



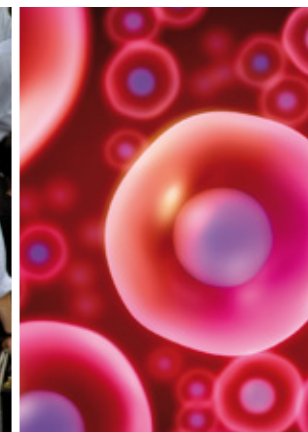
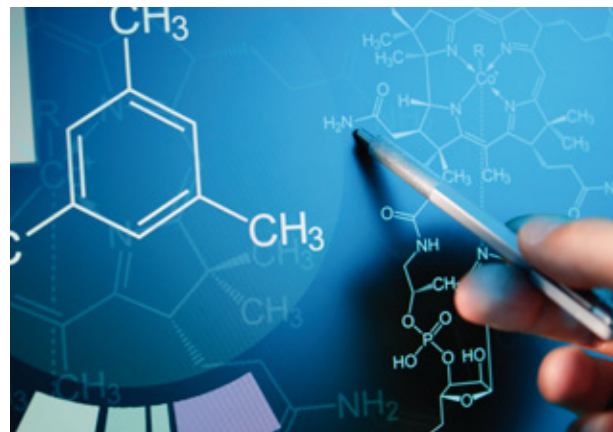
CONICYT
Ministry of
Education

Government of Chile

45
Aniversary
CONICYT

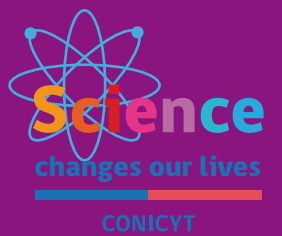
NATIONAL COMMISSION FOR SCIENTIFIC AND TECHNOLOGICAL RESEARCH

Science and Technology for Chile



National Commission for Scientific and Technological Research
Canadá 308. Providencia, Santiago.
Phone: (56-2) 365 44 00
www.conicyt.cl

Quality and Transparency in support for chilean science



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Countries that have invested in Science and Technology (S&T) and in the formation of advanced human capital have the highest levels of income and a better quality of life, and also offer more opportunities for the human development of their population. How could Chile make the big leap in S&T and avoid missing the train of the knowledge economy? In our culture, taking a shortcut is very common. We move forward diagonally and we dig tunnels, instead of just stepping on the accelerator.

CONICYT's plan of action towards 2014, which we have called "The Shortcut" is based mainly on four pillars: Sustainability, Competitiveness, Globalization, and Appeal. Sustainability means counting on different funding instruments in order to guarantee that good individual scientific ideas, as well as associative efforts of excellence have the necessary resources. Moreover, this entails integrating young researchers into the system. Competitiveness means that we must address an age-old need: the renovation of existing scientific equipment, besides having access to the modern infrastructure that is available in many parts of the world. If we want to quickly achieve a critical mass in certain areas, have strong

partners to explore our natural labs, and insert ourselves in leading knowledge networks, S&T and innovation efforts must be open and Globalized. Lastly, by Appeal we mean bringing science to all, particularly children who are in school and pre-school, by showing them how science changes their lives and makes them full citizens of the 21st Century.

The most significant limitation we encounter to increase investment in research, development, and innovation (R&D+i), is the reduced number of researchers who are capable of leading large-scale projects. Throughout Chile, there are around 4,100 researchers who fit into that category, which is similar to the number of scientists that a top-ranking university would have. Thus, our first priority in the next few years will be to increase that figure, and to create conditions for the integration of young researchers. In March 2012, there are 2,064 CONICYT scholarship beneficiaries who are obtaining their doctorates in Chile, and close to 1,800 beneficiaries who are working towards their PhDs abroad. Considering these numbers and both modalities, in 2014 we will have around 800 PhD graduates every year.

As can be appreciated in the following pages, in the last two years both Fondecyt Regular Call for Research Projects and FONDECYT Call for Initiation Projects have shown an unprecedented rate of approval for projects of excellence and have provided superb competitive funding. The same has happened with PhD scholarships, both in Chile and abroad, and with post-doctoral scholarships. FONDAP is now focusing again on its

original mission and priority areas, and its competitive call is aimed at interdisciplinary research that addresses issues with a nationwide impact. There is coordination with CORFO's InnovaChile, in order to effectively mobilize applied research towards innovation. For its part, FONDEF has implemented a pilot competition that seeks to transform university research into projects that are led by professors and students.

Regarding international outreach, the budget has been doubled and new alternatives have been opened for joint projects with China, Europe, and the United States. CONICYT's Explora, along with the CNIC, has launched Chile VAI, to encourage students in their third year of secondary education to discover their scientific and technological vocation. For the first time, CONICYT is on the road with a travelling scientific fair, which during the summer reached eight cities in the northern, central, and southern regions of our country.

Throughout the last four decades, CONICYT has assumed its role as the engine and main pillar of scientific and technological development in Chile, and it has gained the recognition of the scientific community, both nationally and worldwide. The scientific community appreciates the transparency, excellence, and soundness of our highly-developed procedures in the allocation of resources and project support. Following this path, our country continues making progress and generating world-class science and technology.

José Miguel Aguilera Radic
CONICYT President

CONTENTS

BASIC DATA ON CHILE

Chile is in South America, with the Pacific Ocean to the West, and the Andes Mountains on the Eastern border. Neighboring countries are Argentina, Bolivia, and Peru.

Capital:
Santiago

Population:
17,402,630 (2012 projection) ⁽¹⁾.

GDP:
2012 Projection: USD 246,510 millions.
Source: International Monetary Fund (IMF), World Economic Outlook Database, September 2011. Current prices.

President:
Sebastián Piñera Echenique.

Exports:
Minerals, essentially copper, but also iron ore, nitrates, precious metals, and molybdenum. The industrial sector is mainly dedicated to food processing (juices and canned fruit, canned fish, salmon, and trout). Chile also exports wood products (paper pulp and furniture) and wine, besides fresh fruit and agricultural goods.

