Universität Basel

Departement Biomedizin

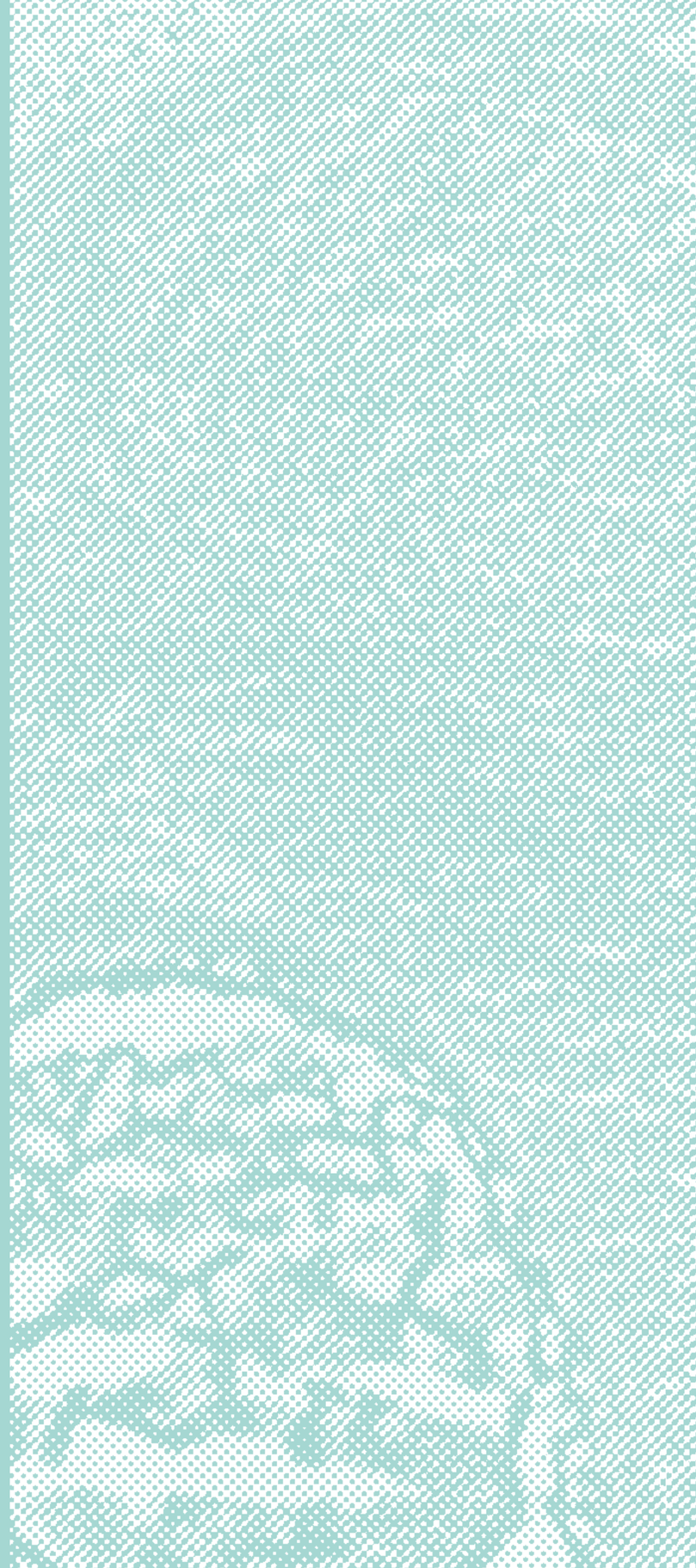
Departement Biomedizin Basel

Newsletter

May 2023

Departement
Biomedizin
Basel

Editorial
7 Statements
Success Story



Departement Biomedizin Basel

Editorial «Neubau Biomedizin: Alle Ampeln stehen auf Grün»

Dear All,

Even to those who are not highly familiar with the German language, this title of the UniBas News on May 2, 2023 should evoke both a positive emotion and a provocative unease. Yes, the final green lights for the construction project of our new building have been set by the parliaments of the two supporting Cantons of Basel-Stadt and Baselland. The increase in the financial commitment has been agreed upon, the contract with the sole constructor company Implenia has been signed and the construction work is set to begin in September 2023!

Although it will still take a few years before the building is functional and populated by the DBMers, this milestone should induce us to reflect on our responsibility to get ready for that time. We clearly have several technical planning and implementation actions in front of us… but also the challenge to further develop our cultural and scientific identity, while maintaining our substantial diversity. This implies to be creative on how to leverage at best the opportunity of short-distance interactions between clinical and scientific profiles across many biomedical disciplines and competences. It is in this spirit that I encourage you to read the section in this newsletter “What does the DBM mean to you?” and to try and elaborate your own very personal answer.

The present issue also profiles a well-established (Markus Heim’s) and a recently settled as independent (Arnaud Scherberich’s) research group, a success story by Bentires’ Lab – yes, yet another one! – and highlights the opportunities for postdocs, as “a main pillar of research” to personally interact and professionally develop thanks to their active club.

I love the snapshots taken at our plenary events and can only encourage you to already schedule in your agenda the next one: the DBM Summer Symposium + Summer Party, which will take place on August 17.

I hope you find some time to ‘refresh’ your spirit during the ‘warm’ upcoming summer days. Happy reading!

Ivan Martin
Director of the Department of Biomedicine

We interviewed 7 People:

„What does the DBM mean to you?“

For me, the DBM combines an exciting combination of scientific topics and research as a platform for interested multicultural young people who want to develop their professional skills.

Ramona Felix, HR

Said in one sentence: It`s part of my life...

Being employed at the DBM for 19 years, I‘ve witnessed the development of a new department with modern infrastructure, and I believe the new building will be a milestone for excellent research.

Daniel Wyninger, Infrastructure

Even after almost 17 years, I still have the feeling I‘m working in the right place. It never gets boring or monotonous. My area of responsibility is very broad, diverse and varied. It is also the contact with so many people that makes my job so exciting.

Manuela Bernasconi, Administration

The DBM to me is a valuable and inspiring scientific environment. It offers contact and collaboration opportunities with excellent groups covering a multitude of different research foci and expertise. Another clear advantage is the easy and rapid access to high-end core facilities. The DBM structure played a decisive role in shifting my lab’s research to a more translational perspective within the last years.

Volker Spindler, Spindler Lab

The DBM is actually what made me stay in Basel. I enjoy the interdisciplinary environment, the atmosphere and the convenience of having all facilities under one roof. Indeed, we have very helpful and professional core facilities, which I truly missed in my previous institute. Moreover, being located in the heart of the city and getting to meet a lot of nice people also helps me enjoy my everyday lab life.

Martina Konantz, Hartmann Lab

The DBM is a place where research and innovation thrive. Over the past five years, I have had the pleasure of working with insightful and brilliant colleagues while working on exciting projects. What sets the DBM apart is its ability to bridge the gap between basic research and clinical research, which is a key strength of the institution. The stimulating environment at the DBM enables you to push the boundaries of knowledge and conduct pioneering research.

