Ministerio de
Ciencia, Tecnología
e Innovación Productiva

Presidencia de la Nación

Secretaría de Planeamiento y Políticas

Policies in science, technology and innovation for the development of a new techno-productive pattern

Ruth Ladenheim, PhD.
Secretary of Planning and Policies
2009

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Where is the world heading to?

- Cultural, social and economic development
- Improvement of the countries' competitiveness

⇨ Increase of the R+D budget in the middle of the crisis

⇨ Search of new ways to organize S&T activities

⇨ Special resources for high technology

⇨ Special resources for the promotion of public-private associativity

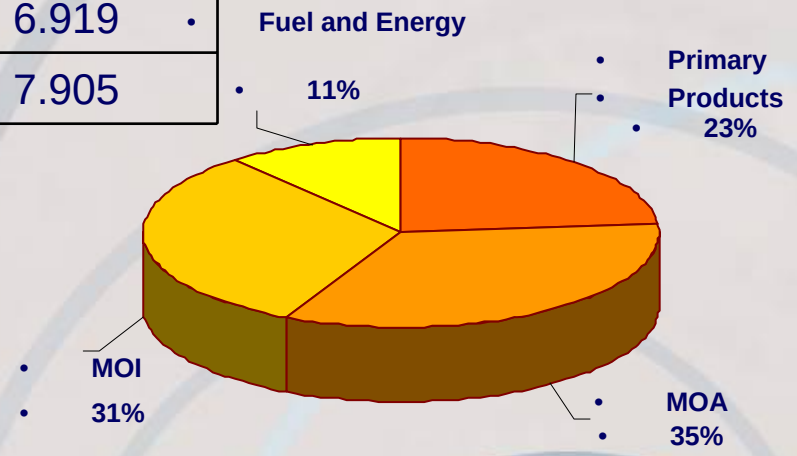
⇨ New promotion tools and mechanisms (sectorial funds)

Macroeconomic Variables: Exports

Argentinean Exports as per large Areas (in u$S millions)

Years	Total	MOA	MOI	Primary products	Fuel and energy
2003	**29.566**	9.991	7.703	6.460	5.412
2004	**34.453**	11.932	9.522	6.828	6.171
2005	**40.352**	13.327	12.001	8.037	6.988
2006	**46.456**	15.243	14.826	8.627	7.760
2007	**55.780**	19.188	17.321	12.352	6.919
2008	**70.589**	24.050	22.209	16.425	7.905

Source: Own elaboration and INDEC database



Technoproductive Profile as per 2008 Exports

Manufacturing Country/Sector	Argentina	Brazil
High Technology	4%	8%
Medium-High Technology	24%	28%
Medium-Low Technology	21%	27%
Low Technology	51%	36%

Note: For the techno productive profile, the OECD classification that considers only manufacturing industries was used

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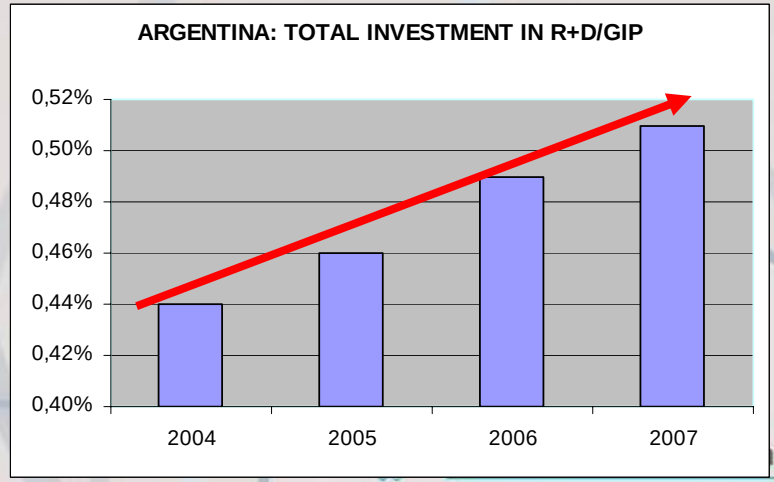
Our development style

