ANNE RIOS, PhD, CV

Personal Data

Born: 6 APRIL 1983, Nationality: French
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Website: www.dream3dlab.com
Founder of the Art Foundation The Supernatural
Website: https://supernatural.science/

Current Academic Positions

- 03/2017- Group leader, Princess Máxima Center, Utrecht, the Netherlands
- 03/2017- Head of the Princess Máxima Imaging Center, Utrecht, the Netherlands
- 01/2019- Group leader, Oncode, virtual institute for cancer research excellence, the Netherlands
- 06/2025- Professor of Microscopy-Driven Human Cancer and Immunotherapy Innovation, Utrecht University, Utrecht, the Netherlands

Scientific interests (Keywords)

3D Imaging, Organoids, Artificial Intelligence, Cancer, Immunotherapy

Missions of the Rios' Dream3DLab

Together, we develop 3D imaging and organoid technologies for driving discovery in the field of cancer immunotherapy at patient scale. We create unique Art experiences for the public to engage diverse audiences in our scientific mission and core values; Diversity & Sustainability.

Education and Training

- 2012–2017 Senior Post-doctoral fellow, Walter and Eliza Institute, Melbourne, Australia
- 2008–2011 Doctoral thesis at Developmental Biology Institute of Marseille Luminy (IBDML), France / Australian Regenerative Medicine Institute (ARMI), Melbourne, Australia *(first class honours)*
- 2006–2008 Master's degree Université de la Méditerranée *(top 1 ranking)*

Other Experience and Professional Memberships

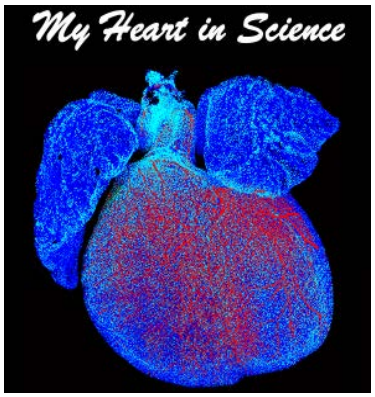
- 2017-2021 Selected member (junior group leader) of the Cancer Genomics Center, The Netherlands
- 2018 - Selected 'next generation' member of the International Society for Stem Cell Research (ISSCR)
- 2020-2025 Program committee member European Fight Kids Cancer Innovation grant
- 2020- Human Cell Atlas member (The Organoid Cell Atlas)
- 2020-2021 Review Panel member for Master's program (NVAO; Initial accreditation TNO)
- 2020 Expert member for Marie-Curie individual fellowships
- 2021-2022 Consultant on organoid culture and 3D imaging for Volastra therapeutics
- 2021- Member of TopX, platform for ambitious women in life science
- 2021-2023 Technology advisory Board member, Oncode
- 2021- Founder of ACE (women in science program, Princess Máxima Center)
- 2021-2022 Honorary Fellow NIAS-KNAW (Dutch royal Academy of Arts and Sciences), Amsterdam, the Netherlands
- 2022-2025 Founding member of Catalysts program of the EMBO Journal
- 2022-2023 External Expert Reviewer, ERC consolidator grant, Neuroscience and Disorders System panel
- 2022-2026 Board member Image science of Utrecht theme Life Sciences strategy 2022-2026
- 2023- Member of the Program Management Team, NL-BioImaging AM

Honors, Prices & Awards

- 2011 Director's Prize PhD Award, Monash University, Clayton, Australia
- 2013 Postdoctoral Fellowship 2013-2016, co-funded by the National Breast Cancer Foundation and Cure Cancer Australia Foundation (*400,000 AUD*)
- 2014 Walter and Eliza Hall Research Institute Post-Doctoral Award, Melbourne, Australia (*3,000 AUD*)
- 2016 Neil Lawrence prize for most creative young scientist, Centenary Institute Medical Innovation Awards (personal prize, *25,000 AUD*)
- 2017 Cancer Genomics Center young PI award
- 2018 Oncode Female Junior Investigator Award
- 2018 European Research Council (ERC) starting grant
- 2018 Cancer Genomics Center young PI Award

- 2019 St. Baldrick's Foundation Robert J. Arceci International Innovation Award
- 2020 Cancer Genomics Center joint PI Award
- 2021 L'Oréal-UNESCO for Woman in Science Award (personal prize, *25,000 €)*
- 2024 NWO Venture Challenge fall 2024 (Sniper Therapeutics, winning team)

Art & Science Awards



- 2011 First prize winner Imaging Competition Life Technologies
- 2012 Art & Science Award, the Walter and Eliza Hall Institute of Medical Research, Melbourne, Australia
- 2013 Art & Science Award, the Walter and Eliza Hall Institute of Medical Research, Melbourne, Australia – *judged by an external curator of contemporary photography*
- 2013 Art of Science Director's Choice Award, the Walter and Eliza Hall Institute of Medical Research, Melbourne, Australia
- 2014 Highly recommended new scientist Eureka Prize for Science Photography
- 2015 Biomedical breakthrough exhibition (Melbourne museum)
- 2020 Cell Picture show, Calendar Cell journals August 2021, 3D image of a human breast

