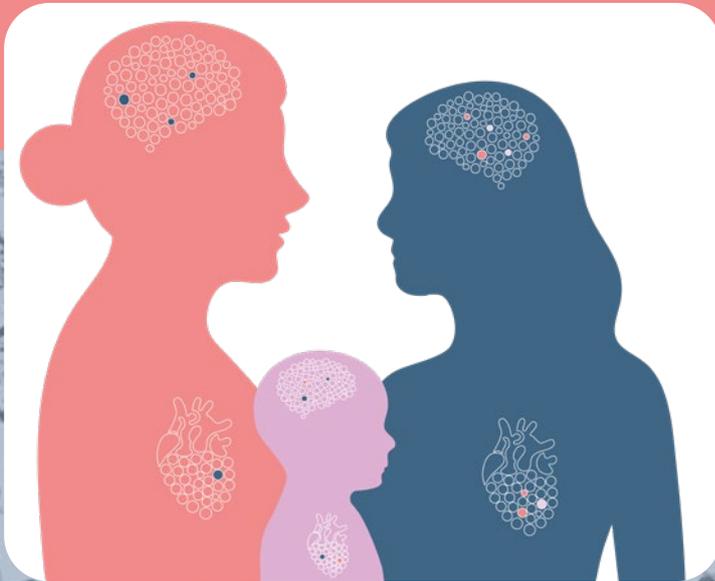




Public Symposium on Microchimerism

May 26, 2026
Medical University of Graz



The event is
free of charge,
but registration
is requested.

Program & Abstracts

Venue

Medical University of Graz
Neue Stiftingtalstraße 6
8010 Graz, Austria



go to website

Contact

conference2026@microchimerism.info

Registration

<https://doo.net/event/200792/order>

An event from the project: The Microchimerism, Human Health & Evolution Project

Mom inside us

Microchimerism is one of biology's most fascinating and little-known phenomena: the long-term presence of a small number of mom cells in her kids. Her cells traffic during pregnancy to her unborn child (and vice versa!) and stay there probably for the kid's lifetime – "staying connected" becomes a new and wonderful meaning. But what these cells are doing is hardly known.

Program

13:30 Welcome coffee

14:00 – 15:15 Session 1
What we know about Microchimerism today

Diana W. Bianchi, USA
Microchimerism is underappreciated and it affects all of us

Lee Nelson, USA
Microchimerism and the Interconnected Human Identity

**Katja Sallinger, Austria &
Kristine Chua, USA**
Interdisciplinary and Cross-disciplinary investigation of microchimerism
Q & A

15:15 - 15:45 Coffee Break

15:45 – 17:00 Session 2
What are the unknowns and potential applications of Microchimerism

Markus Hengstschläger, Austria
Reconstructing the baby's genome from mom's blood – bioethical aspects of prenatal testing

Amy Boddy, USA
Evolutionary perspectives on microchimerism

Rachel Lewis, USA
Expecting the Unexpected: Compassionate care for your pregnancy loss patients

Rachel Tompa, USA
Reflections on microchimerism after pregnancy loss

Anna Rath, Austria
Breastfeeding and bonding

What to expect

- > Learn about ongoing discussions of microchimerism in reproduction, immunology, and genetic conflict.
- > Listen to the story of public science author Lise Barnéoud, who edited the science behind microchimerism for her book "hidden guests".
- > Discuss with speakers and experts and find your way to microchimerism.

17:00 - 17:30 Coffee Break

17:30 – 19:00 Session 3 Hidden Guest including get together (until 21:30)

Lise Barnéoud, France
These cells that are not our own

Expert panel discussion

This lively panel discussion will bring together several experts, with different perspectives. It will explore the latest researches, the unresolved questions, the challenges and future prospects for microchimerism.

Summary & meeting with the speaker by wine and soup

Abstracts

13:30

Welcome coffee

14:00 – 15:15

Session 1 What we know about MC today



Diana W. Bianchi, MD
NIH/NHGRI, USA

Microchimerism is underappreciated and it affects all of us

Sometimes the most important discoveries occur accidentally. In 1928 the British bacteriologist Sir Alexander Fleming returned from a vacation to find that a petri dish had become overgrown with

mold, but around the mold growth there was no bacteria. He had discovered the antibiotic penicillin!

In 1994 we unexpectedly detected male chromosomal DNA in circulating stem cells from women carrying female fetuses. Initially attributed to laboratory contamination, subsequent studies by our team demonstrated that these cells originated from prior male pregnancies and could persist for decades in the mother, establishing a state of microchimerism. Further investigations

revealed that these cells, which we called “pregnancy-associated progenitor cells” localize to damaged maternal tissues, differentiate into organ-specific cell types, and may contribute to tissue repair. Long-term epidemiologic data suggested a protective association between fetal microchimerism and reduced cancer mortality, supporting a functional role for these cells. More recent work has highlighted the immunological implications of bidirectional maternal–fetal cell trafficking, including roles in immune tolerance during pregnancy, tissue repair, and potentially autoimmune disease. Collectively, these findings support the concept of a multigenerational “microchiome” and suggest that microchimerism is a fundamental biological process contributing to maternal health, reproductive fitness, and immune development in the baby. We are eternally connected to generations that precede and supersede us.