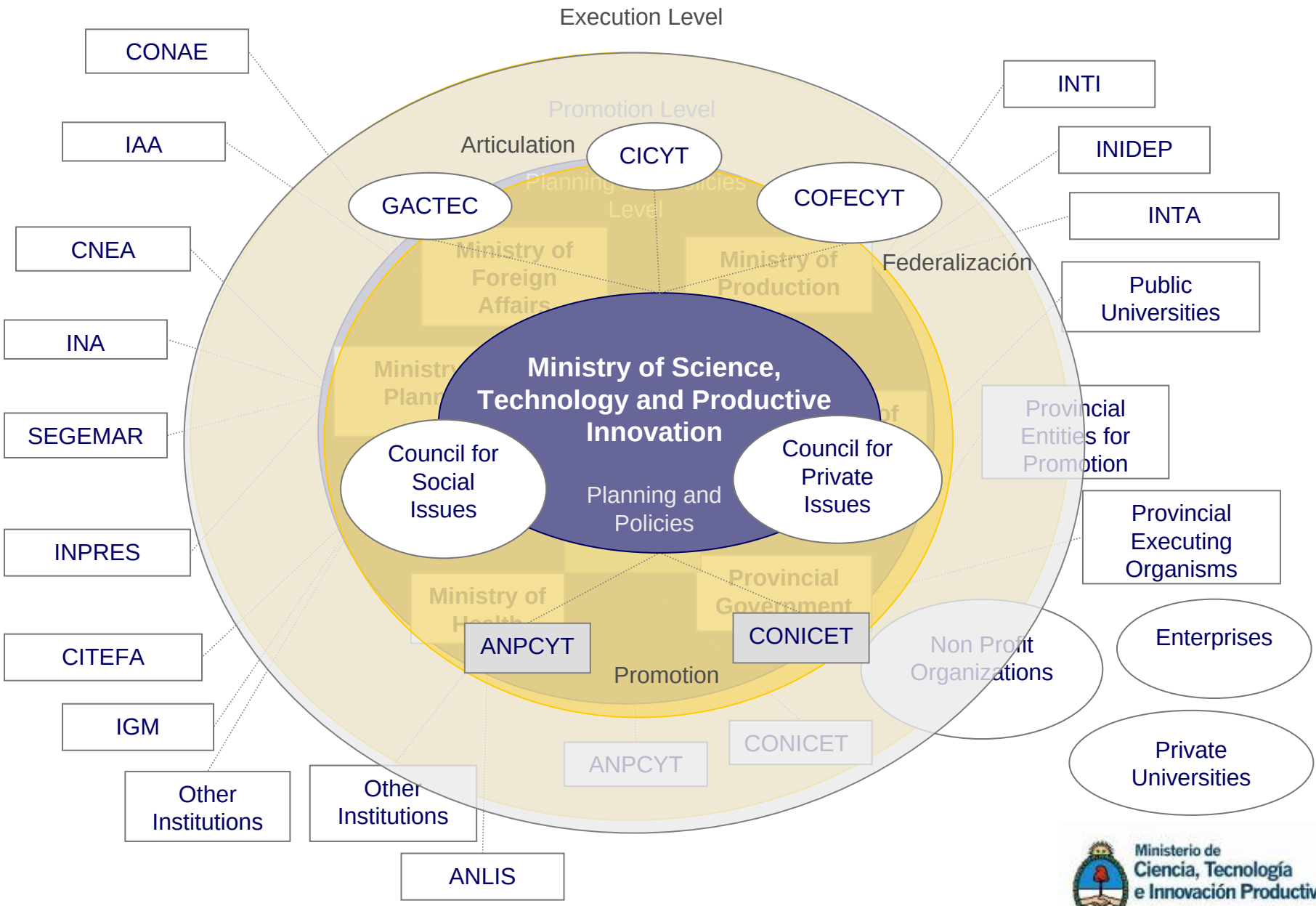
Country	R+D Expenditure u$s million	% Public	% Private	Researcher EJC
Argentina	1.325 (4)	66%	34%	38.681 (4)
Brazil	14.650 (4)	53%	47%	133,266 (5)
Chile	645 (1)	45%	55%	13.427 (1)
Mexico	3.009 (3)	56%	44%	43.922 (2)
South Corea	33.684 (4)	26%	74%	221.928 (4)
Spain	18.261 (4)	47%	53%	122.624 (4)
Finland	9.442 (5)	25%	75%	39.000 (4)
Ireland	3.937 (5)	32%	68%	12.169 (3)

