INSTITUT DES HAUTES ÉTUDES SCIENTIFIQUES

A foundation in the public interest since 1981
The aim of the Foundation known as ‘Institut des Hautes Études Scientifiques’ is to enable and encourage theoretical scientific research (…). [Its] activity consists mainly in providing the Institute’s professors and researchers, both permanent and invited, with the resources required to undertake disinterested research.

Extract from the statutes of the Institut des Hautes Études Scientifiques, 1958.
A visionary project, for excellence in science

The Institut des Hautes Études Scientifiques is an international mathematics and theoretical physics research center. Free of teaching duties and administrative tasks, its professors and visitors undertake research in complete independence and total freedom, at the highest international level.

Ever since it was created, IHES has cultivated interdisciplinarity. The constant dialogue between mathematicians and theoretical physicists has led to particularly rich interactions. In more recent years, IHES has turned its attention to the interface between mathematics and biology and the theoretical issues arising from advanced technology.

A limited number of permanent professors and researchers from prominent French organizations (Collège de France, CEA and CNRS) are based at IHES. These very senior scientists attract some 200 visitors each year, who also benefit from the high concentration of mathematicians present in close proximity to the Institute. The scientific emulation resulting from the interactions between researchers in different disciplines and from different countries contributes to the vitality of basic research globally.

The Institute's originality also lies in its capacity to take scientific risks and I would like to thank here all those who have helped us maintain this unique model. IHES continues to seek new partners to share in what is both its essence and its success: giving the most prominent and the most promising researchers an opportunity to travel down as yet unexplored intellectual avenues.

Emmanuel Ullmo, Mathematician, IHES Director
IHES was created in 1958 at a key stage in the history of science and the world. It was a time when the United States played a central role in research, whereas basic science in Europe was struggling to regain its global status.

Léon Motchane, a Russian businessman, loved mathematics to the extent that he submitted his doctoral thesis at the age of 54. Determined to offer exceptional scientists a place conducive to the unfettered development of their research, he took inspiration from the model of the Institute for Advanced Study (IAS) in Princeton and created IHES, dedicated to theoretical sciences, mathematics, physics and their interactions.

The first contributors, won over by this scientific project, came from both the public and the private sectors, in France and abroad. The wide range of the Institute’s partners reflects lasting universal appeal.

7 FIELDS medals

One figure gives an idea of IHES’ rank of the ten past or current permanent professors at IHES, seven have been awarded the Fields medal, the highest distinction in mathematics:

- René Thom (1958)
- Alexander Grothendieck (1966)
- Pierre Deligne (1978)
- Alain Connes (1982)
- Jean Bourgain (1994)
- Maxim Kontsevich (1998)
- Laurent Lafforgue (2002)

Although the Institute had only enough funding for a single-story scientific building, the IHES founder built a second floor, leaving the first floor ready for further office space. This anecdote is a perfect illustration of the spirit of ingenuity, creativity and long-range thinking that have characterized the Institute ever since.

The permanent professors at IHES, all first rate scientists, are the Institute’s DNA. Many international prizes have rewarded their remarkable contributions to scientific knowledge.

Founder

IHES was created in 1958 at a key stage in the history of science and the world. It was a time when the United States played a central role in research, whereas basic science in Europe was struggling to regain its global status.

Léon Motchane, a Russian businessman, loved mathematics to the extent that he submitted his doctoral thesis at the age of 54. Determined to offer exceptional scientists a place conducive to the unfettered development of their research, he took inspiration from the model of the Institute for Advanced Study (IAS) in Princeton and created IHES, dedicated to theoretical sciences, mathematics, physics and their interactions.

The first contributors, won over by this scientific project, came from both the public and the private sectors, in France and abroad. The wide range of the Institute’s partners reflects lasting universal appeal.