J. Lee Nelson, MD

Fred Hutch Cancer Center, Seattle, USA

Microchimerism and the Interconnected Human Identity



Bi-directional exchange during pregnancy creates a long-term legacy of microchimerism (Mc), harboring a small number of genetically disparate cells and/or other biological material such as DNA. Maternal cells persist in her progeny into adult life and cells of fetal origin persist decades later in previously pregnant women. These naturally

acquired cells carry a complement of genes that differ from the individual who acquires them and have the capacity to affect an individual’s health in a wide variety of ways. Mc has been implicated in a number of

autoimmune diseases, both beneficial and detrimental to the individual, for example in rheumatoid arthritis and systemic sclerosis (scleroderma). Mc is thought to be beneficial against some types of cancer, but for others may fuel tumor growth, for example breast cancer and melanoma, respectively. Other studies point to the ability of Mc to contribute to tissue regeneration, including cardiac repair. Mc reaches the brain indicating a capacity to affect neurobiology and potentially development. A woman, who already harbors maternal Mc from when she was a fetus, can later acquire additional Mc sources from her own pregnancies and the capacity to influence reproduction has been explored in pregnancy complications such as preeclampsia and recurrent miscarriage. Of special interest is the role of transgenerational Mc in reproduction and in evolution. Additionally, naturally acquired Mc may influence transplantation success, for example inducing

better tolerance in organ transplantation or decreased leukemia relapse after hematopoietic cell (bone marrow) transplantation. Our natural immigrants are with us for the long-term, often for better, sometimes for

worse. The “Microchime” has the potential to affect the health of an individual in multiple different ways which may also change with aging and be variable according to body location.



Dr. Katja Sallinger, Austria & Kristine Chua, PhD, USA

Interdisciplinary and Cross-disciplinary investigation of microchimerism

This session explores how “bridging” disciplines can generate new questions about microchimerism, the presence of a small number of cells exchanged between two individuals, most commonly between mother and fetus during pregnancy. These cells can travel through the body and persist for decades, but scientists are still working to understand what they do and how they move in the body.

Early-career researchers Katja Sallinger (cancer research and data analysis) and Kristine Chua (evolutionary anthropology) will share how their fields approach the study of microchimerism and what new insights emerge when these disciplines are brought together. Together, they discuss how interdisciplinary collaboration can deepen our understanding of the role microchimerism may play in infection, pregnancy, and long-term health.



Q&A

15:15 – 15:45

Coffee break

15:45 – 17:00

Session 2 What are the unknowns and potential applications of MC

Prof. Markus Hengstschläger
Vienna, Austria

Reconstructing the baby’s genome from mom’s blood – bioethical aspects of prenatal testing



Amy Boddy, PhD,

Department of Anthropology, University of California Santa Barbara, USA

Evolutionary perspectives on microchimerism

Fetal microchimerism has been associated with both positive and negative effects on maternal health. These mixed effects may stem from an evolutionary tension: mothers and their offspring have shared interests in some

areas but conflicting interests in others, a dynamic known as maternal-fetal conflict. From an evolutionary perspective, fetal cells may function similarly to the placenta. Just as the placenta transfers resources from mother to baby during pregnancy, fetal cells that

remain in maternal tissues after birth may continue to help transfer resources to the offspring. This resource transfer can benefit both mother and child, or it can represent the fetus „pushing“ for more than what’s optimal for the mother’s health, creating conflict over how resources are allocated. Depending on the mother’s specific circumstances and health needs, these fetal cells may help with maternal bodily maintenance (such as wound healing) or manipulate maternal physiology in ways that favor the offspring. We propose that fetal cells play important roles in sustaining maternal investment in offspring after birth by influencing key systems like milk production, body temperature regulation, and mother-infant bonding.



Rachel Lewis, USA

Expecting the Unexpected: Compassionate care for your pregnancy loss patients

Pregnancy loss is a medical event that has no cure, and no treatment can mitigate the emotional devastation of loss. However, you have the power to offer compassionate care and ultimately prevent further

trauma. In this talk, you will gain insight into what

your pregnancy loss patients really need (hint: It’s not making them feel better about their loss); how, as a medical provider, you are specifically able to help them process their loss; and how you can teach them to advocate for their future medical needs with pregnancy loss as an important piece of their medical history



Rachel Tompa, PhD

Seattle, USA

Reflections on microchimerism after pregnancy loss

When I first learned about microchimerism, I’d been pregnant five times: three miscarriages before bearing two living children. I was working as a science writer at Fred Hutchinson Cancer Center, where Lee

Nelson, MD – who has made seminal discoveries about this phenomenon of parent-child cell-sharing – is a faculty member. The idea that I had living cells remaining in my body from my two children fascinated me, but I was even more astonished when I came across a paper Nelson and her colleagues wrote titled Microchimerism in recurrent miscarriage. My diagnosis, for the three miscarriages I had before getting pregnant with my oldest child, was idiopathic recurrent miscarriage. Despite the many tests I was subjected to, my doctors didn’t know

why I kept losing pregnancies. That mystery was never solved, but here was a new mystery: Could I really have five different sets of cells from my five pregnancies persisting in my body? In this talk, I’ll describe what we know about miscarriage and microchimerism, including the many remaining unknowns, and describe my struggle to understand what my body was going through during my period of loss.



