Report on the Fellows and Associates Programme

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Overview

• The last 5-Yearly Review – a reminder
• Some general recruitment issues
• The programmes
  – Summer Students
  – Technical & Doctoral Students
  – Fellows & Associates
  – Marie Curie Actions
  – Special Programmes
• Conclusions
The last 5-yearly review – a reminder

• Doctoral Students
  – subsistence reduction of 13%, allow more students with constant budget yet remaining competitive

• Fellows
  – introduction of Junior Fellowship scheme
  – replace age-related eligibility with experience
  – reduced participation to the Pension Fund (+17FTEs for same budget), but global package remains very attractive compared to reference institutions

• Overall
  – simplify administration
  – increase capacity

⇒ improvements across Programmes + results
The last 5-yearly review – a reminder

- Doctoral Students
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- Fellows
  - introduction of Junior Fellowship scheme
  - replace age-related eligibility with experience
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- Overall
  - simplify administration
  - increase capacity
Some general recruitment matters

• **2007 (the issue)**
  – lack of applications observed
  – some Member States severely under-represented
  – some disciplines severely lacking quality candidates

• **2008 (the solution)**
  – introduction of closer internal monitoring
  – launch of a number of recruitment initiatives
    • mixture of good old-fashioned “mail-shots” and
    • use of new technologies (Facebook, YouTube...)
  – standardised & streamlined financial mechanisms
Summer Student Programme – activities

- Lecture Programme: 2 July 08 – 8 August 08
- Discussion Sessions: lecturers answer student questions to help deepen their understanding
- Student Sessions: 20 students give presentations on their work project
- Poster Session: 17 posters by students on their work projects
- Visits: SM18, LINAC, Computer Centre
- Workshops: 8 different types of workshop (Beamlines, Madgraph, Silicon Sensors, Data Acquisition...) → places for 140 students
### Summer Students 2008

#### Member States

<table>
<thead>
<tr>
<th>Member States</th>
<th>Total Applications</th>
<th>CERN financed</th>
<th>Outside financed</th>
<th>Selection ratio</th>
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<tr>
<td>Austria</td>
<td>18</td>
<td>3</td>
<td></td>
<td>17%</td>
</tr>
<tr>
<td>Belgium</td>
<td>16</td>
<td>3</td>
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<td>15%</td>
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<td>Bulgaria</td>
<td>3</td>
<td>2</td>
<td></td>
<td>67%</td>
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<tr>
<td>Switzerland</td>
<td>13</td>
<td>3</td>
<td></td>
<td>23%</td>
</tr>
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<td>Czech Republic</td>
<td>12</td>
<td>3</td>
<td>2</td>
<td>42%</td>
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<tr>
<td>Germany</td>
<td>67</td>
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<tr>
<td>Denmark</td>
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<td>3</td>
<td>50%</td>
</tr>
<tr>
<td>Spain</td>
<td>95</td>
<td>8</td>
<td></td>
<td>8%</td>
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<tr>
<td>Finland</td>
<td>11</td>
<td>4</td>
<td></td>
<td>36%</td>
</tr>
<tr>
<td>France</td>
<td>53</td>
<td>13</td>
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<td>25%</td>
</tr>
<tr>
<td>Great Britain</td>
<td>123</td>
<td>14</td>
<td></td>
<td>13%</td>
</tr>
<tr>
<td>Greece</td>
<td>30</td>
<td>4</td>
<td>3</td>
<td>23%</td>
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<tr>
<td>Hungary</td>
<td>11</td>
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<td>18%</td>
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<td>Italy</td>
<td>54</td>
<td>9</td>
<td></td>
<td>17%</td>
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<td>Netherlands</td>
<td>12</td>
<td>5</td>
<td>4</td>
<td>75%</td>
</tr>
<tr>
<td>Norway</td>
<td>10</td>
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<td>Poland</td>
<td>49</td>
<td>3</td>
<td></td>
<td>6%</td>
</tr>
<tr>
<td>Portugal</td>
<td>9</td>
<td>3</td>
<td></td>
<td>33%</td>
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<tr>
<td>Sweden</td>
<td>29</td>
<td>3</td>
<td>4</td>
<td>24%</td>
</tr>
<tr>
<td>Slovakia</td>
<td>2</td>
<td>2</td>
<td></td>
<td>100%</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>629</strong></td>
<td><strong>106</strong></td>
<td><strong>16</strong></td>
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<td><strong>Total Selected Member States</strong></td>
<td><strong>122</strong></td>
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</table>