- René Thom (1958)
- Alexander Grothendieck (1966)
- Pierre Deligne (1978)
- Alain Connes (1982)
- Jean Bourgain (1994)
- Maxim Kontsevich (1998)
- Laurent Lafforgue (2002)
To simplify, there are two stages in mathematical discovery. The first is when intuition cannot yet be formulated in such a way as to be transmissible rationally. At that point, *vision* is what counts! Not the static aspect of it but a kind of poetic driving force. This poetic force is almost impossible to put into words. Trying to convey it or say it almost turns it to stone, so to speak, and the momentum essential for discovery is lost. Things change later, when enough pieces of the puzzle are in place and it becomes apparent that the vision is translated into solutions for problems.

Alain Connes
Léon Motchane Professor at IHES – Collège de France
Extract from *The Unravelers* (A K Peters/CRC Press)
Events

The Institute’s location – at the heart of the world’s largest mathematical community – makes IHES a key facilitator in scientific life. Ranging from scheduled seminars to special conferences, the Institute’s program of events is very busy, with over 200 presentations made by speakers from around the world each year.

Created by director Emmanuel Ullmo, the “Cours de l’IHES” program aims to present recent important scientific results in a range of fields in mathematics and theoretical physics. The speakers are permanent professors, CNRS and CEA research directors at IHES or researchers external to IHES, by invitation. Certain lectures form part of the graduate school programs in the Paris area.

The Institute combines an international vocation with roots firmly in France and hosts many local events. IHES is committed to serving the entire French scientific community and is keen to reinforce existing interactions: it is a member of the Fondation mathématique Jacques Hadamard, of the CARMIN grouping, and also a founder member of Université Paris-Saclay.

International

Excellence is the privilege of no single nation and for the past half century, IHES has been a link in the global chain of knowledge. The Institute was created for researchers – both permanent and invited – who transcend the borders of mathematics and theoretical physics.

American researchers form the largest contingent of visitors at IHES and these scientific links have produced collaborative work at the highest level. The National Science Foundation’s generous support to IHES since 1985 is further proof of fruitful French-American cooperation. In addition, IHES has put in place specific programs to invite researchers from Asia and Sub-Saharan Africa.

Les Publications mathématiques de l’IHES is one of the most prestigious mathematical journals. It was created in 1959 by Léon Motchane and Jean Dieudonné, then permanent professor. Trilingual publication (English, French and German) and international distribution ensure a high level of visibility.

“To reach the limits of the possible, you have to dream the impossible.”

René Thom

The cosmopolitan nature of IHES is obvious at teatime. English, Russian and of course French, are the languages most often used to talk about theorems and discuss new concepts.

The séminaire de géométrie algébrique (1960-1969)

Under Grothendieck, the Institute hosted one of the most extraordinary mathematical seminars of all times, the “Séminaire de géométrie algébrique”. Its ambitious program of bringing together arithmetic, algebraic geometry and topology continues to structure contemporary mathematics.

GEOGRAPHIC DISTRIBUTION OF IHES RESEARCHERS (2005-2014)
(Based on researchers’ home institution)
Independence and freedom,
the Institute’s two operational pillars

Budget

First as an association, and since 1981, as a foundation in the public interest, IHES has needed to find several funding streams to finance operations and ensure scientific development. From the start, Léon Motchane was able to build up a network of support, combining private partners and public institutions.

His successor, Nicolaas Kuiper, focused on securing funding from a number of foreign research institutions ready to contribute to its annual budget. In the late 1990s, under Jean-Pierre Bourguignon’s directorship, IHES set up a department dedicated to fundraising and conducted two successful international campaigns, a key outcome being the creation of endowment funds.

The Institute’s essence is reflected in its current funding structure: a French research center with international influence.

Governance

Marwan Lahoud, Chairman of the IHES Board of Directors
Chief Strategy and Marketing Officer, Airbus Group

“...I know full well that fundamental research remains essential for industry. The power of the models designed by theorists regularly results in significant technological leaps. As well as the decisive part it plays in most technological innovations and its impact on economic players, fundamental research contributes to deep, universal thinking.

IHES is more than ever determined to play its part fully within the scientific ecosystem, by offering exceptional scientists a place where their research can flourish. The scientific method is driven by a desire to push the boundaries of knowledge, which is also a desire for independence and freedom - two of IHES’ core values.