Latin American scientific and technological development style

Ref: (1) 2004; (2) 2005; (3) 2006; (4) 2007; (5) 2008
Source: DNIC MinCyT based on S&T indicators 2007, RiCyT and OECD



National System of Science and Technology



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Ministry of Science, Technology and Productive Innovation

Created on December 6, 2007 with the purpose of :

Providing a substantial contribution from science, technology and productive innovation to the social, economical and cultural development of the Nation and improving Argentinean competitiveness within an increasingly competitive and globalized international context, following the paradigm of knowledge as the axis of development

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Strengthening of the Scientific and Technological System

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Academy

A long standing tradition of excellence in the scientific development promoted the creation of a highly qualified critical mass of human resources

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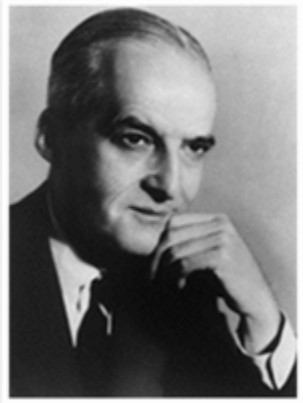
Academy

Three Argentinean scientists received the Nobel Prize

Bernardo Houssay
Physiology and Medicine, 1947

Luis F. Leloir
Chemistry, 1970



César Milstein
Physiology and Medicine, 1984

Human Resources devoted to R+D

University students per 10.000 PEA

Argentina	Chile	Mexico	Brazil
978	674	501	137

	2003	2004	2005	2006	2007
Researchers EJC	21.743	23.127	24.680	26.520	29.012
Fellows EJC	5.624	6.344	7.188	8.520	9.669

