzellnetzwerk NRW und das German Stem Cell Network vertreten. Schwerpunktthemen waren: ‚basics in organoid generation‘, ‚stem cells for testing and screening in pharmacology and toxicology‘, ‚non-human stem cells‘ und ‚stem cell use in disease/therapy‘. Das zweite Präsenztreffen fand am 9. und 10. November 2023 mit 40 Teilnehmer*innen ebenfalls in Düsseldorf statt. Für die Finanzierung konnten wir Mittel aus dem Strategiefond der Leibniz-Gemeinschaft erhalten, die es uns auch ermöglichten im Rahmen dieses Treffens einen Workshop zum Thema „Kommunikation und Konfliktmanagement“ für den wissenschaftlichen Nachwuchs anzubieten.

The first face-to-face meeting of the Leibniz Research Network "Stem Cells and Organoids", which is coordinated by the IUF, took place at the "Haus der Universität" in Düsseldorf on June 29-30, 2022. The 50 participants included members of 12 Leibniz Institutes, international guest speakers, the Stem Cell Network NRW and the German Stem Cell Network. Main topics were: basics in organoid generation, stem cells for testing and screening in pharmacology and toxicology, non-human stem cells and stem cell use in disease/therapy. The second face-to-face meeting took place in Düsseldorf with 40 participants on November 9 and 10, 2023. We were able to obtain funding from the Strategy Fund of the Leibniz Association, which also enabled us to offer a workshop on communication and conflict management for young scientists as part of this meeting.

UniStem Day 2023

Seit 2009 findet jedes Jahr im März der UniStem Day statt, ein internationaler Aktionstag zum Thema Stammzellforschung. An diesem Tag öffnen weltweit Forschungseinrichtungen ihre Türen für interessierte Schüler*innen der Sekundarstufe II, in diesem Jahr alleine 17 Einrichtungen aus NRW (organisiert durch das Stammzellnetzwerk NRW). Die AG Fritsche war 2022 erstmals dabei und hat in diesem Jahr 5 Schüler*innen eines Biologie Leistungskurses des Käthe-Kollwitz-Gymnasiums aus Dortmund, empfangen. Nach einer theoretischen Einführung mit Vorträgen von Julia Tigges, Christiane Spruck und Ilka Scharkin folgte ein praktischer Teil im Labor, in dem die Schüler*innen humane induzierte pluripotente Stammzellen füttern und splitten konnten.

Since 2009, UniStem Day, an international day of action on the topic of stem cell research, has taken place every year in March. On this day, research institutions around the world open their doors to interested high school students, this year 17 institutions from NRW (organized by the Stem Cell Network NRW). The Fritsche lab participated for the first time in 2022 and this year welcomed 5

students of a biology advanced course of the Käthe-Kollwitz-Gymnasium, Dortmund. After a theoretical introduction with lectures by Julia Tigges, Christiane Spruck and Ilka Scharkin, a practical part followed in the laboratory, where the students were able to feed and split human induced pluripotent stem cells.

Pressespiegel (Auszug)

Jean Krutmann wurde als Sprecher der neuen DFG-Forschungsgruppe „Untersuchungen zur Ambivalenz des AHR-Signalweges in Hautkrankheiten“ von der Rheinischen Post interviewt. Der Bericht zu den geplanten Arbeiten erschien am 28. November 2022.

Am 24. Mai 2023 war Tamara Schikowski beim SZ-Gesundheitsforum zum Thema „Umwelt, Klimawandel und Gesundheit“ in München zu Gast. Vorab erschien ein Interview in der Süddeutschen Zeitung sowie im Nachgang eine Berichterstattung.

Jochen Dobner, GEMD, wurde nach Erscheinen des Artikels „Moderne Sequenzierungstechnologien und ihre Anwendungen“ für BIOspektrum interviewt. Nachzulesen hier:

<https://www.biospektrum.de/artikel/nachgefragt-dr-jochen-dobner-im-interview>

Kurz notiert

Der neue Online-Schwerpunkt des Magazins der Leibniz-Gemeinschaft widmet sich dem Thema „Gedächtnis“. Lesen Sie gerne rein:

<https://www.leibniz-magazin.de/schwerpunkte/gedaechtnis>

Colloquia

Die folgenden Gäste hielten Vorträge in den Mittwochscolloquia des IUF:

The following guests gave talks within the Wednesday colloquia at IUF:

19.10.2022 / Prof. Stefan Janssen, Algorithmische Bioinformatik, Justus-Liebig-Universität Gießen

Title: Quantifying microbial ecology

19.4.2023 / Prof. Jörg Distler, Klinik für Rheumatologie, Universitätsklinikum Düsseldorf

Title: Tissue remodeling – Insights and tools

4.5.2023 / Christoph F. Vogel, Center for Health and the Environment & Department of Environmental Toxicology, University of California, Davis, CA, United States

Title: The role of the Ah receptor in the tumor microenvironment

24.5.2023 / Anna Wajda, Department of Molecular Biology, National Institute of Geriatrics, Rheumatology and Rehabilitation, Warsaw, Poland

Title: AhR and methotrexate resistance in autoimmune diseases

15.6.2023 / Nicole Schupp, Institut für Toxikologie, Heinrich-Heine-Universität Düsseldorf

Title: Sensitivity of iPSCs differentiating into proximal tubule cells to nephrotoxins

28.6.2023 / Prof. Dr. Matthias Epple, Anorganische Chemie, Universität Duisburg-Essen

Title: Applications of calcium phosphate nanoparticles for imaging and drug delivery

22.8.2023 / Prof. Wei Ma and Prof. Qi Zhao, Department of Epidemiology, School of Public Health, Climate Change and Health Center, Shandong University

Titles: 'Introduction to School of Public Health, Shandong University' and 'Climate change, urban environment and health in China'

6.9.2023 / Dr. Marisa Freitas, Laboratory of Applied Chemistry, Department of Chemical Sciences, Faculty of Pharmacy, University of Porto

Title: Revealing the intestinal pro-inflammatory pathway triggered by silver nanoparticles

11.10.2023 / Dr. Zacharias Kontarakis, Functional Genomics Center Zurich (FGCZ) / Genome Engineering and Measurement Lab (GEML), ETH Zürich

Title: Expected and unexpected effects of genomic perturbations: challenges and opportunities

23.11.2023 / Prof. Astrid Westendorf, Infection Immunology, Institute of Medical Microbiology, University Hospital Essen, University of Duisburg-Essen

Title: Balancing inflammation and immunosuppression: the critical role of the IL-33/ST2 axis in gut mucosal immunity

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