Anna M. Rath

University of Applied Sciences, Graz, Austria

Breastfeeding and bonding

Intersections of
Microchimerism and
Midwifery Practice

Midwifery is a profession that provides continuous care throughout the reproductive phases, including pregnancy, birth,

the postpartum period and lactation. This holistic approach integrates physiological support with emotional and psychosocial guidance for families. Key themes include the in-utero connection, maternal–infant bonding, and breastfeeding as a continuation of this bond. Another important theme is the emotional relationship that develops between mother and child.

While midwifery focuses on fostering and supporting these processes, research on microchimerism explores how this connection manifests at a cellular level, examining the persistence and exchange of maternal and foetal cells across biological boundaries. This panel will explore the intersection between these two fields of study.

By combining cellular-level research with the clinical and emotional aspects of midwifery, the discussion will highlight the shared objective of both disciplines: to understand and support the profound biological and emotional bond between mother and child. We propose that integrating these two areas of study can generate new transdisciplinary knowledge, linking the microscopic with the deeply human aspects of birth and care.

Q&A

Coffee break

17:30 – 19:00 Session 3 Hidden Guest



Lise Barnéoud

These cells that are not our own

Following the success of her book *Hidden Guests* and in an effort to popularize science to the widest possible audience, French science journalist Lise Barnéoud will give a lecture on microchimerism. Starting from the discovery of these

cellular interminglings, she will interweave science discoveries with human stories. This talk will offer a new

perspective on our biology, on our immune system, and ultimately allows us to glimpse a new way of being in the world.

For this special event, the public will also be invited to participate and the lecture will continue with a discussion among some of the world's leading experts attending the conference.

Expert panel discussion incl. Q&A

This lively panel discussion will bring together several experts, with different perspectives. It will explore the latest researches, the unresolved questions, the

challenges and future prospects for microchimerism. At the end, a question-and-answer session will give you a chance to engage directly with these experts.

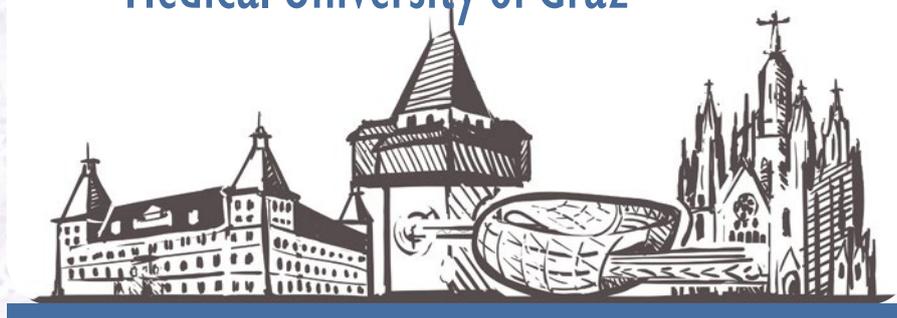
Summary & meeting with the speaker by wine and cheese



International Conference on Microchimerism

The interdisciplinary dimension of microchimerism research is the central interface between immunology, genetics, transplant medicine, cell biology and other related disciplines.

May 27 - 28, 2026
Medical University of Graz



Sessions

- » **Microchimerism Across the Lifespan: Concepts, Mechanisms, and Clinical Frontiers**
- » **Microchimerism, an infection-sensitive system influencing immune protection, tolerance, and long-term disease susceptibility across generations**
- » **(Micro)Chimerism & Treatment: Immune Tolerance, Transplantation, and Precision Therapeutics**
- » **Microchimerism and Kinship: Evolutionary Conflict, Tolerance, and Cellular Competition**
- » **Immunology, Transplantation & Diseases**
- » **Microchimerism and Autoimmunity: Genetic Risk, Immune Recognition, and Familial Context**
- » **Microchimerism in Reproductive Health: From Infertility and Placental Dysfunction to Cardiovascular Risk**
- » **Microchimerism in Immune Tolerance and Neurodevelopment: Context-Dependent Persistence and Pathophysiology**

Speakers

Diana W. Bianchi, USA
Amy Boddy, USA
Michael Eikmans, The Netherlands
David Haig, USA
Whitney Harrington, USA
Natalie Lambert, France
Dennis Lo, China - Keynote
J. Lee Nelson, USA
Henriette Svarre Nielsen, Denmark
Eitan Okun, Israel
Annetine Staff, Norway
Anne M. Stevens, USA
Sing Sing Way, USA



Program & registration

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