Mayor markets:
China, United States, Japan, Netherlands, South Korea, Italy, Brazil.

Mayor suppliers:
United States, China, Brazil, Argentina.

Chile is a member of:
OECD (since 2012)/ United Nations / OAS / IADB / APEC / Rio Group / ALADI / OLADE / P4 / OEI / CIN / Unasur / WTO / G-77 / WHO.
Chile is also an associate member of MERCOSUR.

International research centers based in Chile:
• Fraunhofer (from Germany) – Biotechnology
• CSIRO (from Australia) – Mining
• INRIA (from France) – Applied Mathematics (since 2012)
• Wageningen (from the Netherlands) – R&D in food industry (since 2012)

Number of FONDECYT researchers for 1,000 inhabitants:
0.24

Number of students in graduate degree and graduate diploma/certificate programs:
33,426 y 14,053 respectively.
Source: Chile's Higher Education Information Service (SIES, 2012).

ISI Publications 2011:
5,533 ⁽²⁾
Source: Developed by CONICYT based on information from Thomson Reuters, Web of Science, November 23 2011.

Citation average on ISI publications (2007–2011):
4.05 ⁽²⁾
Source: Developed by CONICYT based on information from Thomson Reuters, Web of Science, November 23 2011.

Number of FONDECYT researchers:
4,079 ⁽³⁾

Foreign investment in astronomy infrastructure in Chile:
USD 2,500 millions

Number of clear nights for astronomical observation:
330 per year.

SCIENCE AND
TECHNOLOGY IN CHILE

ABOUT CONICYT

CONICYT
PROGRAMS

(1) Sources: Chile's National Institute of Statistics, Central Bank, and Ministry of Foreign Relations.
(2) It considers all types of ISI publications.
(3) Lead researchers or co-researchers from Fondecyt Regular Call for Research Projects and Fondecyt Initiation in Research who were ratified between 2006 and 2011, counted by ID number.

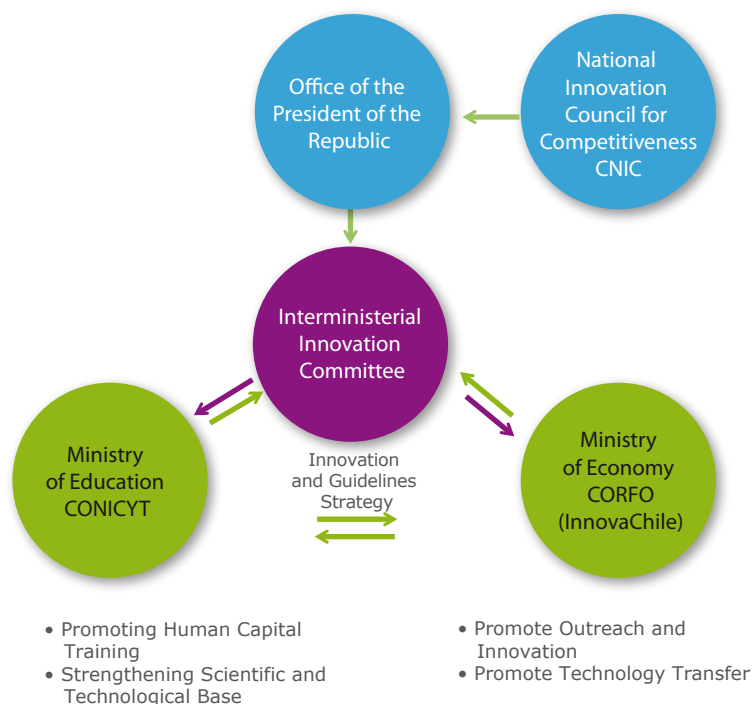
SCIENCE AND TECHNOLOGY IN CHILE

National Innovation System

The Office of the President of the Republic leads the National Innovation System, under the direct guidance of the National Innovation Council for Competitiveness (CNIC). The CNIC proposes general guidelines for the development of a National Innovation Strategy. The Interministerial Innovation Committee evaluates these criteria, and then establishes short-, medium-, and long-term national policies regarding science, technology, and innovation (S&T+i), and monitors the proper implementation of the National Innovation Strategy.

The Ministries of Education and of Economy play a leading role in the Interministerial Innovation Committee, and their participation is channeled through the main public institutions that are focused on the development of (S&T+i): the National Commission for Scientific and Technological Research (CONICYT) and InnovaChile of the Chilean Economic Development Agency (CORFO).

National Innovation System



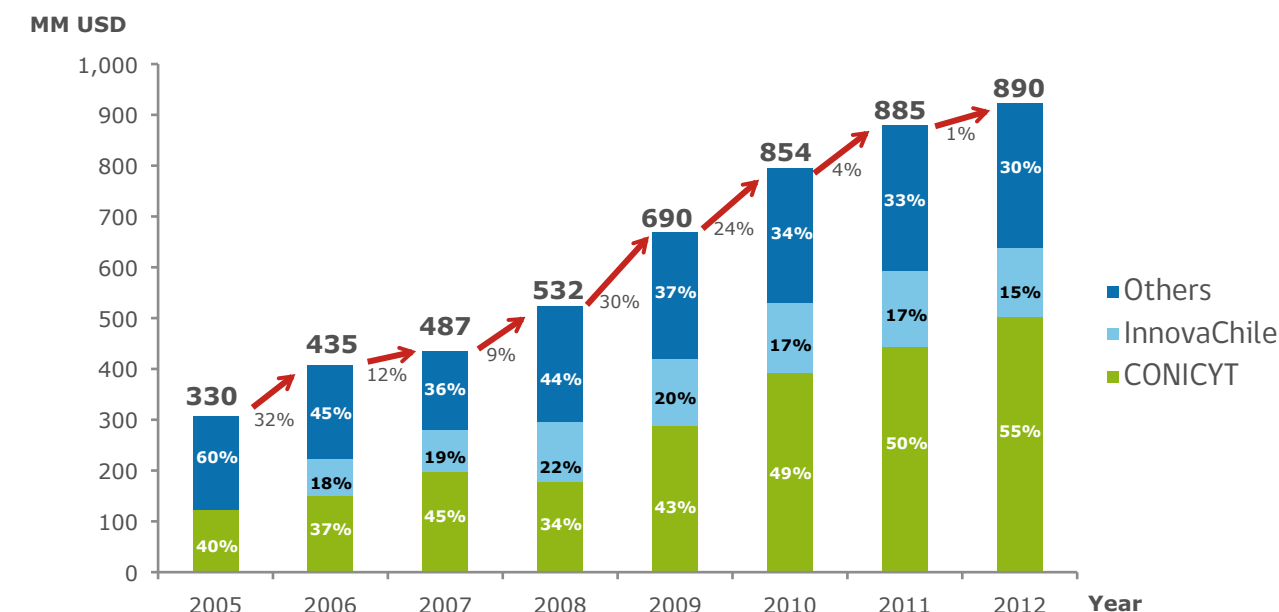
CONICYT is responsible for strengthening Chile's scientific and technological base, and for promoting the Formation of human capital.