James Alexander Taylor, Rinaldi-Barkat Lab

The DBM is a second home to me. I feel connected to people around me, even though we have different languages and cultural backgrounds. The access to facilities for pursuing science is a big deal and I feel blessed to be in a place where most of the facilities are available in-house at the DBM. I always wonder about the driving forces (Group leaders, Management team, IT, Logistics, Communications team, Facilities) behind the department and wish I could also contribute back to the DBM in such as a way.

Subashree Srinivasan, Neutzner Lab

DBM Success Story

How dietary supplement helps combat resistance in breast cancer.

Background and Research question

Targeted therapies have undoubtedly changed the prognosis of many breast cancer patients. However, especially in advanced stages of the disease, resistance to targeted therapies is frequent and prevents long-term treatment success.

One of the most frequently activated oncogenic pathways in breast cancer, is the PI3K signaling pathway. Over the last decade numerous inhibitors were developed to target this pathway. One example of such an inhibitor is alpelisib, a drug that is approved also in Switzerland as a treatment for patients with advanced breast cancer and hyperactive PI3K. Our objective was to investigate genetic alterations that lead to resistance to PI3K inhibition and explore potential strategies to overcome this resistance through combinatory treatments.

Study method

Using an in vivo screening tool, we found that the genetic loss of the gene neurofibromin 1 (NF1) reduced the sensitivity of cancer cells to alpelisib. We also confirmed this finding in vivo and using patient-derived cancer cells. Moreover, we observed that cancer cells lacking NF1 show lower energy consumption via mitochondria and that they depended on other energy sources. This results in lower reactive oxygen species in those cells. We hypothesized that an antioxidant like N-acetylcysteine could mimic the effects of NF1 loss. Surprisingly, we observed the opposite effect and found that N-acetylcysteine restored the effectiveness of alpelisib in resistant cancer cells by dampening mTOR signaling.

Relevance for cancer patients and importance of the study

Breast cancer is the leading cause of cancer-related deaths among women, with approximately 2.1 million new cases diagnosed each year. Genetic alterations in the NF1 gene occur in about 6% of breast cancer patients. In patients with advanced, metastatic disease, the percentage increases to 11%. We and others showed that loss of NF1 is not only associated with resistance to PI3K inhibition, but also to other therapies, indicating that this genetic lesion has significant clinical relevance.

Outlook

In a next step, it would be crucial to explore if similar effects are observed with other PI3K inhibitors, which were not investigated in the current study. Additionally, apart from the initial in vivo mutagenesis screen, we performed follow-up experiments in immunocompromised settings. Future studies should investigate the effects of NAC also in immunocompetent models.

Ultimately, clinical trials involving breast cancer patients would be required to determine the clinical effectiveness of combining alpelisib with N-acetylcysteine is clinically effective.

Priska Auf der Maur

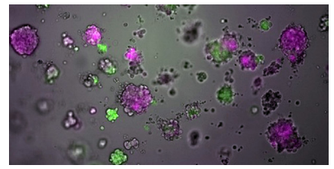
Contributors

Apart from the great collaborative efforts within our lab, we were fortunate to receive technical, experimental, and scientific support from multiple labs within the DBM, particularly from the Zippelius lab. Moreover, we could always rely on expertise and support from various core facilities at the DBM, the University of Basel, and the Friedrich Miescher Institute. In the initial stages of the project, collaborations with the Technical University of Munich and Novartis were of particular importance.

with Mohamed Bentires-Alj

A short overview of the Tumor Heterogeneity Metastasis and Resistance Lab

Under the leadership of Mohamed Bentires-Alj, our lab investigates various aspects of breast cancer. Our projects encompass studies on breast and mammary gland biology, cancer initiation, disease progression and resistance to therapies. Additionally, we explore tumor intrinsic factors and changes in the tumor microenvironment that may contribute to disease progression.



Microscopic image of minitumors (breast cancer organoids) grown in the laboratory; in green those with NF1, in magenta those without.

Through the Swiss Personalized Health Network and local collaborations with clinicians at the University Hospital of Basel, clinical and molecular information, as well as tumor samples from cancer patients are collected, which should ultimately enable more precise diagnoses and thus treatments tailored to individual patients.

Original Publication

Bentires Lab
Bentires Lab at the DBM

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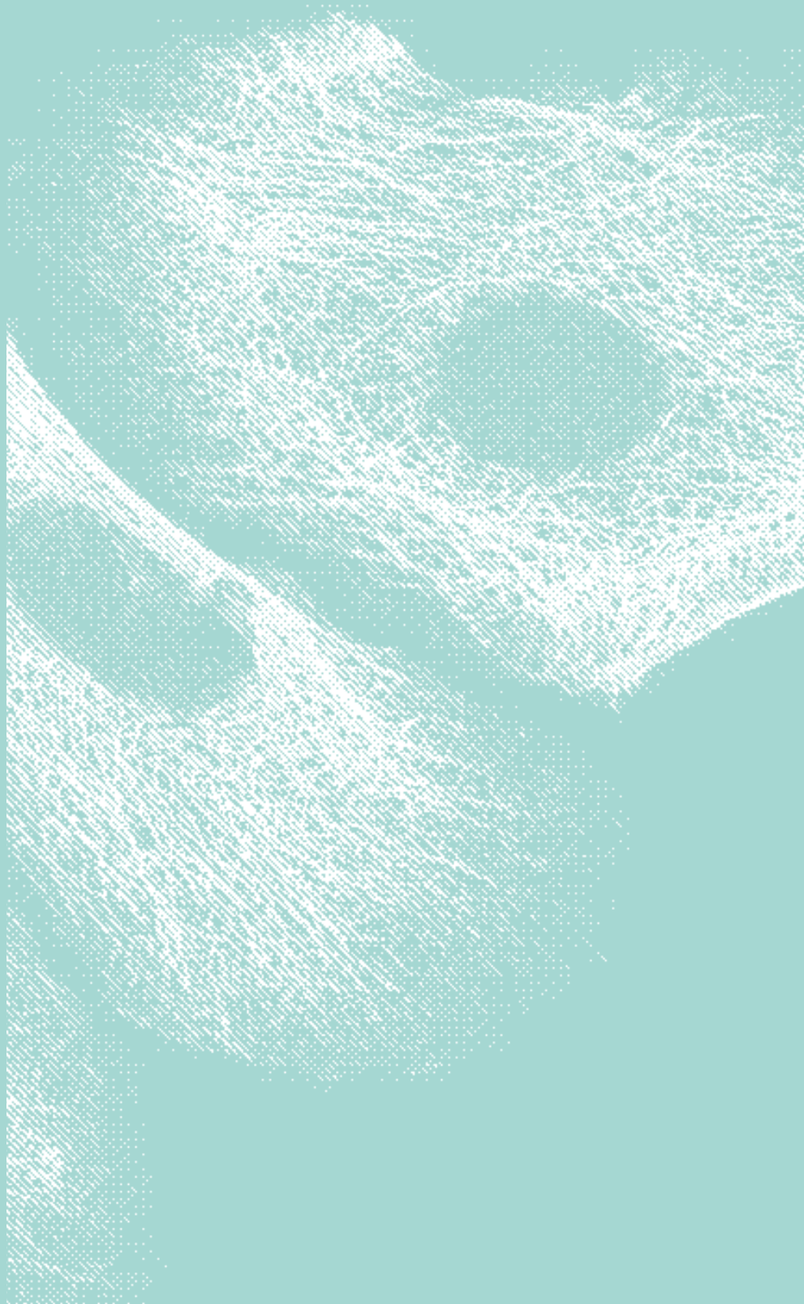