Funding obtained

- 2017 Cancer Genomics Center young PI award 2017-2021 (*300,000 €*). *Title:* New model systems from primary tumor material to study cancer drug responses
- 2018 WBSO, Dutch government (*160,000 €*). *Title:* Dissecting and targeting cancer invasion in DIPG
- 2018 Oncode Principal investigator grant programme 2019-2023 (*600,000 €*). *Title:* Visualizing the unexpected
- 2018 European Research Council (ERC) starting grant 2019-2023 (*1,500,000 €*). *Title:* Deciphering and targeting the invasive nature of Diffuse Intrinsic Pontine Glioma
- 2018 Dutch Neuroblastoma Foundation (Villa Joep) grant 2018-2022 (*680,000 €*). *Title:* Optimizing neuroblastoma resection using fluorescent guided surgery
- 2018 Dutch Cancer Society (KWF) high-risk grant 2018-2022 (*150,000 €*). *Title:* Unraveling the integration of pediatric high grade glioma in the developing brain using state-of-the-art imaging
- 2018 Cancer Genomics Center young PI award 2018-2020 (*100,000 €*). *Title:* Studying human breast cancer dynamics using multi-colored lineage tracing
- 2019 St. Baldrick's Foundation Robert J. Arceci International Innovation Award 2020-2022 (*700,000 €*) *Title*: 3D imaging innovation: a fresh eye on pediatric cancer
- 2020 Horizon 2020 Human cell atlas, associate PI 2020-2022 (*5,000,000 €*) *Title*: HCA Organoid
- 2020 Cancer Genomics Center joint PI award (*100,000 €*). *Title:* Interrelating dynamic TGFβ signaling and T cell behavior in the context of tumor-targeting
- 2020 Industrial partnership Gadeta. *Title:* Metabolic-targeting TEG cell behavior in the context of breast cancer targeting (*110,000 €*)
- 2021 Core budget Principal Investigator Princess Máxima Center 2023-2025 (*~300,000 €*)
- 2021 KWF Consortium Grant, associate PI 2021-2025 *(~1,000,000 €*). *Title:* Targeting human cancer with the next generation of engineered immune cells: TEGs.
- 2021 Industrial Partnership Friesland Campina. 2021-2024 (*400,000 €*) *Title:* In vitro system for studying biological and nutritional factors affecting lactation and the function of human milk on intestinal development and physiology.
- 2021 ODAS Foundation, consortium grant. 2021-2023. (*355,000 €*) *Title:* Identify targets to modulate CAR-T cell functionality using advanced 3D co-culture and imaging technologies: Towards better survival of pediatric BCP-ALL patients.
- 2022 Zwaartekracht consortium grant IMAGINE, associate PI. 2022-2031. (*20,800,000 €*). *Title:* Innovative Microscopy And Guidance of cells In their Native Environment.
- 2022 Horizon Europe 2021 Marie Sklodowska-Curie Actions (MSCA) Cofund co-PI. 2023-2027. (*3,800,000 €*). *Title:* From Caterpillar to BUTTERFLY: supporting transformation of DCs in a paediatric oncology network.
- 2022 Dutch Research Council (NWO) Science Communication Grant. 2023-2025 (*50,000 €*). *Title:* An unexpected alliance to portray cancer.

- 2023 Large-Scale Research Infrastructure: National Roadmap consortia. Project Leader team (*14,505,940 €*). *Title:* NL-BI, a Dutch infrastructure for advanced microscopy in life science.
- 2022 Roche Access to Distinguished Scientists (ROADS) Programme. 2022-2024. (*1,002,315 €*). *Title:* High definition of T-cell therapy response and underlying resistance mechanisms using BEHAV3D for accelerating precision medicine.
- 2023 Stichting Proefdiervrij research grant 2023-2024 (*100,000 €*). *Title*: Vascularized organoids for predictive human modeling of pediatric Diffuse Midline Glioma.
- 2023 Oncode Principal senior investigator grant programme – phase II 2023-2027 (*880,000 €*).
- 2023 KiKa research grant 2023-2027 (*550,000 €*). *Title*: Advancing T cell therapies for Diffuse Midline Glioma using a 3D imaging-transcriptomics platform.
- 2024 Charlie Teo Foundation Research Rebel Grant (200,000 AUD) 2024-2026. *Title:* Dynamic recalibration of engineered T cells for precise targeting of diffuse midline glioma.
- 2024 TKI PPP Allowance Health Holland (*1,869,794 €*) 2024-2027. *Title:* Developing an organoid dynamic screening platform to evaluate immuno-oncology drug activities in a clinically relevant preclinical model. Industrial partner: the HUB
- 2024 Dutch Research Council (NWO) Venture Challenge (*25,000 €*). *Title:* Sniper Therapeutics.
- 2025 TKI-LSH Health Holland 2025-2028 (*3,266,667 €*)
- 2025 Dutch Research Council (NWO) Talent Program Vici grant 2025-2030 (*1,500,000 €*). *Title*: Directing CAR T cell behaviour towards enhanced performance against diffuse midline glioma.
- 2025 Dutch Research Council (NWO) Open Competition Domain Science M2 2025-2029 (*850,000 €*). *Title:* Dissecting T cell serial killing of solid tumours.