Additionally, **CORFO** implements government policies in the areas of entrepreneurship and innovation, by using tools and instruments that are compatible with the main characteristics of a social market economy. It seeks to create conditions for building a society with opportunities, and to position Chile as a world leader in competitiveness.

With this aim, the public budget for the National Innovation System grew from USD 487 millions in 2007 to USD 890 millions in 2012, which is the equivalent of 83%.

Besides developing S&T+i policies through the National Innovation Council for Competitiveness (CNIC), the Chilean Government provides significant support for research nationwide, and plays a fundamental role in the financing of research that universities and companies conduct, by facilitating direct contributions or by opening competitive calls for funds.

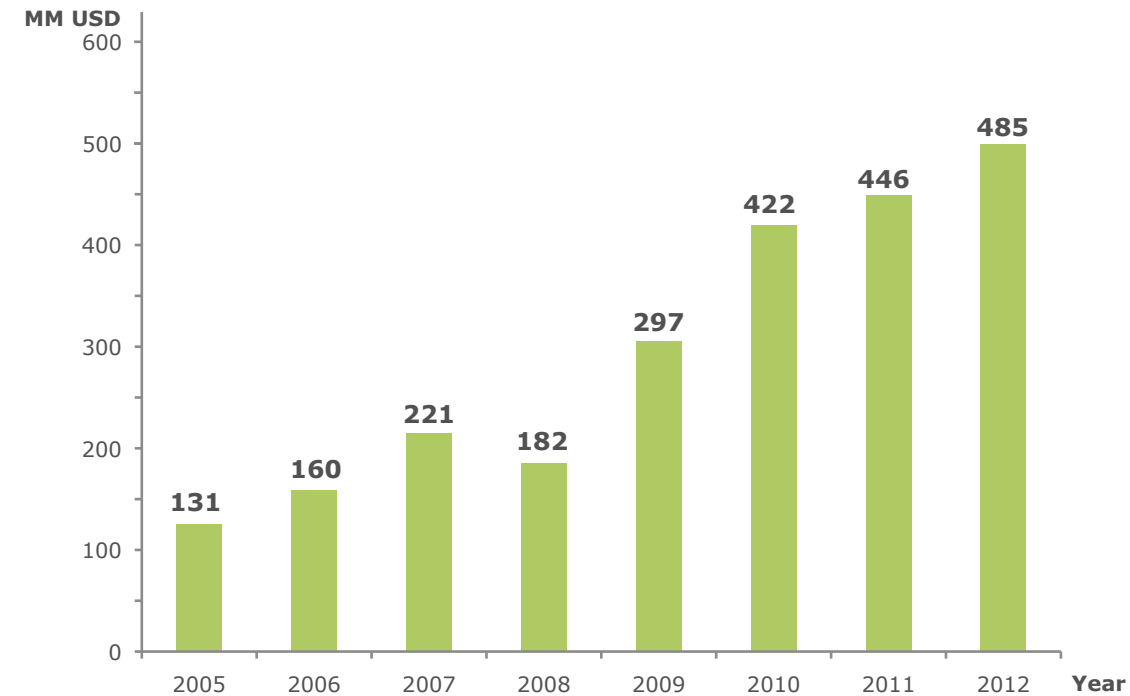
Budget for National Innovation Public System



Source: DIPRES
 *Exchange rate of 501,34 Chilean Pesos (average dollar value for January 2012).
 *Estimated with Chilean Peso value of 2012.

ABOUT CONICYT

Total CONICYT Budget



Source: CONICYT Department of Strategic Studies and Planning.
 * Exchange rate of 501,34 Chilean Pesos per dollar (average dollar value for February 2011).

The National Commission for Scientific and Technological Research, CONICYT, was established in 1967 as a science advisory body for the Office of the President of the Republic. It is a public autonomous institution that is supervised by the

Ministry of Education. CONICYT carries out its tasks through two main strategic pillars: supporting the formation of human capital and strengthening Chile's scientific and technological foundation. In order to advance through these two strategic