Research Group at a Glance
PostDoc Club
Publications

Research Group at a Glance
Bone Regeneration (Scherberich Lab)

A Quick Overview of Our Research

Large and complex bone defects, arising from trauma, tumor resection, necrosis or congenital defects, represent challenging clinical scenarios, typically requiring autologous bone transplantation. In order to bypass the numerous limitations related to bone transplantation and also to overcome some yet unmet clinical needs, we aim at regenerating bone by a combination of cell biology, biomaterials, tissue engineering and surgical techniques, through a biomedical concept known as "Bone Regenerative Surgery". In particular, our group investigates the biology and therapeutic potential of human adipose-derived cells for regenerative applications and aims to extend their use into clinical practice, thanks to our tight connection with the Plastic and Reconstructive Surgery Department at the University Hospital in Basel (Headed by Prof. Dirk Schaefer). While these mesenchymal stromal cells are not naturally skeletal progenitors, they exhibit a remarkable plasticity that allows them to differentiate into for a switch towards the chondrogenic and osteoblastic lineages when adequately primed in vitro. We utilize these cells to generate bone tissue and organs through either direct intramembranous ossification or an endochondral ossification route.

Highlights, Breakthroughs and Current Projects

Biological and preclinical studies:
In 2007, our group (at the time still part of theTissue Engineering Group of Prof. Ivan Martin) demonstrated that engineered grafts generated by culturing freshly isolated adipose-derived cells, typically referred to as the stromal vascular fraction (SVF) of adipose tissue, showed intrinsic osteogenic and vascularization capacities that are able to accelerate their engraftment and performance in vivo.

More recently, we demonstrated that human SVF cells can also recapitulate endochondral ossification in vivo when correctly primed in vitro into hypertrophic cartilage (HC). Upon ectopic implantation in mice, the HC tissue showed evidences of remodeling into cortical and trabecular bone tissue, capable of homing bone marrow.

Translation to patients:
The approaches developed in our lab in conjunction with the preclinical studies performed with clinicians and the Research Group of Prof. Ivan Martin, have facilitated the transition to clinical applications. In particular, pioneering treatment of proximal humeral fractures in elderly individuals, in the context of a phase I clinical trial, demonstrated the safety and biological functionality of SVF cells that were intraoperatively-derived from autologous adipose tissue. Recently, we also successfully prefabricated a patient-customized ectopic osteogenic/vasculogenic graft of 27 cc within a muscular flap and transplanted it as a pedicled bone flap into a maxillary defect in a 39-year-old female patient following carcinoma resection in the left maxilla. A phase I clinical trial is now in preparation to test a revised approach for mandibular reconstruction.

Our Vision for the Future

In the future, we plan to extend the endochondral ossification approach to congenital defects in pediatric patients through a collaboration with Dr. Alexandre Kaempfen, Hand Surgeon at the Children Hospital in Basel (UKBB). Patients suffering from symbrachydactyly, a rare congenital upper limb anomaly, generally unilateral, which results in short boneless fingers or nubbins, are treated by phalangeal bone transfer from the foot, and partially acquire the capacity for grasping or pinching. This results in significant disfiguration and loss of functionality at the donor site. Thus, we are developing upscaled hypertrophic cartilage tissues generated with autologous pediatric adipose-derived cells to serve as phalanx substitute, based on a bio-printing, modular approach.

Improving our understanding of the biology of adipose-derived cells, allowing for a better control of their chondrogenic/osteogenic capacity is a critical aim of our group in the future. We are developing high-throughput and single cell approaches, such as proteomics (LC-MS/MS), single cell RNA sequencing and Cytometry by time of flight (CyTOF), in order to identify the key regulators of chondrogenic differentiation in these cells. By better maintaining the progenitor pool of cells in the in vitro generated cartilaginous tissues, we aim at establishing a homeostatic model resembling the growth plate found in long bones in young adults, in order to generate growing bones in vivo.

Thus, our approaches have the potential to offer solutions to various yet unmet clinical needs in the field of orthopedic and regenerative surgery, while serving as models for the study of developmental processes such as bone development and bone growth, in physiological and disease conditions. While clinical translation is an important part of our research strategy, the more fundamental work aiming at better understanding how a specific tissue can be created or regenerated in vitro or in vivo as well as deciphering the involved cellular mechanisms is also of great interest for our group.

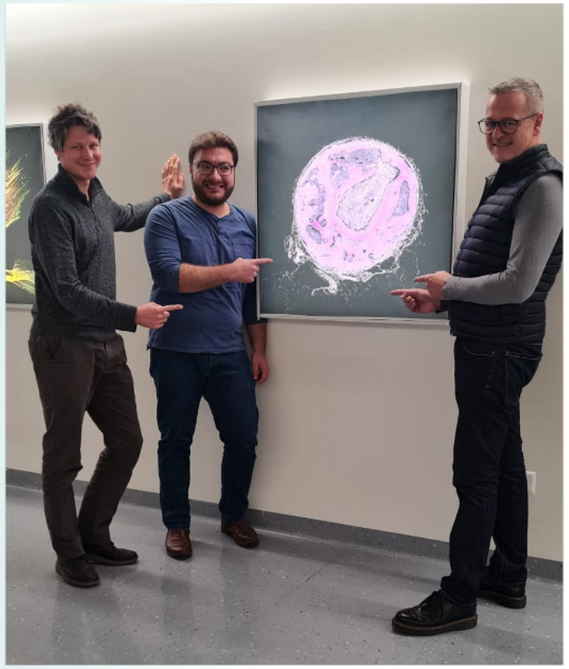
Research Group at a Glance
Bone Regeneration (Scherberich Lab)