Industrial Partners

2018 -	Hubrecht Organoid Technology (HUB): novel breast (cancer) organoid models
2019 -	QVQ: nanobodies for live 3D imaging (Beta-testing)
2020 -	Elthera: antibody development for fluorescence-guided surgery (Beta-testing)
2021 -	Friesland Campina: 3D bioprinted healthy breast model for studying human milk production (PhD student)
2021-2022	Volastra therapeutics: consultant on organoid culture and 3D imaging
2021- 2023	Enara Bio: Organoid human cancer immunity models for efficacy assessment of novel pan-targeting cellular immunotherapies
2021-	Roche: Organoid human cancer immunity models for efficacy assessment of novel immunotherapies

Clinical Partners

2023 -	Isala Hospital: breast (cancer) patient material

Patents

- Development of novel milk-derived breast organoid technology (PCT/NL2022/050070 METHOD OF PRODUCING AN ORGANOID)
- Novel biomaterial for *in vitro* modelling (PCT/EP2023/073303 HYBRID SUPRAMOLECULAR BIOMATERIAL FOR BIOPRINTING AND CELL CULTURE)
- Novel fluorescence guided surgery probe: anti-G2 antibody (dinutuximab) conjugated to an imaging probe (IRDye800CW) to detect GD2 positive cancers (PATENT APPLICATION NUMBER 2307103.8 METHOD FOR DETECTING A GD2 POSITIVE CANCER)
- Development of a novel brainstem-regionalized brain organoid model (P382144NL/METHOD OF PRODUCING AN ORGANOID)
- Development of a marker-based T cell selection (P102253NL/THERAPY WITH T CELLS)

Senior author publications (24 publications) **Total number of publications: 63**

- Collot R., Ruiz-Moreno C., Honhoff C., …, Stunnenberg H.G., **Rios A.C.** IGSF11-VISTA is a critical and targetable immune checkpoint axis in Diffuse Midline Glioma. (**Cancer Cell**, Jan 2026, IF: 44.5)
- Bessler N, Wezenaar A.K.L., Ariese H.C.R., Honhoff C., …, **Rios A.C.** De novo H3.3K27M-altered Diffuse Midline Glioma in human brainstem organoids to dissect GD2 CAR T cell function. (**Nature Cancer**, Jan 2026, IF: 28.5)
- Buchholz M.B, Bessler N., **Rios A.C.** AnyBio – An easy off-the-shelf masked stereolithography bioprinter conversion combined with radical-scavenging strategies. (**HardwareX**, Dec 2025, IF: 2.5)
- Buchholz M.B., Pernal P.N.,…, **Rios A.C.** Development of a bioreactor and volumetric bioprinting protocol to enable perfused culture of biofabricated human epithelial mammary ducts and endothelial constructs. (**Biofabrication**, May 2025, IF: 9.8)

- Rios-Jimenez E., …, **Rios A.C.** & Alieva M. BEHAV3D Tumor Profiler to map heterogeneous cancer cell behavior in the tumor microenvironment. (**Elife**, Sept 2025, IF: 6.4)
- Wezenaar A.K.L., Pandey U., Keramati F., …, Alieva M & **Rios A.C.** Mapping T cell dynamics to molecular profiles through Behavior-Guided Transcriptomics. (**Nature Protocols**, Feb 2025, IF: 15.096)
- Buchholz M.B., …, **Rios A.C.** Human Breast tissue engineering in health and disease. (**Embo Mol Med.**, Oct 2024, IF: 14.005)
- Jeremiasse J.,…, **Rios A.C.** A multispectral 3D live organoid imaging platform to screen probes for fluorescence guided surgery. (**Embo Mol Med.**, Jun 2024, IF: 14.005)
- Alieva M., …, **Rios A.C.** BEHAV3D: a 3D live imaging platform for comprehensive analysis of engineered T cell behavior and tumor response. **Nature Protocols**, Mar 2024, IF: 15.096)
- Alieva M, Wezenaar A.K.L., Wehrens E.J., **Rios A.C.** Bridging live-cell imaging and next-generation cancer treatment (**Nature Reviews Cancer**, Sep 2023, IF: 69.8)
- Van Ineveld R.L., Collot R., …, **Rios A.C.** Multispectral confocal 3D imaging of intact healthy and tumor tissue using mLSR-3D (**Nature Protocols**, Sep 2022, IF: 15.096)
- **Rios A.C.** Resolving the spatial heterogeneity of cancer in 3D. (**Nature Reviews Cancer**, Tools of the Trade, Aug 2022, IF 69.8)
- Dekkers J.F., Alieva M., …, **Rios A.C.** Uncovering the mode of action of engineered T cells in patient cancer organoids. (**Nature Biotechnology**, Jul 2022, IF:68.16)
- van Ineveld R.L., van Vliet E., Wehrens E.J., …, **Rios A.C.** 3D imaging for driving cancer discovery. Review. (**EMBO J**, Apr 2022, IF: 8.63)
- van Ineveld R.L., Kleinnijenhuis M., …, **Rios A.C.** Revealing the spatio-phenotypic patterning of cells in healthy and tumor tissues with mLSR-3D and STAPL-3D (**Nature Biotechnology**, Jun 2021, IF: 68.16).
- Van Ineveld R.L., Margaritis, …, **Rios A.C.** & Bos F.L. LGR6 marks nephron progenitor cells. (**Developmental Dynamics**, April 2021, IF: 3.275).
- Dekkers J.F., …, **Rios A.C.** Long-term culture, genetic manipulation and xenotransplantation of human normal and breast cancer organoids. (**Nature Protocols**, Mar 2021, IF: 15.096).
- Dawson C.A., …, **Rios A.C.** & Visvader J.E. Intravital microscopy of dynamic single-cell behaviour in mouse mammary tissue. (**Nature Protocols**, Mar 2021, IF: 15.096).
- Wellens L.W., Deken M.M., …, **Rios A.C.** Anti-GD2-IRDye800CW as a targeted probe for fluorescence-guided surgery in neuroblastoma. (**Scientific Reports**, Oct 2020, IF: 4.576)
- Van Ineveld R.L., Ariese H.C.R., …, Dekkers J.F. & **Rios A.C.** Single-cell resolution three-dimensional imaging of intact organoids. (**J. Vis. Exp.**, Jun 2020, IF: 1.325)
- Dawson C.A., …, **Rios A.C.** & Visvader J.E. Tissue-resident ductal macrophages survey the mammary epithelium and facilitate tissue remodelling. (**Nature Cell Biology**, May 2020, IF: 20.960).
- Kluiver T.A., Alieva M., …, Wehrens E.J. & **Rios A.C.** Invaders exposed: Understanding and targeting tumor cell invasion in Diffuse Intrinsic Pontine Glioma. Review. (**Frontiers in Oncology**, Feb 2020, IF: 4.848)
- Dekkers J.F., …, Visvader J.E., Clevers H., **Rios A.C.** High-resolution 3D imaging of fixed and cleared organoids. (**Nature Protocols**, Jun 2019, IF: 15.096)
- Alieva M. & **Rios A.C.** Longitudinal Intravital Imaging of brain tumor cell behaviour in response to an invasive surgical biopsy. (**J. Vis. Exp.**, May 2019, IF: 1.325)