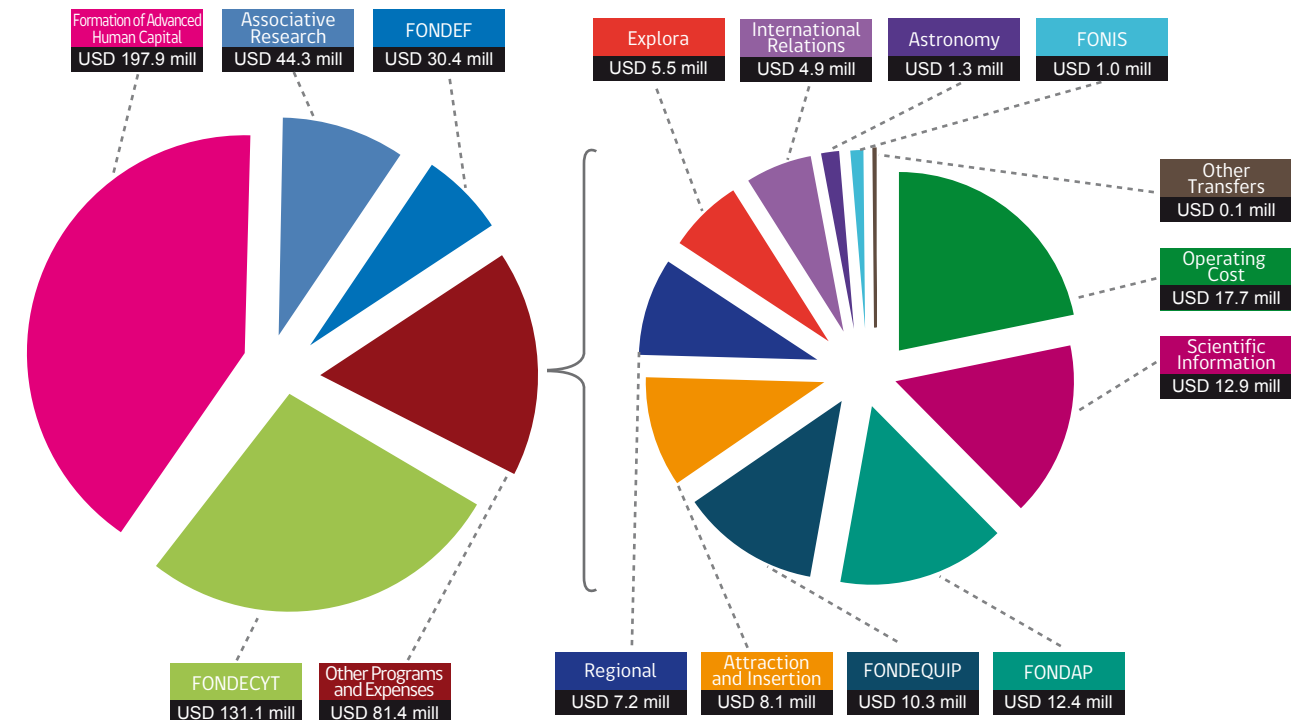
cornerstones, CONICYT implements different programs of open competitive calls. Proposals are carefully evaluated in several stages, and those that are awarded the funds must show the highest quality standards.

With the aim of strengthening the country's scientific and technological foundation, the following programs are implemented: FONDECYT, FONDEF, FONDAP, Associative Research, Regional, Astronomy, FONIS, and FONDEQUIP.

The objective of supporting the formation of advanced human capital is fulfilled with the programs called Formation of Advanced Human Capital, Attraction and Insertion of Advanced Human Capital, and Explora.

There are two more complementary support initiatives that are aimed at complying with both strategic pillars: International Relations and Scientific Information.

2012 CONICYT Budget*



* Exchange rate of 501,34 Chilean Pesos (average dollar value for January 2012).

FONDECYT PROGRAM

Director: **María Elena Boisier P.**
meboisier@conicyt.cl
2012 Budget: USD 131 mill

The National Fund for Scientific and Technological Development, **FONDECYT**, is the main public fund aimed to support individual research in Chile. It was established in 1981, and it has financed over 15,000 research projects, which have had a significant impact on Chile's scientific activity and on the creation of a critical mass of researchers.

Line of action:

Financial support for individual research in all areas and at different stages of a researcher's career.



FONDECYT 30 YEARS

Supporting scientific and technological research in Chile

Funding instruments:

- Regular Call for Research Projects, geared towards experienced researchers in the different subject areas.
- Call for Initiation in Research, geared towards researchers who have obtained their PhD in the previous five years. It was launched in 2006 with the goal of training new scientists and of renewing human resources who are dedicated to research.
- Call for Post-doctoral Studies in Chile, geared towards researchers who have obtained their PhD recently. The goal is to support their scientific independence, and allow them to dedicate all their time to research.

Achievements in 2011

- A 20% increase in Regular Call for Research Projects (503 projects in 2011, and 605 projects in 2012).
- A 56% increase in projects that were awarded funds through the Call for Initiation in Research (168 projects in 2010, and 262 projects in 2011).
- A 67% increase in the number of projects that were awarded funds through the Call for Post-doctoral Studies in Chile (90 in 2011, and 150 in 2012).
- Of all regular projects approved in 2012, 18% originated from Initiation Call projects that had been completed.
- Of all researchers who came from the Initiation Call, 63.5% had a regular project that was awarded funds in 2012.

2011

Higher Council for Technological Development

President: José Miguel Aguilera
Advisors: Luis Michea
Gonzalo Navarro
Carlos Ovalle

Higher Council for Science

President: Mario Hamuy
Advisors: María Loreto Martínez
Ariel Orellana
Alicia Salomone
Osvaldo Ulloa
José Zagal

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The Fund for Scientific and Technological Development Support, **FONDEF**, was established in 1991. Generally, FONDEF projects require the involvement of at least two companies and/or other associated entities, that will contribute more than 15% of the project's total cost. The usual modality is an annual competition (regular programs) or periodic calls (thematic programs).

Line of action:
Promoting links and associativity among research institutions, companies, and other entities, with the goal of developing applied research projects that focus on improving Chile's competitiveness and the quality of life of its population.

Funding instruments:
• Annual Call for Research and Development

- Projects (R+D), with two lines of action: pre-competitive and public interest.
- IDeA Program, which consists of R+D projects with a high scientific content, whose results can be obtained, evaluated, and validated in the short run.
 - Appreciation of University Research Program (VIU), which seeks to promote new businesses or companies, based on students research conducted at Chilean universities.
 - Effective Information and Communication Technologies in Education Program (TIC-EDU).
 - World Aquaculture Program (HUAM).
 - Red Tide Program.
 - Regional FONDEF Program (with resources from the Innovation Fund for Regional Competitiveness).
 - R+D Program on Bioenergy.
 - Functional Foodstuffs Program.

- Jointly with InnovaChile:**
- Program of Biotechnology Tools for the Genetic Enhancement of Food Crops.
 - Diversification of Chilean Aquaculture Program.