#### Non Member States

<table>
<thead>
<tr>
<th>Non Member States</th>
<th>CERN financed</th>
<th>Outside financed</th>
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<tbody>
<tr>
<td>India</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Israel</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>Japan</td>
<td>5</td>
<td>1</td>
</tr>
<tr>
<td>Korea</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Mexico</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Serbia</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>4</strong></td>
<td><strong>17</strong></td>
</tr>
<tr>
<td><strong>Total NMS</strong></td>
<td><strong>21</strong></td>
<td></td>
</tr>
</tbody>
</table>

#### Total Students

- **Total Students paid by CERN**: 110
- **Total Students paid by outside sources**: 33
- **Grand Total**: 143
What the Summer Students said…

About the experience…
“How to learn & have fun at the same time – be a summie”
“Can’t imagine a better way to spend my summer”
“I don’t know if we were particularly lucky, but I really enjoyed every aspect of the summer student program: work, lectures and social life (a lot!)”

How they described it…
– Great, Awesome, Inspiring, Interesting, Pleasant, Unforgettable, Remarkable, Perfect

What they said about HR…
“We don’t often meet people that do their work so professionally and kindly”
“I would like to thank the organization team because everything was perfect”
Closer monitoring of TECH candidate pool 4/08
TECH recruitment initiatives 2008

The International Association for the Exchange of Students for Technical Experience

200 universities contacted across 20 Member States

Use of New Technologies

ILOs & Specific communities
Results
Measurable success over 6-month period

Results (between Spring 08 and prior to Sept 10th)
– 25% increase in Fellowship Applications
– 50% increase in Student Applications
– Specific increase from targeted under-represented nationalities & disciplines

From: Janet Seed (UK Delegate)
To: John Womersley (STFC Director of Science Programmes)

...The HR teams at CERN have fairly active recruitment campaigns that are much more proactive these days...
TECH – numbers

50% increase in applicants: result of recruitment initiatives

Recruitment campaign

12% increase in positions: result of standardising ratio of DGP vs dept funding
Current technical disciplines – Dec 08

- Computing: 58%
- Applied Physics: 24%
- Electrical: 12%
- Mechanics: 3%
- Civil Engineering/Surveying-Topometry: 4%
- Engineering/scientific work - general or combination of code: 8%

Currently 93 Technical Students
DOCT – applications & appointments

60% increase in applicants: result of recruitment initiatives & advertising

23% increase in positions: results of external financing & 5YR effects
Currently 104 Doctoral Students
“It’s a great place to start a career, it’s a great place to learn new skills, make new friends…”

“The main advantage of working here is the International environment.”

“This internship gave me the opportunity to meet important people, especially in the research fields”.

“I would tell students not think it twice, just to apply, they won’t regret it”
Fellows & Associates – budget

Fellows and Paid Associates, real costs until 2007, 2008 Final Budget [CHF]

- EU, White Paper, other funding sources…
- LHC Budget crisis: decision to cut 20% of budget – in reality 16% was cut
- Impact of 2001 cut
Fellows – applications

25% increase in applicants: result of recruitment initiatives & spreading word that now is an exciting time to be at CERN

Increase in appointments due to 5YR, White Paper, EU, CLIC...
Fellows – disciplines

Applications (AFC Nov 2008)