First Author publications (12 publications)

- **Rios A.C.**, van Rheenen J., Scheele C.L.G.J. Multidimensional imaging of breast cancer. (**CSH Perspective**, Sep 2022, IF: 6.915)
- **Rios A.C.**, …, Visvader J.E. Intraclonal plasticity in mammary tumors revealed through Large-scale Single-cell Resolution 3D imaging. (**Cancer Cell**, Jun 2019, IF: 50.3)
- **Rios A.C.**, Clevers H. Imaging organoids: a bright future ahead. Review. (**Nature Methods**, Jan 2018, IF: 28.55)
- Fu N.Y., **Rios A.C.**, …, Visvader J.E. Identification of quiescent and spatially-restricted mammary stem cells that are hormone responsive. (**Nature Cell Biology**, Mar 2017, IF: 20.960)
- **Rios A.C.,** Fu N.Y., …, Visvader J.E. The complexities and caveats of lineage tracing in the mammary gland. Review. (**Breast Cancer Research**, Nov 2016, IF: 6.027)
- Sieiro D., **Rios A.C.**, …, Marcelle C. Cytoplasmic NOTCH and membrane-derived β-catenin link cell fate choice to epithelial-mesenchymal transition during myogenesis. (**Elife**, May 2016 IF: 7.080)
- **Rios A.C.**, Fu N.Y., ..., Visvader J.E. Essential role for a novel population of binucleated mammary epithelial cells in

lactation. (**Nature Communications**, Apr 2016, IF: 17.69)

- **Rios A.C.**, Fu N.Y., Lindeman G.J. & Visvader J.E. In situ identification of bipotent stem cells in the mammary gland. (**Nature**, Feb 2014 IF: 46.486)
- **Rios A.C.**, Marcelle C. & Serralbo O. Gene loss-of-function and live imaging in chick embryos. (**Methods Molecular Biology**, 2012, IF: 10.71)
- **Rios A.C.**, …, Marcelle C. Neural crest regulates myogenesis through the transient activation of NOTCH. (**Nature**, May 2011, IF: 46.486)
- **Rios, A.C.**, …, Marcelle C. Real time observation of Wnt B-catenin signalling in the chick embryo. (**Developmental Dynamics**, Jan 2010, IF: 3.275)
- **Rios A.C.** & Marcelle C. Head muscles: aliens who came in from the cold? Review. (**Developmental Cell**, Jun 2009, IF: 13.42)

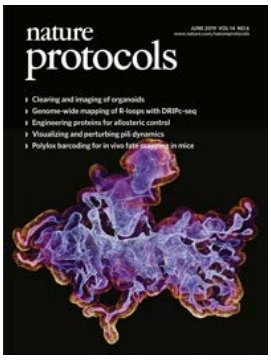
Collaborative publications (27 publications)