- Achievements in 2011**
- In its initial stage, the first Call for Appreciation of University Research awarded funds for 54 proposals. The second stage will be held in 2012.
 - The 18th annual R+D Call awarded funds to 54 projects.
 - Call for the 19th annual R+D competition, which received 232 proposals.
 - TIC-EDU awarded funds for six projects.
 - The Red Tide Program awarded funds for seven projects.
 - The Regional FONDEF Program awarded funds for four research projects that benefit three regions of the country.

Since its establishment in 1997, the Fund for Research Centers of Excellence, **FONDAP**, has financed nine centers in very different areas, such as mathematics, oceanography, astronomy, and geothermia.

- Lines of action:**
- Generating research of excellence, based on the articulation of multidisciplinary groups of researchers who can demonstrate their productivity in areas where basic national science has reached a high level of development.
 - Formation of advanced human capital, by establishing national and international cooperation networks, and by disseminating research results to the scientific community and the rest of society.

- Funding instrument:**
- National Call for Research Centers of Excellence. In its three editions, it has supported nine centers for a duration of 10 years:
 - The first and second competitive calls focused on specific areas that were categorized as a priority for Chile. The first call supported three initiatives that have already been implemented: the Centers for Interdisciplinary Advanced Research in Materials Science (CIMAT), for Cellular Regulation and Pathology (CRCP), and for Mathematical Modelling (CMM). The second competitive call supported four centers: for Advanced Studies in Ecology and Biodiversity (CASEB), for Oceanographic Research in the Eastern South Pacific (COPAS), for Astrophysics (CENASTRO), and for Molecular Cell Studies (CEMC). All these centers will conclude their projects in 2012.

- The third competition supported two centers in late 2010: for Genoma Regulation (CRG), and for Excellence in Geothermia in the Andes (CEGA).
- Achievements in 2011**
- Open Call in Fourth National Competition for Research Centers of Excellence, FONDAP 2011, in six areas considered as issues of nationwide significance in Chile: sustainable agriculture and/or aquaculture; climate change; sustainable urban development; natural disasters; solar energy; and indigenous peoples.
 - Coming into operation of six Centers of Excellence.
 - Since their creation, the nine Centers of Excellence have trained 850 graduate students, 450 undergraduate students, and 257 post-doctoral fellows.



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2011

Advisory Council
Advisors: Juan Asenjo
Gonzalo Herrera
Sebastián Izquierdo
Elizabeth Lira
Cristián Moreno
Eugenia Muchnik
Cristóbal Undurraga
Francisco Vergara



SCIENTIFIC AND
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2011

Higher Council for Technological Development
President: José Miguel Aguilera
Advisors: Luis Michea
Gonzalo Navarro
Carlos Ovalle

Higher Council for Science
President: Mario Hamuy
Advisors: María Loreto Martínez
Ariel Orellana
Alicia Salomone
Osvaldo Ulloa
José Zagal

REGIONAL PROGRAM

Director: Paula González F.
pgonzalez@conicyt.cl
2012 Budget: USD 7.2 mill

The **Regional Program** was created in 2000, and its goal is promoting and strengthening capacity building in science, technology, and innovation at the regional level. In that sense, it focuses on promoting the decentralization of Chile's scientific and technological development, according to the areas that are most relevant for each region's development, as regional institutions determine their own priorities.

Lines of action:

- Generating, promoting, and strengthening capacities for the development of science, technology, and innovation in Chile's different regions, through the implementation and monitoring of Regional Centers for Scientific and Technological Research.

- Coordinating the resources of the Innovation Fund for Competitiveness (FIC Regional), that are allocated to CONICYT. Also, representing CONICYT vis-a-vis the Regional Innovation Systems.

Funding instruments:

- Competitive Call for the Creation of Regional Centers.
- Competitive Calls for the Strengthening of Regional Centers.
- Call for Project of Regional Diploma Programs in Innovation for Competitiveness.
- Regional career opportunities in science, technology, and innovation.

Achievements in 2011:

- Implementation of 15 Regional Centers where 234 researchers are working. The 15 centers together have produced 319 publications and

three patent applications. Also, 345 projects are being implemented and 159 theses are being researched.

- Using the resources allocated to CONICYT, there were over 25 open calls issued by the Regional Program, the Associative Research Program (PIA), the Attraction and Insertion of Advanced Human Capital Program (PAI), Explora CONICYT, and CONICYT's Public Information and Outreach Department.
- Funding was awarded for over 40 projects corresponding to the Regional, FONDEF, PAI, Equipment Supply, and Explora programs.
- Implementation of the RED Project, which seeks to support innovation at the local level, in order to strengthen regional development. This includes the Antofagasta, Coquimbo, Metropolitan Santiago, O'Higgins, and Tarapacá regions.

ASSOCIATIVE RESEARCH PROGRAM

Director: Isabel Meneses C.
imeneses@conicyt.cl
2012 Budget: USD 44.3 mill

The Associative Research Program, PIA, was launched in 2009 with the purpose of coordinating different instruments and initiatives of support for associative research, and of promoting research centers of excellence.

Lines of action:

- To contribute the strengthening of Chile's scientific base and to facilitate the use of its advances and results to encourage the development of the public and productive sectors.
- To promote the articulation and association of researchers, and their links with other national and international actors, in order to incentive the creation and consolidation of scientific and technological groups and centers.

Funding instruments:

- Competitive Calls for Research and Development Centers (R+D): Centers for Advanced Research in Education,

Research Technological Consortia and Scientific and Technological Centers of Excellence.

- Competitive National Calls for Science and Technology Research, Social Sciences and Humanities Research, and Antarctic Science Research Team Grants.
- Competitive Calls for Major Shared-Use Scientific and Technological Equipment Service Centers.
- Competitive Calls for Association and Articulation: networks, joint research projects (national and international) and support for patenting.

Achievements in 2011

- Coming into operation of 13 Scientific and Technological Centers of Excellence.
- Coming into operation of 43 Science and Technology Research Team Projects (30), Social Sciences Research Team Projects (11), and Antarctic Science Research Team Projects (2).