IHES is one of the few places in the world to offer the scientific community the environment in which research – necessarily free and curiosity-driven – can flourish. We should preserve this model and support its development.”

IHES is managed by a Board of Directors comprising a maximum of 18 members. It meets twice a year and its membership includes founder representatives and individual members, together with representatives of the State (the Ministry of Research and CNRS).

An international support committee contributes to the Institute’s fundraising activities. Its members are mainly business and industry leaders.

Lastly, the financial committee advises IHES on its asset management, especially the funds that have been endowed thanks to the generosity of the Institute’s donors.

For its part, the Scientific Council (SC) has the prerogative of planning the Institute’s scientific work at its twice-yearly meetings. It comprises ex-officio members (the director, the permanent professors, the Léon Motchane professor) and members who are co-opted for a three-year mandate, renewable once. CNRS and CEA research directors at IHES and the holder of the Université de Cergy-Pontoise – IHES Analysis Chair are also invited to take part in discussions. The SC is responsible for recruiting permanent professors, as well as selecting invited researchers and organizing the program of scientific events.
Members

Scientific Council (alphabetical order)

• Michael Atiyah
• Costas Bachas
• Marcel Berger
• Jean Bourgain
• Jean-Pierre Bourguignon
• Robert Bryant*
• N. Cabido
• Curtis Callan*
• Emmanuel Candès*
• Lennart Carleson
• Alain Connes*
• Thibault Damour*
• Pierre Deligne
• Bernard Derrida
• Stanley Deser
• Jean Dieudonné
• Simon Donaldson
• Bertrand Duplantier*
• Jean-Pierre Eckmann
• Hélène Esnault*
• Gerd Faltings
• Jürg Fröhlich
• Giovanni Gallavotti
• Raymond E. Goldstein
• Michael Green
• Mikhail Gromov
• Alexandre Grothendieck
• Gunter Harder
• Friedrich Hirzebruch
• Res Jost
• Maxim Kontsevitch*
• Nicolai Kupfer
• Laurent Lafforgue*
• Oscar Lanford
• Joel Lebowitz
• Stanislas Leibler
• Hendrik Lenstra
• Yuri Manin
• Marc Mezard
• Louis Michel
• Paul Montel
• Jürgen Moser
• Léon Motchane
• Nikita Nekrasov
• Hermann Nicolau*
• Robert Oppenheimer
• George Papanicolau
• Giorgio Parisi
• Rudolf Peierls
• Joseph Peres
• Francis Perrin
• Vasily Pestun*
• Luigi Radicati
• Michael Rapoport
• David Ruelle
• Peter Sarnak
• Graham Segal
• Raymond Stora
• Dennis Sullivan
• René Thom
• Emmanuel Ulricho*
• Gabriele Veneziano*
• Victor Weisskopf
• Don Zagier
• Christopher Zeeman
• Jean-Bernard Zuber

Board of Directors (chronological order)

Presidents

• Joseph Pétrès, Institut de France (1958-1961)
• André Grandpierre, Pont-à-Mousson (1961-1972)
• Jacques Ballet, Essa Standard France (1972-1973)
• Raymond Barre, Conseil général Banque de France (1973-1977)
• Pierre Aigrain, Thomson (1977-1978)
• Renaud de la Genière, Banque de France (1978-1985)
• Marcel Bouteux, Électricité de France (1985-1994)
• Philippe Laffayette, JP Morgan (1995-2014)
• Marvan Lahoud, Airbus Group (depuis 2014)*

Individual members

• M. Huvelin
• Gabrielle Reinach
• Fernand Picard
• Maurice Fonte
• Léon Kaplan
• Arnaud de Vogüé
• René Grandjean
• Vittorio Valletta
• Pietro Grussin
• Paolo Gusini
• Harold W. Fisher
• Pierre Lebel
• Léon Motchane

Ex officio Members

• CNRS*
• Ministère de l’Éducation nationale, de l’Enseignement supérieur et de la Recherche*