- Thijs J.M. van den Broek,…, …, **Rios A.C.**, Dannis G. van Vuurden, Anoek Zomer. Single-cell spatial analysis of pediatric high-grade glioma reveals lipid-accumulating SPP1+/GPNMB^{+} myeloid cells correlating with a MES-like tumor state (**Pediatric Neurooncology,** Aug 2025)
- Marta Barisa…, …**Rios A.C.,** …, John Anderson.. Functional avidity of anti-B7H3 CAR-T constructs predicts antigen density thresholds for triggering effector function. (**Nature Comm.**, Aug 2025, IF:15.7)
- De Kanter J.K., Steemers A.S., …, **Rios A.C**., …, van Boxtel R. & Meyer-Wentrup F. Single-cell RNA sequencing of pediatric Hodgkin lymphoma to study the inhibition of T cell subtypes. **(Hemasphere**, Sep 2024, IF: 12.1)
- Gilbertson R.J., …, **Rios A.C.**, …, Pfister S.M. The virtual Child. (**Cancer Discovery**, Apr 2024, IF: 39.397)
- Mamedov M.R., …, **Rios A.C.**, …, Marson A. CRISPR screens decode cancer cell pathways that trigger γδ T cell detection. (**Nature**, Sep 2023, IF: 64.8)
- Jeremiasse B., …, **Rios A.C.** & A.F.W. van der Steeg. Evaluation of Potential Targets for Fluorescence-Guided Surgery in Pediatric Ewing Sarcoma: A Preclinical Proof-of-Concept Study (**Cancers (Basel**, Aug 2023, IF: 5.2)
- Vennin C., …, **Rios A.C.**, …, van Rheenen J. Taxanes trigger cancer cell killing in vivo by inducing non-canonical T cell cytotoxicity. (**Cancer Cell**, Jun 2023, IF: 50.3)
- Tiroille V., …, **Rios A.C.**, …, Verhoeyen E. Nanonablades allow high-level genome editing in murine and human organoids (**Mol. Ther. Nucleic Acids**, Jun 2023, IF: 10.2)
- DeMartino J., …, **Rios A.C.**, …, Drost J. Single-cell transcriptomics reveals immune suppression and cell states predictive of patient outcomes in rhabdomyosarcoma. (**Nat. Commun.,** May 2023; IF: 16.6)
- Wang Z, …, **Rios A.C.**, …, Shen X. Rapid tissue prototyping with micro-organospheres. (**Stem Cell Report**, Aug 2022, IF: 9.423)
- Wander P., …, **Rios A.C.**, …, Stam R.W. High-throughput drug screening reveals Pyrvinium pamoate as effective candidate against pediatric MLL-rearranged acute myeloid leukemia. (**Translational Oncology**, May 2021, IF: 4.243)
- Huang Q., …, **Rios A.C.**, …, Shen X. The frontier of live tissue imaging across space and time. Review. (**Cell Stem Cell**, Apr 2021, IF: 20.860)
- Bock C., …, **Rios A.C.**, …, Vries R.G.J. & the Human Cell Atlas 'Biological Network' Organoids. The Organoid Cell Atlas. (**Nature Biotechnology**, Dec 2020, IF: 54.908)
- Qiu B., …, **Rios A.C.**, …, Caiazzo M. Bioprinting neural systems to model central nervous system diseases. (**Advanced Functional Materials**, Apr 2020, IF 16.836)
- Calandrini C., …, **Rios A.C.**, … , Drost J. An organoid biobank for childhood kidney cancers that captures disease and tissue heterogeneity. (**Nature communications**, Mar 2020, IF: 17.69)
- Post Y., Puschhof J., Beumer J., …, **Rios A.C.**, …, Clevers H. Snake venom gland organoids. (**Cell**, Jan 2020, IF: 38.620)
- Schutgens F, …, **Rios A.C.**, …, Clevers H. Tubuloids derived from human adult kidney and urine for personalized disease modeling. (**Nature Biotechnology**, Mar 2019, IF: 54.908)
- Gehart H., …, **Rios A.C.**, Clevers H. Identification of enteroendocrine regulators by real-time single-cell differentiation mapping. (**Cell**, Feb 2019, IF: 38.620)
- Wellens L.W., …, **Rios A.C**, Wijnen M.H.W.A. Comparison of 3-Dimensional and Augmented Reality Kidney Models with Conventional Imaging Data in the Preoperative Assessment of Children With Wilms Tumors. (**JAMA Netw Open**, Apr 2019 IF: 8.483)
- Sachs N., …, **Rios A.C.**, …, Clevers H. Long-term expanding human airway organoids for disease modeling. (**EMBO J,** Feb 2019, IF: 8.63)

- Hu H., …, **Rios A.C.**, …, Clevers H. Long-term expansion of functional mouse and human hepatocytes as 3D organoids. (**Cell**, Nov 2018, IF: 38.620)
- Fu N.Y.,…, **Rios A.C.**, …, Visvader J.E. Foxp1 is indispensable for ductal morphogenesis and controls the exit of mammary stem cells from quiescence. (**Developmental Cell**, Dec. 2018, IF: 13.42)
- Pal B., …, **Rios A.C.**, …, Visvader J.E. Construction of developmental lineage relationships in the mouse mammary gland by single-cell RNA profiling. (**Nature communications**, Nov. 2017, IF: 17.69)
- Jamieson P.R., Dekkers J.F., **Rios AC**, …, Visvader J.E. Derivation of a robust mouse mammary organoid system for studying tissue dynamics. (**Development**, Mar 2017 IF: 6.192)
- van de Moosdijk A.A., Fu N.Y., **Rios A.C.**, …, van Amerongen R. Lineage tracing of mammary stem and progenitor cells. (**Methods Molecular Biology**, 2017, IF: 10.71)
- Fu N.Y., **Rios A.C.**, …, Visvader J.E. EGF-mediated induction of Mcl-1 at the switch to lactation is essential for alveolar cell survival. (**Nature cell Biology**, Apr 2015, IF: 20.960)
- Tassy O., …, **Rios A.C.**, …, Lemaire P. The ANISEED database: digital representation, formalization, and elucidation of a chordate developmental program. (**Genome Research**, Oct 2010, IF: 9.944)