CONICET-2008

Researchers	**5.661**
+	
Fellows	**6.598**
Total	**12.259**

- **614 repatriated**
- **321 prospective repatriated**

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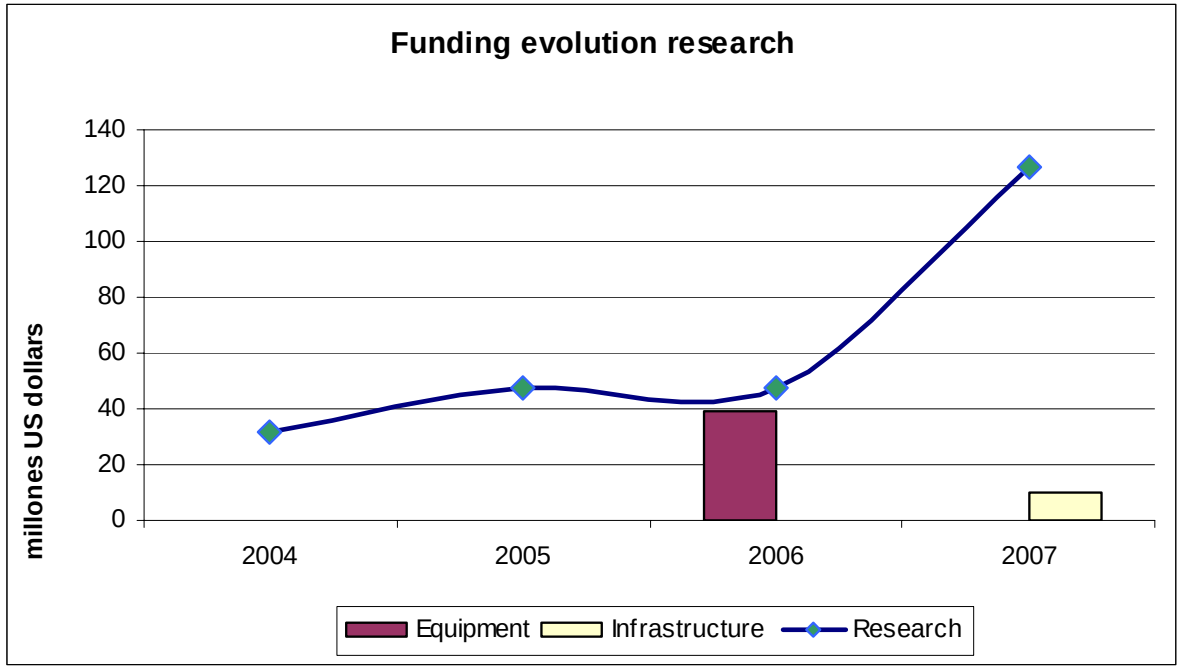
FONCYT
FONDO PARA LA INVESTIGACION CIENTIFICA Y TECNOLOGICA

- Funding for Scientific Research

(adjudicated ammounts)



SourceFuente: UEAC

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BIBLIOTECA ELECTRONICA DE CIENCIA Y TECNOLOGIA

- 20.000 papers / u$s 11.400.000

SNM SISTEMA NACIONAL DE MICROSCOPIA

National System of Biological Information

Big instruments and databases services

u$s 5.464.480 + u$s 3.000.000

PROGRAMA SHL

Laboratory Hygiene and Safety

- u$S 6.557.377

SICYTAR SISTEMA DE INFORMACION DE CIENCIA Y TECNOLOGIA ARGENTINO

- u$s 1.200.000

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Multilateral Cooperation

Argentina - Brazil Binational Centers

- CABBIO: Biotechnology
- CABNN: Nanosciences and Nanotechnology
- CABM: Metrology