Founder members, organizations

• CEA*
• International Nickel Company
• Essa Standard France
• IBM World Trade Europe
• Électricité de France
• Saint-Gobain
• Engineering and Physical Sciences Research Council (UK)*
• Académie Suisse des Sciences Naturelles (S)*
• Max-Planck-Gesellschaft (G)*
• Fondation Européenne de la Science
• Service Public fédéral de Programmation, Politique scientifique (B)*
• SEMA Group
• Schumberger Ltd*
• AXA*

IHES Directors

• Léon Motchane (1958-1971)
• Nicolaas H. Kuiper (1971-1985)
• Marcel Berger (1985-1994)
• Jean-Pierre Bourguignon (1994-2013)
• Emmanuel Ulricho* (since 2013)

Tax benefits

As a private research center, IHES needs partners to provide the resources supporting its work. Each donation to IHES takes research forward and attract a range of tax benefits for donors, depending on the country of their residence.

In France

The Institut des Hautes Études Scientifiques is a foundation officially recognized as being in the public interest according to French law. Any donation made by a French tax resident to IHES provide tax benefits to the donor.

For individuals

Income tax: 66% of donations made by individuals to the Institut des Hautes Études Scientifiques are tax deductible, provided they do not exceed 20% of the donor’s taxable income.

If gifts exceed the 20% income limit, the donor may defer the tax deduction on the excess amount over the next five years.

“Impôt de solidarité sur la fortune”: 75% of the gifts made to certain not-for-profit organizations such as IHES, up to a limit of 50 000 €, are tax deductible for donors who pay this tax.

For companies

Payments made by companies to the Institut des Hautes Études Scientifiques result in a reduction in their corporate or income tax of 60% of the gift value. The limit beyond which it is no longer tax deductible is 0.5% of the company’s turnover.

If the payments exceed 0.5% of turnover, or if the company is in deficit, it may defer tax deductibility over five years.

In Europe

Donors from a number of European countries wishing to making a gift are eligible for tax benefits via the Transnational Giving Europe (TGE) network. To make a gift, they should contact the following national foundations:

Germany: Mancenata International e.V.
Tel: +49 89 24 44 52 - Email: tge@mancenata.eu

Belgium: King Baudouin Foundation
Tel: +32 2 549 02 31 - Email: tge@kbs-fr.be

Bulgaria: Bulgarian Charities Aid Foundation
Tel: +359 2 981 19 01 - Email: tge@bcaf.org

Hungary, Slovakia, Romania: Carpathian Foundation International
Tel: +36 1 313 0451 - Email: tge@cffoundation.org

Ireland: Community Foundation for Ireland
Tel: +353 1 874 7354 - Email: tge@foundation.ie

Italy: Associazione Vita Giving Europe Onlus
Tel: +39 02 55298333 - Email: tge@vitagiving.org

Netherlands: Orange Fonds
Tel: +31 30 656 45 24 - Email: tge@orangefonds.nl

Poland: Foundation for Poland
Tel: +48 22 54 25 880 - Email: tge@fdp.org.pl

United Kingdom: Charities Aid Foundation
Tel: +44 17 32 52 03 32 - Email: tge@cafonline.org

Switzerland: Swiss Philanthropy Foundation
Tel: +41 22 732 55 54 - Email: tge@swissphilanthropy.ch

In the United States

Friends of IHES, Inc. is a public charity under Section 170 (b) (1) (A) (vi) of the Internal Revenue Code and exempt from Federal Tax under section 501 (c) (3), which enables US-based donors to benefit from tax deductions.

The objective of this organization, whose president is Michael R. Douglas is to increase the visibility of IHES in the United States, set up and coordinate the network of current and former American visitors at IHES, organize scientific or cultural events, and raise funds in favor of IHES.

Friends of IHES, Inc.
Greeley Square Station
PO Box 20163
New York, NY 10001
Email: info@friendsofihes.org

Contact

Marie Callat
Director of Development and Communication
callat@ihes.fr
33 (0) 1 60 92 66 67

IHES

33 (0) 1 60 92 66 67