- Experimental Physics / Physique Expérimentale
  - 18%
- Computing / Informatique
  - 17%
- Electrical Engineering / Ingénierie en Électricité
  - 3%
- Electronic Engineering / Ingénierie en Électronique
  - 7%
- Experimental Applied Physics / Physique Expérimentale Appliquée
  - 5%
- General Engineering / Ingénierie Générale
  - 2%
- Material Science / Science de la Matière
  - 3%
- Mechanical Engineering / Ingénierie en Mécanique
  - 3%
- Mathematics / Mathématiques
  - 0%
- Scientific Communication and Education / Éducation et Communication Scientifique
  - 3%
- Applied Physics / Physique Appliquée
  - 7%
- Civil Engineering / Génie Civil
  - 1%
- Accelerator Physics / Physique des Accélérateurs
  - 2%
- Theoretical Physics / Physique Théorique
  - 30%

Total: 100%
Junior / Senior Fellows

Applications

Seniors for Experimental & Applied Physics

Applied fields are mainly Junior

Senior
Junior
**Fellows – Appointments**

33% Increase in Fellows since 2001 and still rising

<table>
<thead>
<tr>
<th>Year</th>
<th>Fellows (Old Scheme)</th>
<th>Senior Fellows</th>
<th>Junior Fellows (Master)</th>
<th>Junior Fellows (BsC)</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>2002</td>
<td>214</td>
<td>2</td>
<td>14</td>
<td>2</td>
<td>230</td>
</tr>
<tr>
<td>2003</td>
<td>220</td>
<td>69</td>
<td>22</td>
<td>14</td>
<td>315</td>
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<tr>
<td>2004</td>
<td>220</td>
<td>25</td>
<td>30</td>
<td></td>
<td>275</td>
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<td>2005</td>
<td>246</td>
<td>69</td>
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<td>2006</td>
<td>251</td>
<td>25</td>
<td>30</td>
<td></td>
<td>316</td>
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<td>2007</td>
<td>160</td>
<td></td>
<td>22</td>
<td></td>
<td>182</td>
</tr>
<tr>
<td>2008</td>
<td>54</td>
<td></td>
<td>30</td>
<td></td>
<td>84</td>
</tr>
</tbody>
</table>
Gender aspects – appointments

Nov 2006 AFC, drop in female applicants observed
# Feedback – the exit questionnaire

<table>
<thead>
<tr>
<th></th>
<th>.... Very good</th>
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</thead>
<tbody>
<tr>
<td>The Fellowship was challenging</td>
<td>84%</td>
</tr>
<tr>
<td>I felt integrated into the working environment</td>
<td>72%</td>
</tr>
<tr>
<td>My initiatives and ideas were welcomed in my working environment</td>
<td>89%</td>
</tr>
<tr>
<td>Regular constructive feedback was provided</td>
<td>73%</td>
</tr>
<tr>
<td>I deepened my knowledge in my own field</td>
<td>94%</td>
</tr>
<tr>
<td>I acquired new/complementary skills</td>
<td>84%</td>
</tr>
<tr>
<td>I am more at ease professionally</td>
<td>89%</td>
</tr>
<tr>
<td>I expanded my professional network</td>
<td>83%</td>
</tr>
<tr>
<td>My career prospects have improved</td>
<td>77%</td>
</tr>
</tbody>
</table>

**Have you enjoyed your Fellowship?**

- Yes: 18 (100%)
- No: 0 (0%)

**Total: 18**

**Would you recommend the Fellowship experience to a friend or contact?**

- Yes: 18 (100%)
- No: 0 (0%)

**Total: 18**
Fellows – what they said

“...an ideal place to follow the most recent ideas in physics and start new collaborations.”

“... a very rewarding experience”

“ a great environment to get started in the professional world”

“ would recommend it to anyone who would have just finished his education.”

“ This is a great place to be using cutting edge technologies that tend to arrive later in the other industries.”