Argentina – Spain Programs

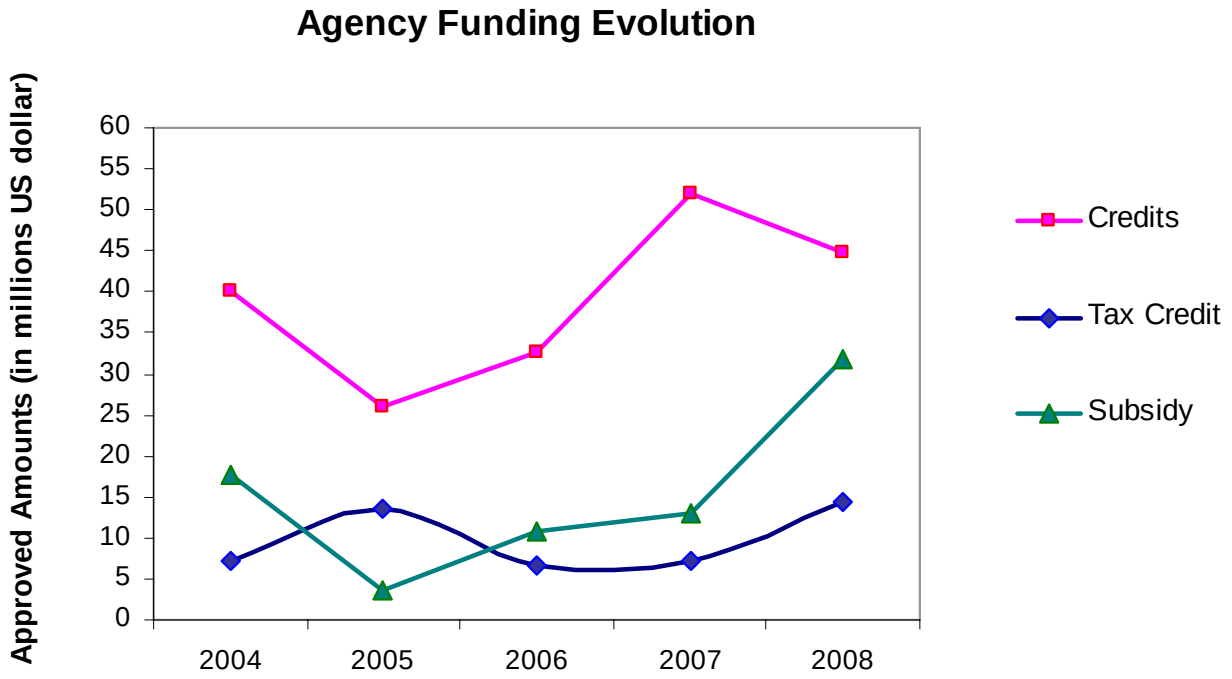
- Vegetal Genomics Program – Santa Fe

Articulation with the productive network

Innovation Promotion

FONTAR
FONDO TECNOLOGICO ARGENTINO

FONSOFT



COFECYT
Consejo Federal de Ciencia y Tecnología

Federalization of science, technology and innovation and decrease of s&t regional asymmetries

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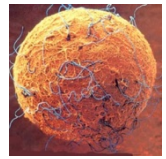
R+D+I Projects requiring association with different scientific or technological institutions, adopting entities and enterprises with a common objective

- Apiculture
- Prunes
- Winemaking
- Forestry
- Metal mechanics
- Pharmaceutical
- Biofuels

- Milk
- Foot and Mouth disease
- Soil sustainability
- Vaccines
- Stem Cells
- Hydrogen Production
- Nanotechnology Production



PI-TEC 2008 u$s 22,8 MILL

approved

PAE 2008 – 2009 u$s 35 MILL

adjudicated

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Promotion of the creation and development of TBE

IMPULSO EBT

- Seed funds
- Project flow facilitators
- Technological Managers Training — 13 projects/ u$s 8,8 mill*
- Equipment and Infrastructure Projects — 102 projects/ $247 mill*
- Implementary Decree Science and Technology Act Nº 25.467
- Management of Intellectual property and technology transfer.
- INNOVAR Prize — 2630 projects

* Requested ammounts

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Development of Strategic Technologies

Sectorial funds | u$s 60.000.000

- Associative Projects between enterprises and technological centers or research groups.
- Total cost per project: between u$s 1.5 million and u$s 10 million

	Health	Energy	Agriculture	Social
Nanotechnology	Drug Delivery	Fuel cells	Traceability Packaging Agrochemicals Nanocapsules	Environmental Sanitation (water potabilization)
Biotechnology	Vaccines Recombinant Proteins Monoclonal antibodies (diagnostic and therapeutic use) Biopolymers in medical technology	Biofuels Biogas and Biofuels production from industrial waste materials and stools from intensive stock breeding facilities.	New cultures Microbial, animal and vegetal Genomic Value products from industrial waste materials Biopolymer (packaging use) Climatic Veterinarian Vaccines	Alternative Cultures Biomass Environmental Sanitation (bioremediation) Biological Insecticides Growth Promoters for Community Vegetable Gardens
ICT	Medical Images Analysis Bioinformatics (human)	Efficiency increase in transportation and use.	Agriculture CIT Bioinformatics (microbial, vegetal and animal, vegetal)	Digital Agenda Electronic Government

Health	Energy	Agriculture	Social
Translational Medicine	Thermal Solar Energy Eolic Energy	Food safety technologies and systems	Adaptive technologies

Nanotechnology	CIT
Applied micro and nanoelectronics (sensors, satellites, etc.) Functionalized Nanoclays	Image design and simulation Digital Services and contents innovation Software Engineering