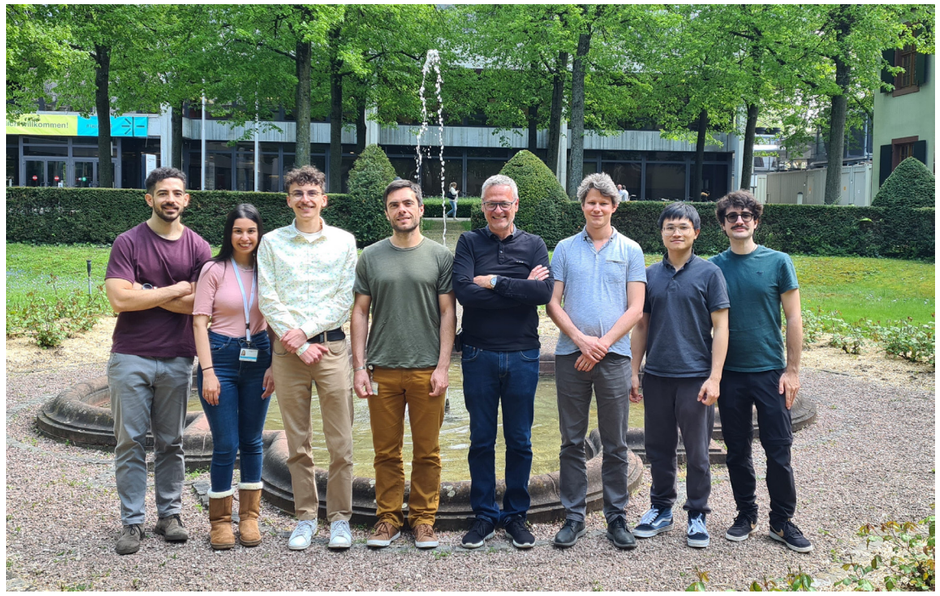
Team Spirit – Introduction of Us

In the Bone Regeneration Group, Team Spirit is not simply a keyword. The highly interdisciplinary nature of our research, combining clinical, engineering, biological and biomaterial aspects prompts us to merge a lot of different expertises. Numerous clinicians from our Hospital passed by the laboratory to perform a year of research and provide us with all the necessary knowledge about what is needed to make their job more efficient once they are back in the Clinics. Biologists and Engineers are working hand-in-hand to develop and understand the generated tissues. Regular laboratory meetings and daily formal as well as very informal exchanges are needed to generate new ideas and concepts and to implement them successfully. The keywords there are the following: Humility, respect to the others, solidarity, scientific ambition and a strong dose of fun.

We are

Arnaud Scherberich	Research Group Leader
Adrien Moya and Sebastien Pigeot	Postdoctoral Fellows
Andrea Mazzoleni and Gangyu Zhang	PhD Students
Shanie Elishar	Technician





From left to right: Stefano Rizzi (visitor from Milano in Ivan's lab who collaborates with us), Shanie Elishar, Robert Paillaud, Sébastien Pigeot, Arnaud Scherberich, Adrien Moya, Gangyu Zhang, Andrea Mazzoleni

Departement Biomedizin Basel

Content

Research Group at a Glance Hepatology (Heim Lab)

A Quick Overview of Our Research

Liver cancer, particularly hepatocellular carcinoma (HCC), is a prevalent and aggressive cancer with high mortality rates worldwide. Over 95% of HCCs develop on the background of chronic liver disease. Advanced-stage HCC has limited treatment options, and a better understanding of the molecular and cellular pathogenesis of HCCs is urgently needed. Our research aims to address critical aspects of the personalized healthcare in HCC. Specifically, we are focusing on understanding the reasons for the highly heterogeneous courses of HCC, identifying biomarkers for tailored therapy allocation, and exploring the molecular mechanisms that lead to the development of drug resistance in tumor cells.

The most important underlying liver diseases that predispose to HCC are alcoholic liver disease, nonalcoholic fatty liver disease, chronic hepatitis B and chronic hepatitis C infection. Our lab has a longstanding research interest in viral hepatitis with a special focus on innate immune responses to viral hepatitis. We investigate the mechanisms behind disease stage transition during the natural course of chronic hepatitis B virus (HBV) infection.

Overall, our research group is dedicated to advancing the understanding of HCC and its underlying diseases, with the ultimate goal of developing more effective therapies and personalized treatment approaches.

Highlights, Breakthroughs and Current Projects

1. We have established a clinically annotated biobank of tumor and liver biopsies, as well as a blood bank, within the framework of a clinical study protocol. The use of human biopsies provides us with a unique opportunity to directly study the molecular and cellular pathogenesis of chronic liver diseases and HCC, and develop relevant preclinical research tools such as patient-derived tumor organoid and xenograft models.

2. We have generated a comprehensive molecular classification of HCC from patients across all disease stages and etiologies by employing a multiomics approach that included genomic, transcriptomic, proteomic and phosphoproteomic analyses. Our study offers a comprehensive overview of the molecular landscape of HCC and facilitates the identification of key pathways involved in the pathogenesis of HCC.

3. To address the lack of predictive biomarkers for therapy response, we have developed a clinically applicable predictive classifier for response to transarterial chemoembolization (TACE), the most widely used treatment for intermediate-stage HCC. By integrating clinical, radiological, and genomics data into supervised machine-learning models, we identified predictive transcriptomic signatures for response to TACE in HCC patients. Furthermore, we complemented these findings using our biobank of HCC organoids to identify cancer cell intrinsic determinants of treatment response. Through this approach, we were able to uncover additional factors that mediate resistance to therapy, providing a more complete understanding of the underlying mechanisms.

4. For patients with advanced disease, the overall clinical benefit of the available HCC treatments is limited to a small fraction of patients. To address the demand for more effective therapies, we developed a preclinical drug discovery platform based on tumor organoid screening, with the aim to identify novel combination therapies for the treatment of advanced HCC.

5. Our biobank also includes liver biopsies from patients in various stages of chronic HBV (CHB) and chronic HCV (CHC) infection. Although there is a curative treatment for HCV infection, it seems that remnants of the HCV induced liver disease persist after resolution of the infection, contributing to an increased risk of HCC in these patients. Liver biopsies enable the investigation of the nature of the residual liver disease in an effort to better understand it and guide potential therapeutic interventions.

6. Currently, no curative treatment for chronic HBV (CHB) is available. CHB is characterized by different disease stages reflecting specific virus-host interactions. Clinically, CHB disease stages are identified mainly by peripheral markers of HBV infection. Disease stage associated intrahepatic mechanisms are much less understood, primarily due to the lack of suitable model systems. However, by using liver biopsies, we can investigate in detail the antiviral mechanisms that contribute to the control of viral replication in the different CHB disease stages

Research Group at a Glance Hepatology (Heim Lab)

Our Vision for the Future

Our key priorities in HCC and viral hepatitis are to improve the understanding of the molecular and cellular pathogenesis of these diseases, identify new therapeutic targets and strategies, and ultimately improve patient outcomes. We believe that drug testing in HCC organoids is a promising avenue for personalized oncology. By generating drug response tables, we can support informed treatment choices tailored to individual patients. Furthermore, our preclinical models have the potential to identify novel biomarkers for HCC diagnosis and disease progression, which could lead to earlier detection.

It is our goal to delineate the molecular mechanisms of the virus host interactions during the different disease phases of chronic HBV infection. This knowledge will enable a better patient stratification and prognosis of disease progression. Furthermore, a better understanding of the intrahepatic host virus interactions will greatly facilitate the development of novel curative treatment strategies for chronic HBV infection.

We are

Markus Heim	Research group leader
Stefan Wieland	Lab head
Lauriane Blukacz	MD-PhD student
Tujana Boldanova	Project leader
Sylvia Ketterer	Research technician
Lukas Kübler	MD-PhD student
Marie-Anne Meier	MD-PhD student
Sandro Nuciforo	Project leader
Aleksei Suslov	Project leader
Fredrik Trulsson	Computational biologist
Xueya Wang	Research technician

Team Spirit – Introduction of Us

We are a diverse group of scientists/clinicians enjoying working together to tackle and solve basic and translational science questions. As a group and together with the patients who generously donate surplus biopsy tissue for science, we strive to produce results that in return will eventually be beneficial for patients.