“ Learning new skills Working with fun, talented people”

“ good seminars on different subjects; discussions with world experts; good salary; Geneva is nice “
As of 2000, no longer separate quotas between Fellows & Paid Associates

Introduction of Project Associate category for LHC construction
CERN & the EC – Marie Curie Actions

• Funding from the European Commission for people: Early Stage (J) & Experienced (S) Researchers

• Marie Curie Actions
  – FP6: 165 FTEs/ (2004-10) on 7 CERN projects + 2 as partner + 6 individual fellowships
  – FP7: 80 FTEs/32 researchers (2008-2012) on 3 CERN projects + 2 as partner + 2 individual fellowships

• Closely monitored by the European Commission

• Coming in 2009: COFUND
  – for about 40 Senior Fellows (AFCs 09)
Special Programmes

• Well-established programmes with Spain and Portugal
• New trend of Member States interested in financing students through CERN’s standard programmes
  – Austrian Doctoral Students (10 per year)
  – German Doctoral Students (20 per year)
  – German Technical Students (7 per year, partial funding)
  – Norwegian Technical Students (10 per year, partial funding)
  – Greek agreement in the pipeline (across all programmes)
  – other Member States thinking about it
• CERN’s successful involvement in the prestigious Swiss CFC apprenticeship scheme (physics, electronics, library)
Conclusions

• Highly visible Programmes
  – successful for Fellows & Students
  – successful for CERN
  – fostering good links in Brussels
• Excellent opportunities for students and researchers in all Member States – and beyond!
• Continuous improvement programme – quality & quantity – underway
• Use of Web 2.0 technologies in innovative ways is bringing exciting results!
November AFC

- Currently 290 Fellows
- 350 Applicants
- 118 Selected

![Applicants by Country (AFC Nov 2008)](chart.png)
2008

• Introduction of CHF management
• Previously quotas in “person-months”, yet cost varied from Junior (7555) to senior (11059)
• Provides flexibility
• Allows carry-forward of unused funds
• Allows transfers from other sources
• Simplifies external funding
• Results in significantly more appointments
# I. LIST OF LECTURERS AND LECTURES

<table>
<thead>
<tr>
<th>Lecturers</th>
<th>Lecture</th>
<th>N.</th>
</tr>
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<tbody>
<tr>
<td>Camporesi, T</td>
<td>Installation, Commissioning and startup of the CMS experiment</td>
<td>1</td>
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<tr>
<td>Chomaz, P</td>
<td>Introduction to Nuclear Physics</td>
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<tr>
<td>Christiansen, J</td>
<td>Introduction to Electronics</td>
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<td>Close, F</td>
<td>Introduction to Particle Physics</td>
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<td>Cowan, G</td>
<td>Introduction to Statistics</td>
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<td>Dissertori, G</td>
<td>From Raw Data to Physics Results</td>
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<td>Ellis, J</td>
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<td>Evans, L</td>
<td>Commissioning and startup of the LHC accelerator</td>
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<td>Gomez-Cadenaz, J-J</td>
<td>Neutrino Physics</td>
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<td>Heinemann, B</td>
<td>Physics at Hadronic Colliders</td>
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<td>Hoecker, A</td>
<td>Matter-Antimatter Symmetry Violation and Matter Genesis</td>
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<td>Kirstis, E</td>
<td>Beyond the Standard Model</td>
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<td>Landua, R</td>
<td>Antimatter in the Lab</td>
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<td>Lourenco, C</td>
<td>From Heavy-Ion Collisions to Quark Matter</td>
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<td>Riegler, W</td>
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<td>Riisager, K</td>
<td>The ISOLDE Facility: Radioactive beams at CERN</td>
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<td>Ross, G</td>
<td>Fundamental concepts in Particle Physics</td>
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<td>Sarkar, S</td>
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<td>Tecker, F</td>
<td>Future Linear Colliders</td>
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<td>Superconducting Magnets</td>
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