Identifying & Training The Best & The Brightest: Investing in EU Researchers

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Outline – CNIC, 5 Years

1. Introduction to The CNIC
2. Mision & Vision
3. Overview of the Budget
4. CNIC Research Organization
5. “CNIC – JOVEN Training Plan”
   a) – Covering All Levels
   b) - Follow Up & Return on Investment
1. Introduction

Public CV Research Institution of The Spanish Government & Pro CNIC (13 Private Companies)

28,144 m² For Research. Equipped With The Most Advanced Facilities & Technology

The CNIC is a young center: more than 3/4 of the researchers have been recruited since 2007.

Distinguished With the “Severo Ochoa” Award for Excellence (one of 3 Life Science Awarded Institutions)
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2. Mission & Vision

1). To Identify & Inspire Youth

Tomorrow’s Scientists

2). To Promote Excellence In CV Research

Basic, Clinical & Global
1). EARLY EDUCATION TO CONTINUOUS TRAINING

Intramural Education (12)
Facilities (Imaging, Experim.)
Extramural Grants (2-4 x year)

SCIENCE July 8, 2005 & Sept 1, 2006
EUROPEAN HEART J 2010;31:2067, 2012 (Press)
2). TRANSLATIONAL RESEARCH
A TEAM EFFORT MODEL

Basic Research

Proof of Concept

Clinical Research

Global Health Research

Workshop, European Commission, Brussels, Oct 2008
2) Clinical Translation

1. **FOCUS**
   - Polypill in cardiovasc prevention

2. **JOVEN**
   - AMI in young women

3. **PESA**
   - Progress. of Early Subclinical Atheroscl.

4. **AWHS**
   - Aragon Workers Health Study

5. **METOCARD**
   - Metoprolol for Cardiopr. AMI

Towards Cardiovascular Health Improvement
2) Health, Well-being, Society – 2012-2020
Powered by/for Three Ages

“Extended healthy lives” in part due to medical research generates dramatic returns - A & M Lasker Found. – 2002
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3. Overview of the Budget

- Annual average CNIC budget is 28 M€ (incomes)
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4. Research Organization

- There are 3 Research Departments:
  1) Vascular Biology and Inflammation
  2) Cardiovascular Development and Repair
  3) Epidemiology, Atherothrombosis and Imaging
  4) Supported by The Translational Platform

a) 10 Core Facilities (Technical Units), Support Research Mission

b) 147 Staff (41 Heads Lab. - SAB)
   99 Pre-Postdoctoral Fellows

c) 300 Trainees in CNIC training programs per year
   “CNIC-JOVEN Training Plan”
4a. CNIC Core Facilities – Technical Units

- CNIC research is supported by a group of Technical Units that implements state-of-art laboratory services available to all investigators. Units are reviewed every year.

  - Bioimaging Facilities
  - Animal Facility
  - Cellomics
  - Genomics
  - Microscopy
  - Protemics
  - Transgenesis
  - Pluripotent Cell Tehcnology
  - Viral Vectors
  - Bioinformatics

- Advanced Bioimaging and Animal Facilities

PRECLINICAL RESEARCH FACILITIES (animal models)

CLINICAL CARDIOVASCULAR IMAGING RESEARCH LABORATORY

- Zebra-fish
- Rabbits
- Rodents
- Pigs
4b) Scientific Advisory Board - SAB

- Prof. Kenneth R. Chien
  Harvard Stem Cell Institute (US)

- Prof. Louis Ignarro
  David Geffen School of Medicine at UCLA (US)

- Prof. Derek M-Yellow
  University College London (UK)

- Prof. Margaret Buckingham
  Institut Pasteur (FR)

- Prof. David Garcia Dorado
  Vall d’Hebron Research Institute (ES)

- Prof. Margarita Salas
  Centro de Biología Molecular Severo Ochoa (ES)

- Prof. Peter Carmeliet
  Catholic University of Leuven (BE)

- Prof. Prof. Med. Franz Hofman
  Technical University of Munich (DE)

- Prof. Carl T. Weber
  University of Tennessee (US)

- Prof. Lawrence Appel
  Johns Hopkins University (US)

- Prof. Prof. Stefanie Dinnmeler
  Goethe University Frankfurt am Main (DE)

- Prof. Silvia Priori
  IRCCS Fondazione Salvatore Maugeri (IT)
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Main goal. To attract and train the brightest young people from an early age (17-18 years) to create a pool of excellent CV researchers.

Covering all Levels. From secondary education to the training of postdoctoral fellows and medical and scientific professionals.

International. Promoting training at foreign institutions and likewise attracting talented young researchers from other parts of the world.

National Network: Consolidated network with hospitals within the Spanish National Health System.