Science and technology for social inclusion

To contribute to social welfare by improving the quality of scientific and technological education and fostering the social appropriation of knowledge

Science Week

Scientists Go to School

“Experimentar” Portal

Science in focus, Technology in focus

Cinecien (SciTech Movies Fest)

Artfutura (Art and Science Exhibition)

Florentino Ameghino Prize

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Thank You

Ruth Ladenheim, PhD.
Secretary of Planning and Policies
Ministry of Science, Technology and Productive Innovation 2009

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Concluding Remarks

- We are aiming at the transformation of knowledge in sustainable development with social inclusion.
- Latin-American society is fractured: poverty and income distribution inequalities coexist with modernity, scientific and technological activities and innovation. It is important to bridge the existing gaps. S&T should propose solutions to social problems.
- In Argentina we should continue working to complete the NIS. The 90´s have deprived us of public companies to carry out technological policies. The only possibility is to resort to SME and the development of technology-based enterprises.
- Lack of a development strategy. This is not originated from a top-down political definition because it should involve all the society's sectors.

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Non-refundable contributions - NRC

New software for agriculture : Multipurpose System for cattle identification

TOTAL AMOUNT: $ 101.310

OVER S.R.L.

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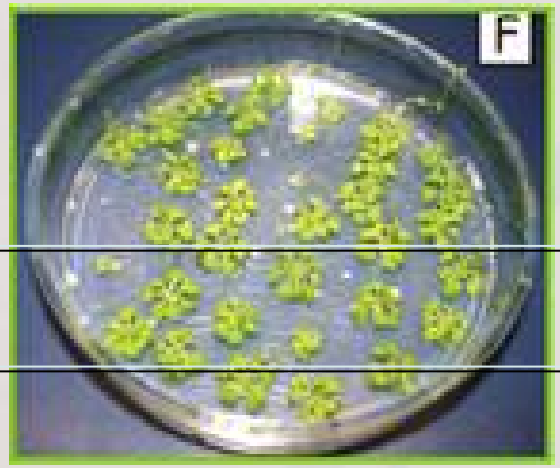
Non-refundable Contributions - NRC



Obtainment of salt and hydric stress-tolerant cultures of agronomic interest.

TOTAL AMOUNT: $ 126.136

Bioceres S.A.

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Non-refundable Contributions - NRC

- Self-propelled harvesting device to harvest, prune and fumigate olive plantations.

TOTAL AMOUNT : $ 390.574

Olivares de Venado Tuerto S.A.

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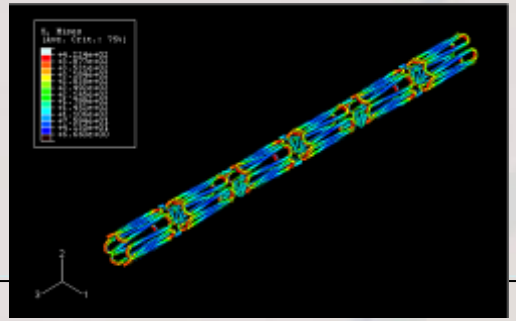
Non-refundable Contributions - NRC



Design, development and validations of an endovascular prosthesis, (Stent) and an asymmetric intracardiac fenestrated device for total cavopulmonary anastomosis by catheterism

TOTAL AMOUNT: $ 540.350

Aeromedical S.A.

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Productive Sector Transference: RDP

Optimization of thermal treatments and development of new aluminum-based alloys to be used in metal mechanic industry

FINANCED AMOUNT: $ 700.550

Applied Nuclear Radiations Group (Universidad Nacional del Centro de la Provincia de Buenos Aires)

Adopting Enterprise: Metalúrgica Tandil S.A.

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Productive Sector Transference: RDP

Development of technologies for the production of quality wood in forest grazing systems with salicaciae in Parana Delta wetlands

FINANCED AMOUNT: $ 225.164

Institutions: INTA EEA Delta and Universidad Nacional de Lomas de Zamora.