We are an international team and everybody likes to travel. We all bring delicious treats back from our holidays to the delight of the whole group. It has also become a lab tradition to fill an advent calendar every year with sweet treats. Every day in December, a different person gets to smile!

Our Group (February 2023, Wintersingen)

PostDoc Club

Dear Postdocs,

We are a (currently small) dedicated group of volunteers with the goal to make the lives of Postdocs at the DBM more enjoyable and interesting. With a strong focus on fostering interaction among the six locations of the DBM and its approximately 150 Postdocs, we organize a wide range of events. This entails, amongst others, laid-back Apéros for socializing, seminars featuring invited speakers, and an annual retreat. The retreat, known as the Basel Postdoc Network retreat, extends beyond the borders of the DBM, as it is co-organized with members from various university institutes and the private sector, ensuring there is a treat for everyone.

We also strive to create opportunities that support your personal and/or career development. Our goal is to cover a diverse range of topics, both academic and otherwise. For example, we recently organized a series of career talks and a private finance course, which received positive feedback from participants.

We firmly believe that Postdocs and PhDs are crucial pillars of research, and we are committed to increasing the visibility and recognition of this «junior grouping» (Gruppierung III). As part of this effort, we collaborate with the university-wide association (avuba) and aim for fruitful exchanges with the department lead for the benefit of all.

If you are curious about our mission or if you would like to join our group and contribute your ideas, please visit our LinkedIn/webpage or contact us directly using the address provided below.

We look forward to spending a wonderful time together.

All the best,
Your Postdoc Club


Manuele Muraro


Priyadarshini Thirunavukkarasu


Simon Schwarz

Contact us:

dbm-Postdoc_club@unibas.ch
https://biomedizin.unibas.ch/en/education-careers/post-doc/
https://www.linkedin.com/company/dbm-postdoc-club/

Departement Biomedizin Basel

Publications

All publications we have received from the period between January and April 2023. The publications are listed by date.

Iron is a modifier of the phenotypes of JAK2-mutant

Stetka J, Usart M, Kubovcakova L, Rai S, Nageswara Rao T, Sutter J, Hao-Shen H, Dirnhofer S, Geier F, Bader M, Passweg J, Manolova V, Dürrenberger F, Ahmed N, Schroeder T, Ganz T, Nemeth E, Silvestri L, Nai A, Camaschella C and Skoda R.

Blood. 2023 Apr 27;141(17):2127-2140. doi: 10.1182/blood.2022017976.

DNA methylation landscapes of prostate cancer brain metastasis are shaped by early driver genetic alterations.

Gallon J, Rodriguez-Calero A, Benjak A, Akhoundova D, Maletti S, Amstutz U, Hewer E, Genitsch V, Fleischmann A, Rushing EJ, Grobholz R, Fischer I, Jochum W, Cathomas G, Osunkoya AO, Bubendorf L, Moch H, Thalmann G, Feng FY, Gillessen S, Ng CKY, Rubin MA, Piscuoglio S.

Cancer Res. 2023 Apr 14;83(8):1203-1213.
doi: 10.1158/0008-5472.CAN-22-2236.

N-acetylcysteine overcomes NF1 loss-driven resistance to PI3Kα inhibition in breast cancer.

Auf der Maur P, Trefny MP, Baumann Z, Vulin M, Correia AL, Diepenbruck M, Kramer N, Volkmann K, Preca BT, Ramos P, Leroy C, Eichlisberger T, Buczak K, Zilli F, Okamoto R, Rad R, Jensen MR, Fritsch C, Zippelius A, Stadler MB, Bentires-Alj M.

Cell Rep Med. 2023 Apr 18;4(4):101002.
doi: 10.1016/j.xcrm.2023.101002. Epub 2023 Apr 11. PMID: 37044095

DNA methylation landscapes of prostate cancer brain metastasis are shaped by early driver genetic alterations.

Gallon J, Rodriguez-Calero A, Benjak A, Akhoundova D, Maletti S, Amstutz U, Hewer E, Genitsch V, Fleischmann A, Rushing EJ, Grobholz R, Fischer I, Jochum W, Cathomas G, Osunkoya AO, Bubendorf L, Moch H, Thalmann G, Feng FY, Gillessen S, Ng CKY, Rubin MA, Piscuoglio S.

Cancer Res. 2023 Apr 14;83(8):1203-1213.
doi: 10.1158/0008-5472.CAN-22-2236.

Pharmacokinetics and Pharmacodynamics of Oral Psilocybin Administration in Healthy Participants

Holze F, Becker AM, Kolaczynska KE, Duthaler U and Liechti ME.

Clin Pharmacol Ther. 2023 Apr;113(4):822-831.
doi: 10.1002/cpt.2821. Epub 2022 Dec 31.

AXL expression on homeostatic resident liver macrophages is reduced in cirrhosis following GAS6 production by hepatic stellate cells.

Pop OT, Geng A, Flint E, Singanayagam A, Ercan C, Possamai L, Patel VC, Kuenzler P, Meier MA, Soysal S, Hruz P, Kollmar O, Tatham KC, Ward JK, Müllhaupt B, Weber A, Wendon J, Niess JH, Heim M, Semela D, Weston C, Antoniades CG, Terracciano LM, Triantafyllou E, Brenig RG, Bernsmeier C.

Cell Mol Gastroenterol Hepatol. 2023 Mar 31;S2352-345X(23)00047-4.
doi: 10.1016/j.jcmgh.2023.03.007. Online ahead of print.

Autoimmunity and immunodeficiency associated with monoallelic LIG4 mutations via haploinsufficiency

Jauch A, Bignucolo O, Seki S, Ghraichy M, Delmonte O, von Niederhäusern V, Higgins R, Ghosh A, Nishizawa M, Tanaka M, Baldrich A, Köppen J, Hirsiger J, Hupfer R, Ehl S, Rensing-Ehl A, Hopfer H, Savic Prince S, Daley S, Marquardsen F, Meyer B, Tamm M, Daikeler T, Diesch T, Kühne T, Helbling A, Berkemeier C, Heijnen I, Navarini A, Trück J, de Villartay J.-P., Oxenius A, Berger Ch, Hess Ch, D Notarangelo L, Yamamoto H, Recher M

Allergy Clin Immunol. 2023 Mar 31;S0091-6749(23)00422-0.
doi: 10.1016/j.jaci.2023.03.022. Online ahead of print.

VEGF dose controls the coupling of angiogenesis and osteogenesis in engineered bone.

Grosso A, Lunger A, Burger MG, Briquez PS, Mai F, Hubbell JA, Schaefer DJ, Banfi A, Di Maggio N.

NPJ Regen Med. 2023 Mar 13;8(1):15. doi: 10.1038/s41536-023-00288-1.

Publications

Lung versus gut exposure to air pollution particles differentially affect metabolic health in mice

Bosch AJT, Rohm TV, AlAsfoor S, Low AJY, Keller L, Baumann Z, Parayil N, Stawiski M, Rachid L, Dervos T, Mitrovic S, Meier DT, Cavelti-Weder C.