Follow Up And Return On Investment: Participants are closely followed up on their careers and programs are designed to obtain a return on the investment for the center after their training.
5a  Covering all levels

Recent graduates
Postgraduates and Medical Professionals
Undergraduates

2006 - 2011
2,275 participants

Cardio-Image 13
Invesmir 10
Pathophysiology Course 488
Cardiojoven 2
Course on Vascular Biology 570
Postdoctoral 8
Translational Meeting 244

Predoctoral 254
Master 27
Postgraduate 37
Cicerone Program 434
Practice 12
Cicerone 128
Acercate 48

CNIC-JOVEN TRAINING PLAN
FUTURE RESEARCHERS
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<table>
<thead>
<tr>
<th>Level</th>
<th>Program</th>
<th>Content</th>
<th>Venue</th>
<th>Duration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pre-university &amp; Undergraduate Students</td>
<td>ACERCATE</td>
<td>Introduction to scientific method &amp; lab work</td>
<td>CNIC</td>
<td>2 weeks</td>
</tr>
<tr>
<td></td>
<td>CI CERONE</td>
<td>Undergraduate lab. project during the summer recess</td>
<td>CNIC</td>
<td>Summer months</td>
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<tr>
<td></td>
<td>PRACTICALS</td>
<td>Undergraduate laboratory project during 1 academic year</td>
<td>CNIC</td>
<td>1 year</td>
</tr>
<tr>
<td></td>
<td>CI CERONE Workshop</td>
<td>What you need to know about cardiovascular research”</td>
<td>CNIC</td>
<td>One and half days (Sept)</td>
</tr>
<tr>
<td>Recent Graduates</td>
<td>CARDIOVASC. POSTGRADUATE</td>
<td>Theory and practice in molecular biomedicine (Master with UAM)</td>
<td>CNIC</td>
<td>2 months</td>
</tr>
<tr>
<td></td>
<td>MASTER FELLOWSHIP</td>
<td>Grant awards for Masters students</td>
<td>CNIC</td>
<td>1 year</td>
</tr>
<tr>
<td></td>
<td>PREDICTORAL PhD Students</td>
<td>Research project leading to a doctoral thesis</td>
<td>CNIC &amp; Internat. Centers</td>
<td>4 years</td>
</tr>
<tr>
<td></td>
<td>CARDIO-IMAGE</td>
<td>Practical training in imaging techniques</td>
<td>Mount Sinai SM</td>
<td>1 year</td>
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## 5a Covering all levels

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<td>Postgra. Students &amp; Medical Profes.</td>
<td>INVESMIR</td>
<td>Laboratory work</td>
<td>CNIC</td>
<td>6 months</td>
</tr>
<tr>
<td></td>
<td>CARDIOJOVEN</td>
<td>Theory and practice in translational research</td>
<td>Johns Hopkins University, CNIC, &amp; International</td>
<td>3 years</td>
</tr>
<tr>
<td></td>
<td>CARDIOVASCULAR PATHOPHYS. Course</td>
<td>Lectures on Genetic and molecular factors with cardiovascular disease</td>
<td>CNIC</td>
<td>One and half days (November)</td>
</tr>
<tr>
<td></td>
<td>VASCULAR BIOLOGY Course</td>
<td>“Vascular biology: basic and clinical research”</td>
<td>CNI C-C Univ. Menéndez Pelayo</td>
<td>One and half days (July)</td>
</tr>
<tr>
<td>Physician Research</td>
<td>POSTDOCTORAL Research project</td>
<td></td>
<td>CNIC</td>
<td>3 years</td>
</tr>
<tr>
<td></td>
<td>TRANSLATIONAL RESEARCH Forum</td>
<td>Cardiovascular translational research</td>
<td>CNIC</td>
<td>One and half days</td>
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5b) Follow up and Return on investment

- ACÉRCATE Program (2007-2001): 2/3 plan research future, 25% are enrolled in more advanced training programs (Cicerone and PhD programs)

- CARDIO-IMAGE and CARDIOJOVEN Programs (2008-2011): 15 participants with training in foreign institutions; currently 4 are back working in translational and imaging research projects.

- IN GENERAL. 15-20% participants follow their training in more advanced training options at the CNIC.

- FOREIGN PARTICIPANTS, 20-25% in the CNIC Training Plan
In 2011, the CNIC was recognised as a “Severo Ochoa Center of Excellence”

This award recognizes the international excellence, strategy and future projection of research centers.

Three Nobel laureates led the international evaluation panels.

Only 8 of the 75 top centers achieved this accreditation.

CNIC achieved a score of 97%.

The direct funding for this seal of quality is €4 million over 4 years.
FUNDRAISING & VIVE INITIATIVE

Fundacion SHE

Fundación procnic

juntos podemos más...

CNIC