

Perimeter Institute – Frequently Asked Questions (FAQ)

Q: What is Perimeter Institute?

Perimeter Institute for Theoretical Physics is an independent, non-profit, scientific research organization working to advance our understanding of physical laws and develop new ideas about the very essence of space, time, matter and information. Perimeter also provides a wide array of research training and educational outreach activities to nurture scientific talent and share the importance of discovery and innovation among students, teachers, and the general public.

Perimeter Institute's Vision:

To create the world's foremost centre for foundational theoretical physics, uniting public and private partners, and the world's best scientific minds, in a shared enterprise to achieve breakthroughs that will transform our future.

Q: What is Perimeter Institute's mission?

We believe breakthroughs are realized through a collision of intellect, imagination and inspiration. We exist to enable the most ambitious research in theoretical physics and share its transformative power with the world. As such, Perimeter conducts:

- **Research**, at the cutting edge of foundational theoretical physics
- **Training**, for the next generation of brilliant young thinkers
- **Educational Outreach**, to share a love of science and boost scientific literacy among students, teachers and the general public throughout Canada and beyond.

Q: What do scientists at Perimeter Institute research?

Through a strong interdisciplinary culture of collaboration, Perimeter researchers work among nine research fields. Together, these combine our most important insights into the basic laws governing the universe, from subatomic and quantum scales, to the tabletop scales of condensed matter systems, to the description of the entire cosmos. Perimeter's choice of complementary disciplines is unique worldwide; its emphasis on ambitious, unconstrained scientific enquiry – particularly at the intersections between fields - has led to a vibrant, growing research community.

Perimeter's Research Fields:

- Condensed matter
- Cosmology
- Mathematical physics
- Particle physics
- Quantum foundations
- Quantum fields and strings
- Quantum gravity
- Quantum information
- Strong gravity

Q: Why is theoretical physics important?

Foundational theoretical physics is a cornerstone of modern quantitative science, on which so much else rests. It's perhaps the highest-impact, yet lowest-costs area of basic research. The goal of the field is to understand how the universe works at the most fundamental level. Its discoveries have advanced human understanding and seeded innovations across fields from mechanical engineering to wireless communication, and from electronics to power generation. Radio, television, semiconductors, computers, cell phones, lasers, fibre optics, holography, the Internet, GPS, solar cells and diagnostic imagery – they are all rooted in breakthroughs in theoretical physics. As history shows us, one breakthrough in the field can literally change the world.

Q: How many research scientists and trainees are at Perimeter?

Perimeter is home to more than 150 researchers, ranging from Masters-level research trainees to eminent senior scientists. The centre sees over 1,000 visiting researchers every year, making it a global hub for the interchange of ideas. It also houses the world's largest group of independent postdoctoral researchers in theoretical physics.

Perimeter By The Numbers:

- 15 full-time Faculty
- 14 Associate Faculty
- 27 Distinguished Research Chairs
- 43 Postdoctoral Researchers
- 24 PhD students
- 35 Masters students

** Current as of January 2012*

Q: Is Perimeter Institute part of a university?

No. Perimeter Institute is a fully independent, not-for-profit organization advancing scientific research, training and outreach. However, Perimeter partners with many universities and other theoretical and experimental research organizations across Canada and around the world. One celebrated partnership is Perimeter Scholars International (PSI) which combines the strengths of Perimeter Institute with the nearby University of Waterloo in the delivery of a Masters-level research training program. Aside from the many cooperative institutional partnerships, Perimeter researchers collaborate regularly with colleagues in research organizations around the world.

Q: Is Perimeter Institute tied to Research In Motion – makers of the BlackBerry – or any other private companies?

No. Perimeter has no affiliation to Research In Motion or any other private companies. The Institute was founded in part through the personal philanthropy of Mike Lazaridis, Founder and Vice-Chair of RIM.

Q: How is Perimeter Institute funded?

Perimeter Institute is funded through an innovative and welcoming public-private partnership - uniting governments, individuals, corporations, and foundations in a shared enterprise to help advance scientific breakthroughs, nurture scientific talent, and share scientific discovery with the broader public. Perimeter receives public investment from both the Ontario Government and Government of Canada, as detailed here. Private funds come from a variety of individuals, corporations, and foundations – including BMO Financial Group, Templeton Foundation, SunLife Financial and other visionary donors. Members of the public are also welcome to donate. Researchers may also apply for grants and awards from other bodies that fund basic research, such as Canada's Natural Sciences and Engineering Research Council (NSERC).

Q: How is Perimeter Institute governed?

Oversight at Perimeter includes:

- A volunteer Board of Directors drawn from the private sector and academic community. The Board is the final authority on all matters related to the general structure and development of the institute. Financial planning, accountability and investment strategy are carried out by the Board's Investment & Audit Committees.
- Scientific direction guided by Neil Turok, Director of Perimeter Institute, as well as the Scientific Advisory Committee (SAC) made up of eminent international scientists.
- Additional accountability and transparency through independent, peer-reviewed audits in accordance with Perimeter's public-private partnership agreements.

Q: Where is Perimeter Institute located?

Perimeter is located in Waterloo, Ontario, Canada where it operates out of a custom-built facility designed from the bottom up to foster basic research and discovery.