Part Fibre Toxicol. 2023 Mar 9;20(1):7. doi: 10.1186/s12989-023-00518-w.

Good Manufacturing Practice-compliant change of raw material in the manufacturing process of a clinically used advanced therapy medicinal product-a comparability study

Wixmerten A, Miot S, Bittorf P, Wolf F, Feliciano S, Hackenberg S, Häusner S, Krenger W, Haug M, Martin I, Pullig O, Barbero A.

Cytotherapy. 2023 May;25(5):548-558.
doi: 10.1016/j.jcyt.2023.01.003. Epub 2023 Mar 7. PMID: 36894437.

Quantitative proteomic analysis of skeletal muscles from wild-type and transgenic mice carrying recessive Ryr1 mutations linked to congenital myopathies

Eckhardt J, Ruiz A, Koenig S, Frieden M, Meier H, Schmidt A, Treves S, Zorzato F.

Elife. 2023 Mar 2;12:e83618. doi: 10.7554/eLife.83618.

T-cadherin is a novel regulator of pericyte function during angiogenesis

Dasen B, Pigeot S, Born GM, Verrier S, Rivero O, Dittrich PS, Martin I, Filippova M.

Am J Physiol Cell Physiol, Feb 20, Online, ahead of print (2023).
doi: 10.1152/ajpcell.00326.2022. PMID: 36802732.

Doublecortin and Glypican-2 concentrations in the cerebrospinal fluid from infants are developmentally downregulated

Brégère C, Fisch U, Halbeisen FS, Schneider C, Dittmar T, Stricker S, Aghlmandi S, Guzman R.

PLoS One. 2023 Feb 17;18(2):e0279343.
doi: 10.1371/journal.pone.0279343. eCollection 2023.

Dynamics of antibody titers to SARS-CoV-2 and clinical outcomes after sotrovimab pre-exposure prophylaxis early after allogeneic hematopoietic stem cell transplantation

Capoferri G, Walti CS, Urwyler P, Ragozzino S, Passweg JR, Halter J, Battegay M, Baettig V, Weisser M, Arnold B, Morin B, Guetlin Y, Torres DA, Barut GT, Thiel V, Egli A, Drexler B, Khanna N.

Bone Marrow Transplant. 2023 Feb 16;1-3.
doi: 10.1038/s41409-023-01936-2. Online ahead of print.

Impact of nucleic acid extraction procedures on human papillomavirus (HPV) detection and genotyping

Naegele K, Weissbach FH, Leuzinger K, Gosert R, Bubendorf L, Hirsch HH.

J Med Virol. 2023 Feb;95(2):e28583. doi: 10.1002/jmv.28583. PMID: 36794677

The alarmin interleukin-33 promotes the expansion and preserves the stemness of Tcf-1+ CD8+ T cells in chronic viral infection

AF Marx, Kallert SM, Brunner TM, Villega JA, Geier F, Fixemer J, Abreu-Mota T, Reuther P, Bonilla WV, Fadejeva J, Kreutzfeldt M, Wagner I, Aparicio-Domingo P, Scarpellino L, Charmoy M, Utzschneider DT, Hagedorn C, Lu M, Cornille K, Stauffer K, Kreppel F, Merkler D, Zehn D, Held W, Luther SA, Löhning M, D Pinschewer DD.

Immunity. 2023 Feb 14;S1074-7613(23)00041-9.
doi: 10.1016/j.immuni.2023.01.029. Online ahead of print.

Ketanserin Reverses the Acute Response to LSD in a Randomized, Double-Blind, Placebo-Controlled, Crossover Study in Healthy Participants

Becker AM, Klaiber A, Holze F, Istampoulouoglou I, Duthaler U, Varghese N, Eckert A, Liechti ME.

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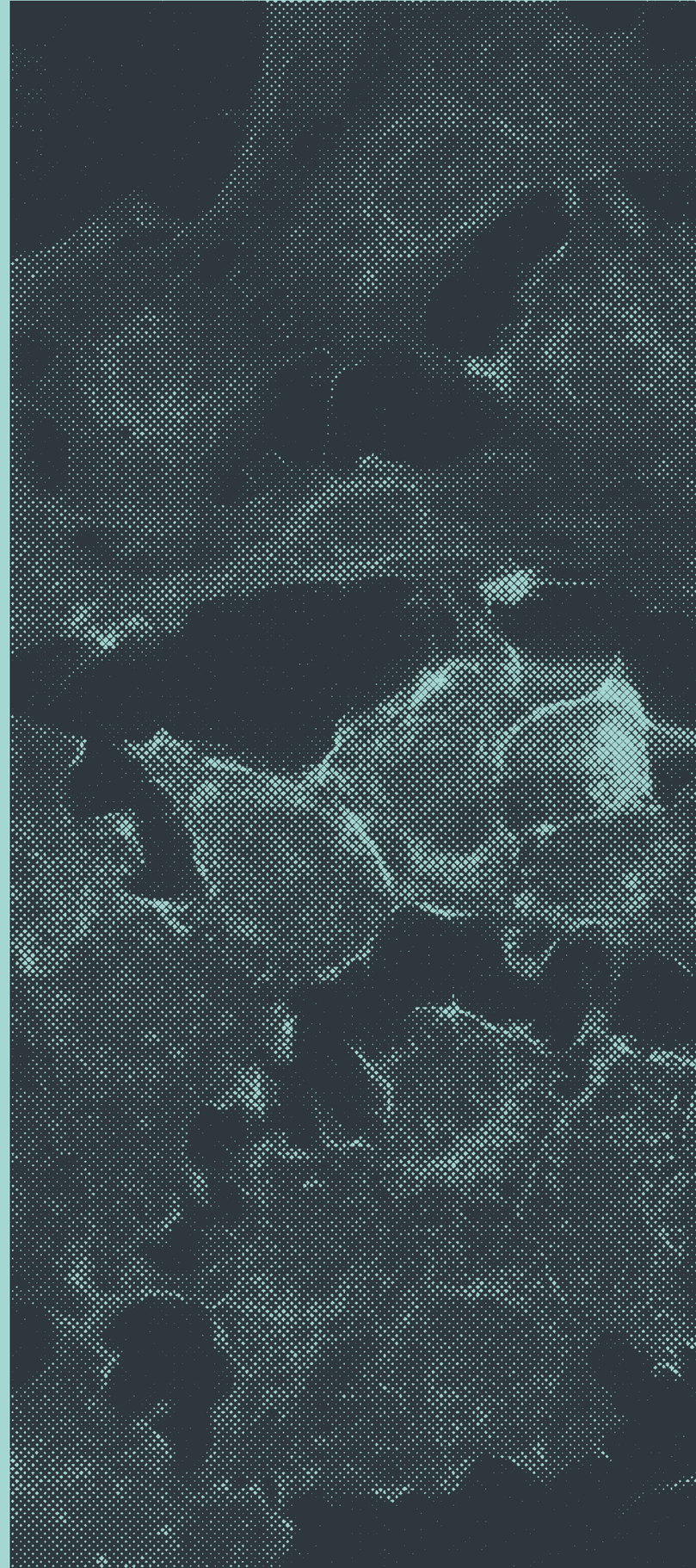

Congratulations
Events

The DBM congratulates

Awards since January 2023

We extend our heartfelt congratulations to the following DBM members for their remarkable awards and achievements since January 2023.