- Four nationwide competitive calls for projects of Science and Technology Research Team Projects and Antarctic Science Research Team Projects, besides the Third Competitive Call for Social Sciences and Humanities Research Team Projects.
- Continuing support of two Centers for Advanced Research in Education and five Research Technological Consortia.
- Coming into operation of four Major Shared-Use Scientific and Technological Equipment Service Centers.
- Twenty projects of support for scientific infrastructure at research centers and groups were awarded.
- Continuing support for two projects of patenting promotion.
- Implementation of 14 joint research projects with Finland, France, and Switzerland.
- Seven joint research projects with Germany and Argentina were awarded.



2011

Advisory Council
Advisors:

Eduardo Agosin
Juan Carlos Castilla
Gonzalo Cordua
Thierry De Saint Pierre
Mario Varela
Jorge Yutronic

2011

Advisory Council
Advisors:

María Cecilia Hidalgo
Roberto Hojman
Marigen Hornkhol
Bernabé Santelices

SCIENTIFIC AND
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ASTRONOMY PROGRAM

Directora: Mónica Rubio L.
mrubio@conicyt.cl
2012 Budget: USD 1.3 mill

FONIS PROGRAM

Director: Ximena Luengo Ch.
mluengo@conicyt.cl
2012 Budget: USD 1.0 mill

The skies over Chile are extraordinary for astronomical observation. That is why some of the most powerful observatories in the world are located in this country: Gemini-South, Paranal, APEX, and ALMA. In 2020, Chile will concentrate 70% of the world's telescope infrastructure, which will represent a USD 6 billions investment. For this reason, in 2006 CONICYT established the **Astronomy Program**.

- Lines of action:**
- Support, strengthening, and outreach for astronomy, in order to position this field as strategic for the development of science and turn Chile into an astronomy world power.
 - Promoting scientific and technological cooperation and attracting new projects and investment in astronomy, through strategic alliances with institutions from other countries.

- Funding instruments:**
- Competitive Call for Gemini-CONICYT and ALMA-CONICYT "Funds for the Development of Astronomy in Chile".
 - Competitive Call for the Management of Chilean Observation Time at Gemini-South and APEX telescopes.
 - Gemini-CONICYT and ALMA-CONICYT Competitive Call for Post-doctoral Positions.
 - Management of Atacama Astronomy Park in Antofagasta Region. With over 36,000 hectares, it includes the Tokyo Atacama Observatory (TAO), Cerro Chajnantor Atacama Telescope (CCAT), Atacama Cosmology Telescope (ACT), and the Polarbear experiment. There are three more projects that are under consideration.

- Achievements in 2011**
- Formalization of the 50-year concession for the land where the Atacama Astronomy Park has been built.

- Funds were awarded for 12 Gemini-CONICYT projects and 12 ALMA-CONICYT projects.
- Assignment of 330 observation hours for Chilean researchers at Gemini-South telescope, and of 700 observation hours at APEX radiotelescope (for periods 2011 A and B).
- Coordination and design of a roadmap for astronomy, technology, and industry, in a joint effort with the Ministries of Economy and Foreign Relations, CORFO/InnovaChile, and the National Innovation Council for Competitiveness (CNIC).
- Two scholarships were awarded to pursue an astronomy doctorate in France (in accordance with the memorandum of understanding subscribed with French National Center for Scientific Research, CNRS).
- CONICYT developed the agreement that led to the creation of the Joint French-Chilean Astronomy International Unit between the CNRS and three Chilean universities.

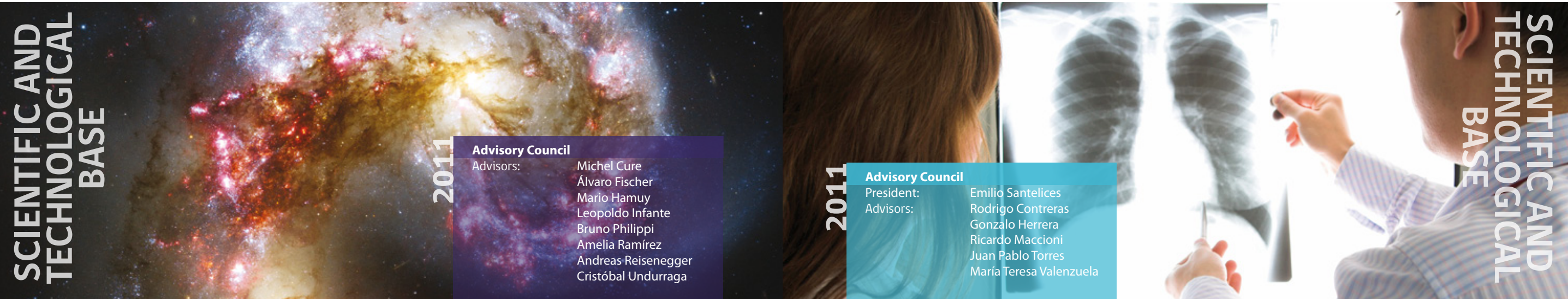
The National Fund for Research and Development in Health, **FONIS**, was established in 2004 as a joint initiative between the Ministry of Health and CONICYT.

- Lines of action:**
- Encouraging and building capacities for applied research in health that is focused on Chile population's specific needs.
 - Generating information that can serve as a evidence for decision-making in health and as guidance for public policies.

- Funding instruments:**
- National Competitive Call for Research and Development Health Projects.

- Achievements in 2011:**
- Funds were awarded for 37 initiatives as part of the 8th National Competitive Call for Research and Development Health Projects, seven more than for the previous edition.
 - Increase in the amount awarded for each project that participated in the national call, from USD 50,000 to USD 60,000.

- Holding of the First FONIS Projects Meeting, which was named "A Comprehensive Approach to Applied Research in Health".
- Coordination of the first seminar named "Competitive Calls for CONICYT Funds 2012", jointly with the Regional, FONDEF and the Atraction and Insertion of Advanced Human Capital (PAI) programs. During this activity held in La Serena, CONICYT provided information about different competitive funds.