Adopting Enterprise: Ederra S.A.

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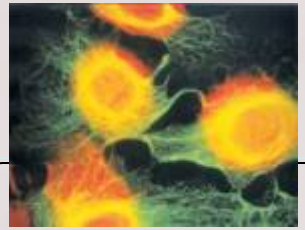
Examples of EAP

BIOTECHNOLOGY



Application of genomic and metabolomic approaches to soil sustainable management in agricultural activities and bioprospection in genetic resources in view of their biotechnological use

FINANCED AMOUNT: $ 6.202.212

6 related institutions : UBA (Agronom), UNLP (Cs.Exactas), UNQ (Centro de estudios), INTA –Inst. Agrobiotecnología Rosario – AAPRESID, CONICET

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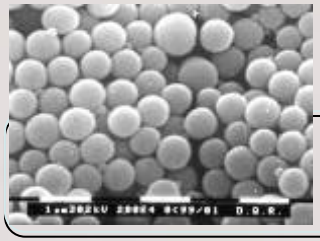
Examples of EAP

NANOTECHNOLOGY



Node for the design, manufacture and characterization of micro and nano devices to be applied in the spatial area, safety and health

FINANCED AMOUNT: $ 6.287.250

7 related institutions: CNEA-CONAE-INTI-UNSAM-UNS-LABORATORIO CRAVERI-AUPET S.A.

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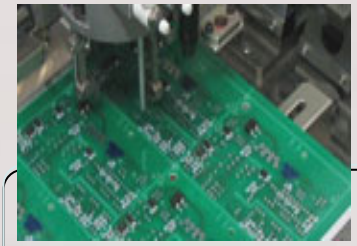
Examples of EAP PAE

CIT



Consolidation of National Software Engineering in view of a Globalized Quality Software Market.

FINANCED AMOUNT: $ 3.879.201

20 related Institutions: UADE, UBA, UNMendoza, UNC, UNLaPampa, UNPA, UNLP, UNCPBA, UNCOM, UNCU, UNRC, UNR, UTN (Regional Mendoza), Analyte S.A., Dipros S.A., Estrategias Diferenciadas S.A., FUNIVEMP, Pampa L&S.A., Pragmática Technologies S.A., Snoop Consulting S.A.

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From associativity to sectorial problems:EAP PAE

HUMAN HEALTH

Research and development of new therapies and molecular based diagnostic systems in cancer.

FINANCED AMOUNT: $ 7.142.090

8 related Institutions: UNQ – National Academy of Medicine - UBA (School of Pharmacy and Biochemistry) - CONICET – Hospital for Sick Children Prof.Dr. Jaun P. Garraham – Institute of Oncology Angel H. Roffo - Laboratory ELEA SACIFyA - ROMIKIN

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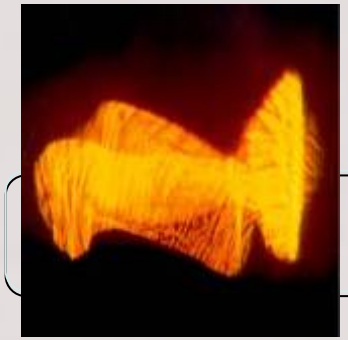
From associativity to sectorial problems:EAP



ENERGY

Production, purification and applications of hydrogen as fuel and energy vector

FINANCED AMOUNT: $ 8.153.964

3 related institutions: CONICET, University of Buenos Aires (Engineering School), National Committe of Atomic Energy (CNEA)

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From associativity to sectorial problems:EAP PAE

AGROINDUSTRY

Contribution and insertion of Genomics in the ~~Development of the Agro-industrial Bovine Dairy~~ Chain.

FINANCED AMOUNT: $ 2.971.712

4 related institutions: INTA-CONICET (Cerela)-Foundation Potenciar-Las Taperitas S.A.-Municipalitty of the city of Rafaela

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