Amandeep Kaur and **Maud Wilhelm** on winning the 3rd Swiss Transplantation Society (STS) Innovation Award 2022.

Esma Tankus, Andrea Mainardi, Neha Sharma, Andrea Barbero and **Florian Thieringer** received the Young Scientists Award of the Swiss Society for Biomaterials + Regenerative Medicine (SSB+RM) for the best oral presentation at the SSB+RM Meeting 2023 in Zürich. Engineered nasal cartilage for the repair of osteoarthritic knee cartilage defects.

Riccardo Bernasconi is the abstract winner at the 9th EU-CardioRNA COST Action MC and WG Meeting in Nicosia, Cyprus, 22-24 February.

Michele Garioni received the SNSF Scientific Image award.

SNF project funding

We congratulate the new SNF-grant recipients:
Verdon Taylor, Jürg Schwaller, Heinz Läubli, Lucas Boeck und Daniel Pinschewer.

PHD Defenses since January 2023

24.11.2022	Medical-Biological Research	**Darya Palianina** Improving EBV-Specific T Cell Therapy: Lineage Tracing and EBV Stem Cell Memory T Cells
09.01.2023	Cell Biology	**Jesil Kasamkattil** Engineering human nasal chondrocyte spheroids, towards regeneration of the intervertebral disc
12.01.2023	Medical-Biological Research	**Andrea Uccelli** Regulation of VEGF-induced intussusceptive angiogenesis by Notch4 signaling
31.01.2023	Medical-Biological Research	**Veronica Richina** Tobacco smoke sustains breast cancer lung metastases by inducing NK cell-suppressor neutrophils
24.02.2023	Medical-Biological Research	**Mansoor Chaaban** Modulation of human adipose-derived stromal cell chondrogenesis for controlled endochondral ossification and efficient bone formation

Plenary Assembly

The DBM Plenary Assembly held on March 23, 2023, was a highly productive and engaging event. Members from different disciplines came together to listen to presentations and exchange ideas.

As is the tradition each year, this assembly proved to be a valuable opportunity for collaboration and knowledge sharing. This yearly event serves as an important platform for members to keep abreast of the latest developments, share their expertise and foster a sense of community within DBM.

Explore the Lab Molecular and Cognitive Neuroscience

The inaugural seminar of the «Explore the Lab» series, along with a DBM Network Apéro, took place on April 25. Andreas Papassotiropoulos and Dominique J.-F. de Quervain provided fascinating insights into their research in molecular and cognitive neuroscience.

Did you know that the cerebellum is an important part of the memory for emotional experiences? And have you heard of the mobile app EASY HEIGHTS? This is a smartphone-based high altitude training program to reduce anxiety through scientifically proven exposure therapy. We eagerly anticipate the next seminar in this series in autumn.

Upcoming Events

Athena's Journey

09.06.2023

11th Swiss MD-PhD Conference

23.07.2023

For more Information click here

DBM Summer Symposium

17.08.2023

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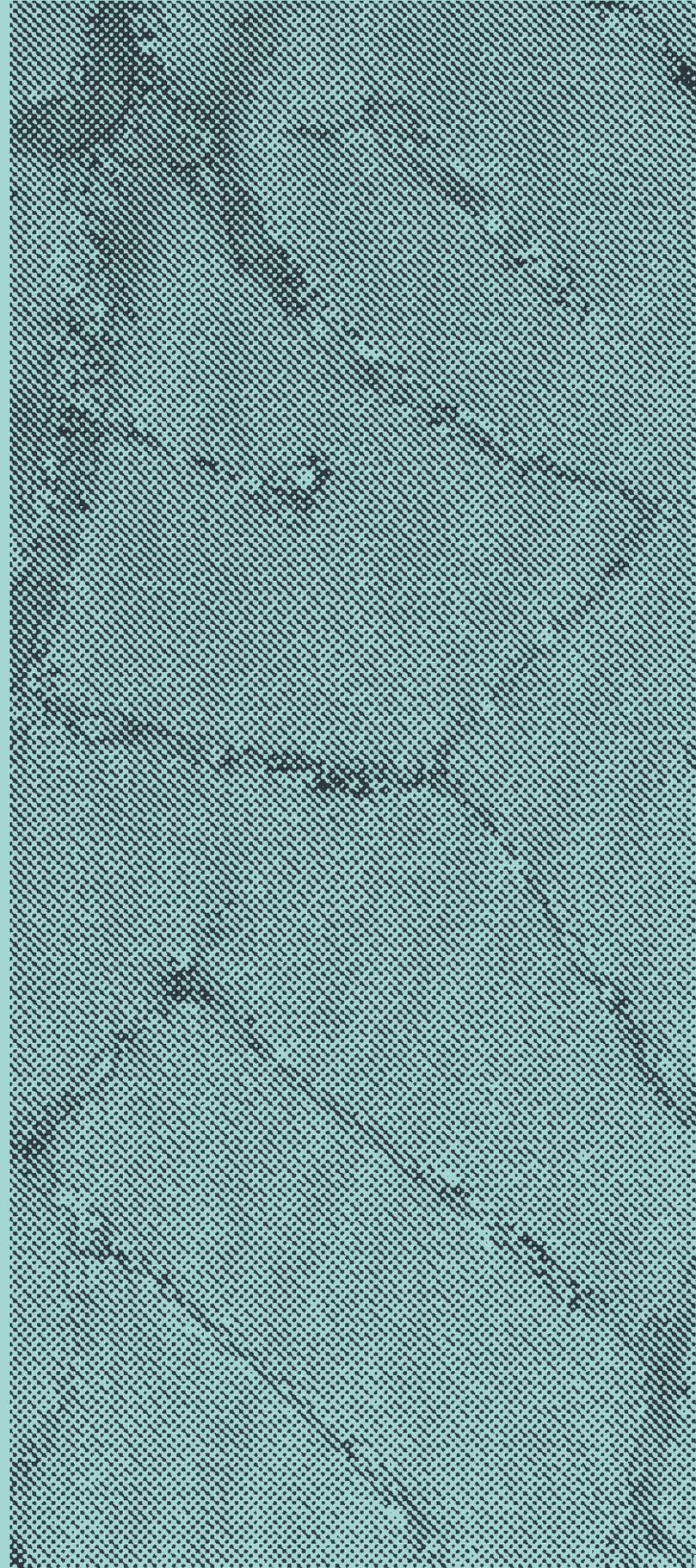

New Colleagues

New Colleagues from January to April

We are delighted to have you among us. We would like to express our warmest welcome and good wishes!