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- Advisory Council**
- Advisors:
- Michel Cure
 - Álvaro Fischer
 - Mario Hamuy
 - Leopoldo Infante
 - Bruno Philippi
 - Amelia Ramírez
 - Andreas Reisenegger
 - Cristóbal Undurraga

2011

- Advisory Council**
- President:
- Emilio Santelices
- Advisors:
- Rodrigo Contreras
 - Gonzalo Herrera
 - Ricardo Maccioni
 - Juan Pablo Torres
 - María Teresa Valenzuela

SCIENTIFIC AND
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FORMATION OF ADVANCED HUMAN CAPITAL PROGRAM

Director: Denise Saint-Jean M.
dsaintjean@conicyt.cl
2012 Budget: USD 197.9 mill

The **Formation of Advanced Human Capital Program** (PCHA) is the main government agency in charge of managing scholarships for graduate studies, established in 1989.

Line of action:

Contributing to increase the number of researchers and professionals of excellence with a high level of training in all areas of knowledge, in order to promote Chile's economic and social competitiveness and its active participation in a globalized world.

Funding instruments:

- Competitive Call for Doctorate Scholarships in Chile.
- Competitive Call for Master's Scholarships in Chile.
- Competitive Call for Doctorate Scholarships Abroad.
- Competitive Call for Master's Scholarships Abroad.
- Competitive Call for Education Professionals' Master's Scholarships in Chile.

- Competitive Call for Education Professionals' Master's Scholarships Abroad.
- Competitive Call for Public Officials' Master's Scholarships in Chile.
- Competitive Call for Post-doctoral Scholarships.
- Competitive Call for Scholarships in Medical Specializations.
- Competitive Call for Dual Degrees Scholarships.
- Competitive Call for Internships for PhD Students.

Achievements in 2011

- Of all scholarship beneficiaries for a doctorate program abroad, 66% attend universities that are among the top 150 in the world, or among the top 50 in their field of study. For master's beneficiaries, that figure reaches 86%.
- Over 7,000 applications were received for the 15 competitive calls opened in 2011, which involved nearly 800 evaluators whose prestige is recognized nationwide.

- There are more than 1,200 scholarship beneficiaries who are obtaining their doctorate degrees in the United States, the United Kingdom, Spain, and other countries. In the case of master's scholarships, the figure reaches around 900.
- There are more than 1,800 beneficiaries of doctorate scholarships and 600 beneficiaries of master's scholarships who are presently making their contribution to strengthen graduate programs at Chilean universities.
- More than 190 complementary scholarships for doctoral candidates in Chile (in the form of support for writing or completing their PhD theses). Also, over 80 beneficiaries are attending complementary studies abroad (Post-doctoral, Doctoral Fellowships, Medical Specializations, and Doctoral Joint Supervision Studies).

ATTRACTION AND INSERTION OF ADVANCED HUMAN CAPITAL PROGRAM

Director: Carmen Luz Latorre S.
clatorre@conicyt.cl
2012 Budget: USD 8.1 mill

The **Attraction and Insertion of Advanced Human Capital Program** (PAI) was created in 2009, and its goal is to enhance the academic, scientific, and technological capacities of Chilean institutions, and to generate projects that will strengthen the scientific and technological development of academic and productive institutions. This is achieved through the recruitment of researchers who studied in Chile or abroad, and through the consolidation of international networks formed by Chile's regional universities and world-class universities from other countries.

Lines of action:

- Integration of PhD graduates in the productive sector.

- Integration of PhD graduates in academia (accredited universities and research centers).
- Attraction of scientists of excellence from abroad (for regional accredited universities).

Funding instruments:

- National Competitive Call for the Insertion of Advanced Human Capital in the Productive Sector.
- Competitive Call for Doctoral Theses in the Industrial Sector.
- National Competitive Call for the Insertion of Advanced Human Capital in Academia.
- Competitive Call for the Attraction of Advanced Human Capital from Abroad, Short-Term Visit Modality (MEC).
- Competitive Call for the Attraction of Advanced Human Capital from

Abroad, Short-Term Visit Modality/English (MECI).

Achievements in 2011

- Funds were awarded to 47 projects, which allowed the recruitment of 60 PhD graduates for academic institutions.
- Funds were awarded to 22 research, development, and innovation projects at different companies and institutions linked to the productive sector, integrating 11 PhD graduates and supporting 13 doctoral students with their theses.
- Funds were awarded to a total of 48 proposals for the attraction of scientists from abroad in the short-term visit modality, which allowed scientists who enjoy worldwide recognition to come to Chile.



Advisory Council
Advisors:

| |
|------------------|
| Andrés Gomberoff |
| Juan Larraín |
| Bernabé Rivas |
| Joel Saavedra |
| Juan José Ugarte |
| Pablo Valenzuela |
| Daniel Wolff |

EXPLORA PROGRAM

Director: José Santiago Arellano M.
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2012 Budget: USD 5.5 mill

INTERNATIONAL RELATIONS DEPARTMENT

Director: María Teresa Ramírez P.
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2012 Budget: USD 4.9 mill

Since its establishment in 1995, the **Explora CONICYT Program** promotes the appreciation and dissemination of Science and Technology (S&T) in Chilean society as a whole, particularly among children and youth.

Every year there is a different theme. Chemistry was the theme in 2011, and Neuroscience will be the thematic focus in 2012.

Lines of action:

- Dissemination of S&T.
 - Social appreciation of S&T.
- Explora CONICYT carries out its work in a cross-cutting manner through its network of regional coordinators, which covers Chile's 15 regions.

Funding instruments:

- Competitive Call for S&T Appreciation and Dissemination Projects.
- Competitive Call for S&T+i Explora Clubs.
- Competitive Call for Explorines Clubs.
- Competitive Call for "Tus Competencias en Ciencias" (Your Science Skills).
- Competitive Call for Explora School Scientific Research Support.

- National S&T Week, the most popular science outreach event in Chile.
- National and Regional School Congresses on S&T.
- Outreach publications and activities. Interactive travelling exhibitions.