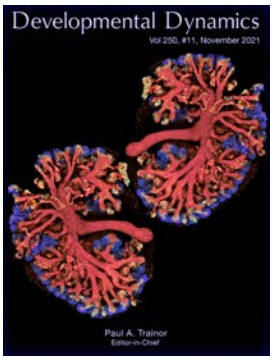
Journal Covers

Science
(*Iss 6444, June 2019*)

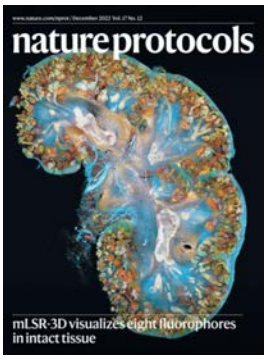


Nature Protocols
(*No. 6, June 2019*)

Nature Cell Biology
(*No. 5, May 2020*)



Developmental Dynamics
(*No. 11, Nov 2021*)



Nature Protocols
(*No. 12, Dec 2022)*

EMBO Mol Med
(*No. 7, July 2024*)

Nature Protocols
(*No. 7, July 2024*)

PhD Supervision (16 students supervised)

- Caleb Dawson (University of Melbourne): start date: 1-4-2015, end date: 1-10-2019, date of thesis acceptance 19-3-2020. Thesis entitled 'Investigation of mammary gland development and resident macrophages by 3D and intravital imaging'
- Lianne Wellens (Clinical & Translational Oncology PhD program): start date 1-3-2016, end date: 30-9-2020, defense date: 11-3-2022. Thesis entitled 'Improving surgery in pediatric oncology by fluorescence- and 3D imaging'
- Ravian van Ineveld (Cancer stem cells & Developmental biology PhD program): start date 1-10-2017, end date 1-11-2021, defense date: 3-10-2022. Thesis entitled 'A panoramic view of the phenotypic landscape of healthy and tumor tissues'

- Esmee van Vliet (Cancer stem cells & Developmental biology PhD program): start date: 1-11-2019, end date: 29-2-2024, defense date: 4-2-2025. Thesis entitled 'Resisting Resistance: Towards Unravelling the Secrets of Cellular Immunotherapy'
- Bernadette Jeremiasse (Clinical & Translational Oncology PhD program): start date 1-2-2019, end date 31-5-2023. defense date: 27-3-2025. Thesis entitled 'Thesis entitled 'Bridging the gap between the visible and invisible'
- Maj-Britt Buchholz (Regenerative Medicine PhD program): Start date 1-10-2019, end date 31-6-2024. defense date: 24-3-2025. Thesis entitled 'Thesis entitled 'From organoids to bioprinting: advancing the building blocks of breast tissue engineering'
- Cristian Ruiz-Moreno (Cancer stem cells & Developmental biology PhD program, co-supervisor): start date 1-7-2018, end date 31-12-2024, PhD *in progress*
- Nils Bessler (Cancer stem cells & Developmental biology PhD program): start date 15-3-2019, end date 14-9-2024, PhD *in progress*
- Amber Wezenaar (Cancer stem cells & Developmental biology PhD program): start date 1-11-2019, end date 31-3-2025, PhD *in progress*
- Raphaël Collot (Cancer stem cells & Developmental biology PhD program): start date 15-2-2020, end date 14-3-2025, PhD *in progress*
- Emma Bokobza (Cancer stem cells & Developmental biology PhD program): start date 1-9-2021, end date 31-8-2025, PhD *in progress*
- Thijs van den Broek (Cancer stem cells & Developmental biology PhD program, co-supervisor): start date 1-9-2021, end date 1-9-2025, PhD *in progress*
- Uddeshya Pandey (Cancer stem cells & Developmental biology PhD program): start date 1-10-2023, end date 30-9-2027, PhD *in progress*
- Celina Hohnoff (Cancer stem cells & Developmental biology PhD program): start date 15-1-2025, end date 15-1-2029, PhD *in progress*
- Sam de Blank (Cancer stem cells & Developmental biology PhD program): start date 3-2-2025, end date 3-2-2029, PhD *in progress*
- Hendrikus Ariese (Cancer stem cells & Developmental biology PhD program): start date 1-12-2025, end date 1-12-2029, PhD *in progress*

Teaching activities (from 2025)

- Course MRC (Molecular cell research), 3rd year Bachelor level, Lecture, 24th of February 2025
- I&I S&T (Infection and Immunology signaling & techniques) course, Master level, lecture, 16th of June 2025
- MRC (Molecular cell research) 3rd year Bachelor level, research proposal course (March-April 2025)