Abel Ines	Brain Tumor Immunotherapy and Biology
Aerni Amanda	Molecular Neuroscience
Amini Ehssan	Cognitive Neuroscience
Arnold Andreas	Molecular Neuroscience
Balasopoulos Dimitrios	Systems Pharmacology
Bamberg Elisabeth	Immunodeficiency
Beerlage Astrid	Molecular Immune Regulation
Binder Mascha	Tumorimmunology
Blume Christine	Cognitive Neuroscience
Bors Sebastian	Systems Pharmacology
Bosch Felix	Experimental Neuroimmunology
Boulet Valentin	Cancer- and Immunobiology
Brunet Pauline	Brain and Sound
Burri Noëlle	Molecular Neuroscience
Ceren Huriye Irem	Neuromuscular Research
Chiper Flora	Tissue Engineering
Citaku Fatjona	Cancer- and Immunobiology
Coynel David	Cognitive Neuroscience
Daemi Mehdi	Cognitive Neuroscience
de Gracia Veronique	Brain and Sound
de Quervain Dominique	Cognitive Neuroscience
Demougin Philippe	Genomics Facility Basel User Lab (GFB UL)
Deuring Gunnar	Cognitive Neuroscience
Durante Barbara	Visceral Surgery and Precision Medicine
Elyan Anas	Translational Genitourinary Cancer Research
Emül Murat	Molecular Neuroscience
Esposito Mara	Infection Immunology
Falk Sigrid	Molecular Neuroscience
Faludi Tamás	Molecular Neuroscience
Ferrara Alessio	Molecular Neuroscience
Filipsky Filip	Cancer Immunotherapy
Fixemer Jonas	Experimental Virology
Frey Carmen	Cognitive Neuroscience
Freytag Virginie	Molecular Neuroscience
Frias Guerra Luana	Cancer Immunotherapy
Fricker Noelle	DBM-Zentrale Dienste Hebelstrasse
Fuhrer Tobias	Systems Pharmacology
Fuhrmann Friedrich Jakob	Translational Neuroimmunology
Geissmann Leonie	Cognitive Neuroscience
Gensch Alexander	Cartilage Engineering
Genty Lucile	Cardiovascular Molecular Imaging
Gerhards Christiane	Cognitive Neuroscience
Gharat Vaibhav Ganpat	Molecular Neuroscience
Grimm Amandine	Molecular Neuroscience
Haefele-Pfaltzgraff Anatole	Ovarian Cancer Research
Heisner Ute	Infection Biology
Huynh Kim-Dung	Molecular Neuroscience
Iseli Galya Clara	Cognitive Neuroscience
Käch Melanie	Liver Immunology
Kellenberger Wanja Tatjana	Translational Diabetes
Kluzer Luca	Experimental Hematology
Knabe Melanie	Cognitive Neuroscience
Kromer Kristina	Cancer Immunology
Kühne Uta	Molecular Neuroscience
Lasauskaite Ruta	Cognitive Neuroscience
Latino Lorenzo	Cancer Immunology
Li Qing	Tissue Engineering
Lima Renata	Ovarian Cancer Research
Loock Ann-Sophie	Cognitive Neuroscience
Mastrandreas Pavlina	Molecular Neuroscience
Mathis Cornelia	Cognitive Neuroscience
Möller Julian	Molecular Neuroscience
Montanelli Giulia	Experimental Immunology
Mossmann Dirk	Hepatology
Mueller Christoph	Developmental Immunology
Müggler Elia	Cognitive Neuroscience
Müller Fabian	Cognitive Neuroscience
Münch Mirjam	Cognitive Neuroscience
Musliju Fatima	Cognitive Neuroscience
Nikdima Ioanna Varvara	Tumor Heterogeneity Metastasis and Resistance
Osinnii Ivan	Liver Immunology
Otte Johanna	Cognitive Neuroscience
Pant Asmita	Cancer Immunology
Papassotiropoulos Andreas	Molecular Neuroscience
Parente Erika	Skin Biology
Pauletti Michela	Systems Pharmacology
Paulo da Silveira Rafael	Cancer- and Immunobiology
Penna Alessandro	Translational Genitourinary Cancer Research
Peter Fabian	Molecular Neuroscience
Petrovska Jana	Molecular Neuroscience
Piehl Virginia	Clinical Neuroimmunology
Pietri Gian Pietro	Infection Immunology
Pini Katia	Immunodeficiency
Pointeau Arthur	Cognitive Neuroscience

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New Colleagues from January to April

Polzer Jennifer	DBM Lehre/Fachbereiche
Possetti Valentina	Tissue Engineering
Probst Simone	Developmental Genetics
Ranganathan Apisha	Cancer Immunology
Reckels Sophie	Cognitive Neuroscience
Reist Matthias	Molecular Immune Regulation
Ries Miriam	Cognitive Neuroscience
Riou Aurélien	Molecular Neuroscience
Ritter Nathalie	Hepatology
Rizzi Stefano	Tissue Engineering
Rouchon Adelin	Tumor Heterogeneity Metastasis and Resistance
Rudin Robin	Molecular Neuroscience
Salib Kerolos	Translational Hepatology
Schicktanz Nathalie	Molecular Neuroscience
Schlauri Nadia	Immunobiology
Schlitt Thomas	Molecular Neuroscience
Schuhknecht Laurentz	Systems Pharmacology
Simon Niklas	Visceral Surgery and Precision Medicine
Skomorokhova Elizaveta	Infection Biology
Soliman Habiba Ahmed Helal	Infection Immunology
Somasundaram Vithusan	Cognitive Neuroscience
Sosa Carrillo	Systems Pharmacology
Sebastian Ramon	
Stalder Julian	Infection Immunology
Stetak Attila	Molecular Neuroscience
Strenger Kerstin	Infection Biology
Toccafondi Elenia	Visceral Surgery and Precision Medicine
Toniato Livio	Tumor Heterogeneity Metastasis and Resistance
Torriero Noemi	Tissue Engineering
Tschan Viviane Jessica	Translational Genitourinary Cancer Research
Valachovic Larissa	DBM-Zentrale Dienste Hebelstrasse
Vettori Luca Elia	DBM-Zentrale Dienste Hebelstrasse
Waldthaler Nina	Cognitive Neuroscience
Wang Nan	Cognitive Neuroscience
Wäspi Jeanne	Liver Immunology
Wössner Elona	Embryology and Stem Cell Biology
Wüst Larissa	Cognitive Neuroscience
Wyss Medea	Systems Pharmacology
Zampieri Mattia	Systems Pharmacology
Zuin Jessica	Molecular Immune Regulation

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Content

Thank you!

The DBM newsletter team would like to thank all the contributors for their work. We hope you enjoyed reading the newsletter.

Please feel free to submit your ideas and input for our next issue.

communications-dbm@unibas.ch

What do the members of the DBM do in their free time during the summer months?

For our upcoming issue, we would like to feature photos showcasing where DBM members spend their summer holidays. We invite you to share your funniest, most beautiful, or interesting snapshots, as the best pictures will be selected for publication in the next issue.

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Publishing Information Imprint

Publisher:
Department of Biomedicine
University of Basel
Hebelstrasse 20
4031 Basel
Switzerland

Concept: Xiomara Banholzer

Editorial team:
Xiomara Banholzer, Jael Sulger, Martina Konantz

Layout and Photography: Jael Sulger

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Universität Basel

Department Biomedizin

Newsletter
May 2023