Achievements in 2011

- Over 1.2 million kindergarden, primary, and secondary school students participated in outreach and science appreciation activities throughout the country. The number of people in the different audiences reached 1.84 million.
- The 17th National S&T Week mobilized 346,000 people, and 288,000 of them were students.
- "Tus Competencias en Ciencias" (Your Science Skills) trained 604 school teachers for interactive teaching of S&T.
- Establishment of 25 Explora Clubs at different educational facilities, and of 50 Explorines Clubs at kindergardens. Some 1,500 children from different Chilean regions are participating.
- Implementation of 21 Explora projects, allowing over 3,000 students to participate steadily in scientific activities that were

designed and led by university scholars and supported by undergraduate students.

- Funds were awarded for 77 proposals presented as part of the Competitive Call for School Scientific Research Support.
- Six travelling interactive exhibitions through 24 Chilean municipalities. Attendance reached 152,000 people.
- Distribution of 85,000 "Boletines Explora" (Explora Newsletters), and of 350,000 "Libros de Actividades" (Activities Books). Both publications are geared towards the educational community.
- The Explora website had an average of 3,500 daily visits in 2011.
- Travelling science fair named "La Ciencia nos Cambia la Vida" (Science Changes Our Lives), which visited eight cities in Chile's northern, central, and southern regions, and attracted over 40,000 visitors.

Jointly with CNIC:

Implementation of Chile VA!, jointly with the National Innovation Council for Competitiveness (CNIC). The science camps held in Mejillones and Santiago hosted 247 young people.

The **International Relations Department** was created in 2000 aiming to encourage the Chilean scientific community to join and strengthen its international networks, with the goal of integrating Chilean researchers into frontier knowledge.

Line of action:

Promoting and supporting the integration of Chilean scientific community with its peers abroad, based on scientific excellence, mutual benefits, and common interests. For this purpose, the Department fosters several collaboration schemes within the framework of S&T cooperation agreements with foreign institutions.

Funding instruments:

- International Scientific Cooperation Program for exchange projects with France, Germany, Mexico, Colombia, Argentina, and Brazil.
- European Union Program, which considers different thematic areas for cooperation and advises Chilean researchers, in order to help them enhance their participation in the European Union Framework Program

for Research and Technological Development.

- Support for international networking between Chilean research centers and their foreign counterparts.
- CONICYT-Ministry of Energy Program to strengthen skills and capacities in the energy sector.
- Multilateral networks: Ibero-American Program for Science, Technology and Development (CYTED), Inter-American Program for Materials Science (CIAM), Regional STIC-Amsud Program for Information and Communication Technologies (ICTs), and MATH-Amsud for Mathematics.
- Workshops, conferences, and scientific missions.

Achievements in 2011

- 495 Bilateral exchanges: 230 Foreign researchers coming to work in Chile; 265 Chilean researchers going to work abroad.
- Three Chile-China workshops: one on renewable energies, another on food products, both in Beijing, and a third one on astronomy in Santiago.

- Five networks between Chilean centers of excellence and centers in Germany, China, and Brazil.
- Four scientific missions to Europe on energy, food-industry, and biotechnology.
- Two international conferences: "ICT Challenges for Innovation" and "7th Framework Program Opportunities for Research on Climate Change and Environment".
- Participation of 422 Chilean researchers in 61 CYTED thematic networks.
- Participation of 46 Chilean researchers in seven STIC and MATH-AMSUD networks.
- CONICYT-Ministry of Energy: 10 courses and 20 internships.
- Support for the participation of Chilean scientists in the Atlas Project at CERN's (European Organization for Nuclear Research) Large Hadron Collider.
- Organization of joint committees on scientific cooperation between Chile and the European Union (Brussels); Chile and Germany (Berlin); plus Chile and Canada (Ottawa).

HUMAN
CAPITAL

2011

Advisory Council

Advisors: Jaime Campos
Haydée Domic
Sebastián Izquierdo
Nicolás Luco
Miguel Nussbaum
Consuelo Valdés
Eugenio Vogel

2011

Advisory Council

Advisors: Dora Altbir
Leonardo Bronfman
Joaquín Fernandois
Laura Gallardo
Rodrigo Palma
Luz María Pérez
Carlos Vío

COMPLEMENTARY
SUPPORT

SCIENTIFIC INFORMATION PROGRAM

Directora: Patricia Muñoz P.
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2012 Budget: USD 12.9 mill

Established in 1969, the **Scientific Information Program** aims to guarantee and strengthen access to national and international scientific information in order to use it in research, education, and innovation.

Lines of action:

- Access to national and international scientific information:
 - The Scientific Information Electronic Library (BEIC) is co-financed by the Consortium for Electronic Scientific Information Access (CINCEL) and CONICYT, and has been in operation since 2008. It provides all universities belonging to the Council of Rectors of Chilean Universities and two private universities access to more than 5,000 scientific journals. Beginning 2012, CONICYT will provide all its funds cover all its expenses and will extend access to more institutions.

- SciELO-Chile (Scientific Electronic Library Online) is a collection of 99 national scientific journals that can be accessed in their entirety. Between 2005 and 2011, this collection has had more than 30,000 citations in high-impact international indexes.

- Access to scientific information generated with public funding: CONICYT RI 2.0, a digital repository, gives access and visibility to projects and reports financed by CONICYT.
- Support fund for the publication of Chilean quality science journals.
- Redciencia, Latin America's most important scientific collaboration network, which has more than 6,000 members.

Funding instruments:

- Competition for the Publication of Science Journals, which provides competitive funding for Chilean high quality science journals that have worldwide circulation.

- Competitive Call for Research and Reports about Pluralism in Chile's National Information System.

Achievements in 2011

- BEIC users downloaded more than 6 million articles in their entirety.
- The SciELO-Chile website had a total of 21 million visits.
- Digital repository CONICYT RI 2.0 has more than 4,000 documents available online.
- The support fund for the publication of science journals backed 31 new projects.
- Design of an institutional policy to manage and access data on scientific and technological research and information that is financed with public funds; recommendations for good practices.
- Development of a website containing information about Chilean scientific production in ISI and Scopus.