Relevant Invited & Plenary talks

- 2009 Myores meeting. *Title:* Dynamic activation of the Wnt and Notch signaling during early myogenesis. **Invited speaker** (Malta)
- 2013 CXC symposium: Frontiers of light microscopy. *Title:* Wnt and Notch signaling: a tale of cell fate choice. **Invited speaker** (Sydney, Australia)
- 2014 FEBS EMBO. *Title:* In situ identification and characterization of bipotent stem cells in the mammary gland: Insights from 3D imaging. **Invited speaker** (Paris, France)
- 2016 Gordon Research Conference (GRC). *Title:* Essential role for a novel population of binucleated mammary epithelial cells in lactation. **Invited speaker** (Tuscany, Italy)
- 2016 Roadshow Thermo Fisher Scientific, Ambassador. *Title:* Investigating the cellular dynamics of breast cancer progression using 3D/4D imaging. **Invited speaker** (Melbourne, Australia)
- 2016 Illumination public forum breast cancer: New research, future treatments. *Title:* The power of imaging in understanding cancer biology. **Invited speaker** (Melbourne, Australia)
- 2017 Olympus Microscopy summit. *Title:* Investigating the cellular dynamics of organ and cancer development using 3D imaging. **Invited speaker** (Etville/Rheingau, Germany)
- 2018 Goodbye Flat Biology: In Vivo Inspired Cancer Biology and Therapy. *Title:* Investigating the cellular dynamics of organ and cancer development using 3D imaging. **Invited speaker** (Berlin, Germany)
- 2018 The International Society for Stem Cell Research (ISSCR) annual meeting. *Title:* Investigating the cellular dynamics of organ and cancer development using 3D imaging. **Invited speaker** (Melbourne, Australia)
- 2019 Symposium Académie des Sciences et Académie de Médecine (France). *Title:* Organoid and 3D Imaging: a bright future ahead. **Invited speaker** (Paris, France)

- 2019 European Molecular Imaging Meeting (EMIM). *Title:* Dynamics of breast oncogenesis revealed through large-scale single-cell resolution 3D imaging. **Invited speaker** (Glasgow, UK)
- 2019 Lifetime conference. *Title:* Investigating the cellular dynamics of organ development and cancer using 3D imaging. **Plenary Talk** (Montpellier, France)
- 2020 European Molecular Imaging Meeting (EMIM). *Title:* Single-cell 3D imaging technologies: uncovering biology cell by cell! **Plenary talk** (virtual conference)
- 2020 Journées cancéropôle Grand Sud-Ouest (GSO). *Title:* Single-cell 3D imaging technologies: uncovering biology cell by cell! **Plenary talk** (virtual conference)
- 2020 CONTRA workshop. *Title:* 3D imaging of solid tumors/lab happiness program. **Plenary talk** (virtual conference)
- 2021 Volume imaging symposium (Australian Microscopy and Microanalysis Society). *Title:* 3D Imaging & Organoid: a bright future ahead. **Invited speaker** (virtual conference)
- 2021 imCORE Summit. Title: Organoid cellular cancer immunity models in motion. **Invited speaker** (virtual conference)
- 2021 Lifetime conference 2.0 *Title:* Investigating the cellular dynamics of organ development and cancer using 3D imaging. **Plenary talk** (Berlin, Germany, Virtual)
- 2021 European association for Cancer Research (EACR) congress. Rising Star Symposium. *Title:* Investigating the cellular dynamics of organ development and cancer using 3D imaging. **Invited speaker** (virtual conference)
- 2021 Summer School in Immunology-Oncology. *Title:* Single cell approaches and organoid technology in tumor and immunological heterogeneity. **Keynote speaker** (Marseille, France)
- 2021 European Molecular Imaging Meeting (EMIM). *Title:* Spatio-phenotypic patterning of millions of cells within tissues. **Invited speaker** (Göttingen, Germany)
- 2021 Zeiss Lattice light sheet workshop group. *Title:* The spatio-dynamic features of cancer & cancer treatment. **Keynote speaker** (online)
- 2021 Vienna symposium, Immunology & Cancer. *Title:* The spatio-dynamic features of cancer & cancer treatment. **Invited speaker** (online)
- 2021 Inserm Workshop Tissue clearing. *Title:* The spatio-dynamic features of cancer & cancer treatment. **Invited speaker** (Lyon, France, online)
- 2022 NKI seminar series. Title: Organoid cellular cancer immunity models in motion. **Invited speaker** (Amsterdam, The Netherlands)
- 2022 SMI 3D cell culture. Title: Organoid cellular cancer immunity models in motion. **Invited speaker** (London, UK)
- 2022 Public science event, De Balie x NIAS, what (not) to say? The future of communication in medical care. *Title:* The power of 3D imaging in cancer research. **Invited speaker** (Amsterdam, The Netherlands)
- 2022 Presentatie Life Science. Title: Organoid cellular cancer immunity models in motion. **Keynote speaker** (Leiden, The Netherlands)
- 2022 CRUK Children's Brain Tumour Centre of Excellence Summer School 2022. *Title:* The power of 3D imaging in brain cancer research. **Invited speaker** (London, UK)
- 2022 GSO Biofabrication 2022. *Title:* Organoid cellular cancer immunity models in motion. **Keynote speaker** (Bordeaux, France)
- 2022 Annual meeting Dutch Biophysics 2022. *Title:* The power of 3D imaging in cancer research. **Plenary lecture** (Veldhoven, The Netherlands)
- 2022 Monash Organoid Symposium. Title: Organoid cellular cancer immunity models in motion. **Keynote speaker** (Melbourne, Australia)
- 2022 International Society for Stem Cell Research (ISSCR) next generation of leaders. **Invited speaker**.
- 2023 European Molecular Imaging Meeting (EMIM). *Title:* Spatio-phenotypic patterning of millions of cells within tissues. **Invited speaker** (Salzburg, Austria)
- 2023 Advances in Neuroblastoma Research meeting. *Title:* Organoid cellular cancer immunity models in motion. **Keynote lecture** (Amsterdam Netherlands)
- 2023 Immuno-Oncology Summit Europe 2023. *Title:* Organoid cellular cancer immunity models in motion. **Plenary keynote** (London, UK)
- 2023 PEGS : The Essential Protein Engineering & Cell Therapy Summit. *Title:* Organoid cellular cancer

immunity models in motion. **Plenary keynote** (Boston, US)

- 2023 EACR conference, Goodbye Flat biology: Next generation Cancer models. *Title:* Organoid cellular cancer immunity models in motion. **Keynote speaker** (Berlin, Germany)
- 2023 EMBO/EMBL Symposium. Organoids: modelling organ development and disease in 3D culture. *Title:* Organoid cellular cancer immunity models in motion. **Invited speaker** (Heidelberg, Germany)
- 2024 NEUROBLASTOMA UK 2024. *Title:* Organoid human cancer immunity models in motion. **Invited speaker** (Cambridge, UK)
- 2024 AACR annual meeting 2024. *Title:* Organoid human cancer immunity models in motion. **Invited speaker** (San Diego, USA)
- 2024 EMBO worshop 2024 The many faces of cancer evolution. *Title:* Organoid human cancer immunity models in motion. **Invited speaker** (Remini, Italy)
- 2024 EACR annual congress2024. *Title:* Organoid human cancer immunity models in motion. **Invited speaker** (Rotterdam, Netherlands)
- 2024 KWF-DTIM 2024 annual meeting. *Title:* Organoid human cancer immunity models in motion. **Keynote speaker** (Breukelen, Netherlands)
- 2025 Physical Sciences of Cancer GRC. **Invited speaker** (Pomona, California, US)
- 2025 AACR Special Conference on *Functional and Genomic Precision Medicine in Cancer.* **Invited speaker** (Boston, US)
- 2025 Innovative Imaging for 3D Cell Biology. **Plenary lecture** (Utrecht , Netherlands)
- 2025 Organoid are us. **Invited Speaker** (Glasgow, Scotland)
- 2025 Cold Spring Harbor Laboratory (CSHL) conferences. Serie: Assembloids and Complex Cell-Cell Interactions across Systems. **Invited speaker** (Boston, US)

Upcoming

- 2026 6th SUNRiSE meeting on 'Tumor heterogeneity and cell plasticity' **Keynote Speaker** (Bordeaux, France)

Distinctive Presentations

- 2017 Research Presentation to Queen Máxima of the Netherlands (Photo on the right)
- 2017 Research Presentation to Edith Schippers, Dutch Minister of Health
- 2019 Research Presentation/Discussion with Bill Bryson (Acknowledged in his last best seller book "The Body: A Guide for Occupants")
- 2022 Presentation on organoid technology and its clinical impact for cancer research to Micky Adriaansens, Dutch Minister of Economic Affairs and Climate Policy in the context of the growth fund allocated to cancer research, Oncode-PACT (325M €)

Selected interviews

- 2017 Leaders in Heels Dr. Anne Rios on Finding her passion for Breast cancer
- 2017 Women's AGENDA
  Meet Dr Anne Rios The woman who has developed a new 3D imaging technique for breast cancer
- 2017 Innovation Smart Company
  Dr. Anne Rios on creating one of the world's most innovative 3D imaging techniques to detect breast cancer
- 2017 DUB The 3D images of Anne Rios
- 2018 AD interview
- 2019 LOVE LIFE. Maak kennis met Anne Rios
- 2020 C2W 3D imaging as trademark C2W international (2020)
- 2020 ISSCR Interview Member Spotlight
- 2022 Oncologie-up-to-date Visualizing tumors with an artistic angle
- 2021 Anne Rios – L'Oreal-Unesco 'For woman in Science'-Laureat 2021
- 2022 Kika foundation 20 years, documentary
- 2023 'Fight Kids Cancer can make a difference' interview for Imagine For Margo Foundation
- 2024 'revolutie in kankerbehandeling met realtime 3D-beeldvorming van immunotherapie'. Nederlands Tijdschrift voor Hematologie (NTVH), Ariez publishers
- 2024 Closing in on cancer heterogeneity with organoids – Nature Methods Technology Feature
- 2025 Interview Oncologie Up-to-date -VICI winner

Workshop and Conference Organisation

- 2017 Organoid Imaging workshop (75 participants); Sponsored by Olympus/Thermofisher

Scientific

- 2019 See The Hidden Event (24 invited participants); 1 out of 5 Selected European Sites to showcase new Leica microscope technology
- 2021 Woman in Science Symposium, 4 speakers to discuss different scientific careers and life styles (Virtual event, 200 participants)
- 2022 FE(MALE) LEADERSHIP: a reality check, invited speaker Mieke Moor, Philosopher (87 participants)
- 2023 Oncode annual conference. Advancing Together: technology and cancer biology. **Organizer** (Amsterdam, the Netherlands)
- 2024 'Revolutie in kankerbehandeling met realtime 3D-beeldvorming van immunotherapie'. Nederlands Tijdschrift voor Hematologie (NTVH), Ariez publishers

Art Exhibition

- 10/2021-03/2022 The paradox of Science, Exhibition 'If Things Grow Wrong', Museum De Lakenhall, Leiden, the Netherlands
- 9/29/2023 Immersive design exhibition 'Meet the Organoid', TivoliVredenburg, Utrecht, the Netherlands
- 9/27/2024 Immersive design exhibition 'Meet the Organoid', TivoliVredenburg, Utrecht, the Netherlands