The Summer Student Programme

ACCU – 8th September 2010

James Purvis | Giovanni Chierico
They arrive like migratory birds at the start of summer, departing as it draws to a close. They fill the canteens at peaks hours, trample the grass with their frisbee and handball games, bring the average age down considerably and brighten up the scene. They are the CERN summer students, previously called vacation students.”

Over 6000 young scientists have benefitted to date...
History

• 1962
• Victor Weisskopf DG
• Offshoot of fellows & visitors programme
  – “Vacation Students”
  – 500 applicants & 70 selected
  – Housed in barracks & Geneva university
  – Alumni: David Plane, Egil Lillestol

One of first students working on the synchro-cyclotron
Programme Overview

Fields: physics, engineering, computing
Length: 8 to 13 weeks, during the summer
Eligibility: 3 years of full-time studies at university level
Features: high-quality lecture programme, visits and workshops, living allowance

Applications
903 MS
622 NMS

Selections
127 MS selected
110 NMS (57 with CERN contracts)
Process

Deadline for Applications: 27.1.2010
Deadline for pre-Selectors: 19.2.2010
Deadline for Supervisors to submit Project Proposals: 12.2.2010
Proposals Ranking: 12.2 - 24.2.2010
Selection Period: 25.2 - 8.3.2010
Final Selection: 9.3.2010
Results communicated to Candidates: 16.3.2010
Arrival Preparation, Hostel organisation & SSLP: Apr-May 2010
First Arrivals: 1.6.2010
Last Departures: 24.9.2010
Process

- Folders sent to pre-selectors
- 950 applications
- Preselection ~350 (ratio Physics:Engineers ~2:1)
- MS quotas calculated based on MS contributions
- ...plus few externally financed positions (4 NL, 2 GR, 3 DK, 4 SE, 2 CZ)
Selection Tools: History

• 1962-2004: Paper Based
• 2004-2009: Web first-come, first-served
  – Highly competitive
    • Selection over in a few seconds
    • Projects not getting the students they wanted
    • Users trying to “rig the system”
    • We had to armor tool against attacks
  – Clearly not the ideal solution
New Selection Tool

• Complete procedure & tool redesign in 2010
• Goals
  – Fair
  – Transparent
  – High Quality Matches

• New Data for Better Quality
  – Project Ranking (inside each Experiment. Non-strict)
  – Student Ranking (Top five for each Project. Strict)
Selection Procedure

*Conflict Resolution* constraints

1. Randomly loop over experiments
2. Get top available project for experiment
3. Get top available student for the project
4. Remove
   - Satisfied projects
   - Selected Students
   - Students in exhausted national quotas
   - Project without available students
5. Repeat until no more matches possible
Tools: Collect the data

Candidates search criteria

Activity
- Any -
10 - Preparation and setting up of experiments: hardware oriented
11 - Preparation and setting up of experiments: software oriented
12 - Running of experiments: monitoring and on-line data analysis
13 - Off-line data analysis: physics analysis and Monte-Carlo simulations

Discipline
- Any -
Computing
Electrical Engineering
Experimental Physics
General Engineering

Availability
- Any -
13 weeks from 01-Jun-10 to 27-Aug-10
13 weeks from 08-Jun-10 to 03-Sep-10
13 weeks from 15-Jun-10 to 10-Sep-10
13 weeks from 22-Jun-10 to 17-Sep-10

Keyword
(searched in Application Form)

"Star" students only
(considered as top candidates by experts)
My selected students only
(for the current project)

<table>
<thead>
<tr>
<th>Discipline and Latest School</th>
<th>Preferred Activities</th>
<th>Docs</th>
<th>CV</th>
<th>Appl. Form</th>
<th>Candidate Popularity</th>
<th>Nat. Quota Usage</th>
<th>Comments on candidate for this project</th>
<th>Selection Decision</th>
</tr>
</thead>
<tbody>
<tr>
<td>Experimental Physics</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Not Selected</td>
</tr>
</tbody>
</table>
| Université Pierre et Marie Curie, Paris France | 1. Experimental physics in general  
2. Off-line data analysis: physics analysis and Monte-Carlo simulations  
3. Running of experiments: monitoring and on-line data analysis |      |    |            |                      |                 |                                        |                   |
|                              |                      |      |    |            |                      |                 |                                        |                   |
| Chalmers University of Technology in Gothenburg, Sweden | 1. Accelerator physics in general  
2. Accelerator theory, beam dynamics  
3. Superconducting magnets and cryogenic equipment | (3) |    |            |                      |                 |                                        |                   |

Search
- Activity
- Discipline
- Availability
- Application Keywords

Evaluate
- Application
- CV
- Popularity
- National Quota

Rank
- 1 to 5
- Change before deadline
### Tools: Results

**Batch Run** #336.09-mar-2010 15:24 by DOSER

<table>
<thead>
<tr>
<th>Rank</th>
<th>Satisfied</th>
<th>National Quota</th>
<th>Quality of Matches</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>13%</td>
<td>49% (72/146)</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>14% (21/146)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>12% (17/146)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>9% (13/146)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>3% (4/146)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

- Can run selection procedure multiple times
- National quota usages
- Easy to see quality of matches
### Tools: Results

#### Dept TE

<table>
<thead>
<tr>
<th>Reference</th>
<th>Description</th>
<th>Year</th>
<th>Country</th>
</tr>
</thead>
<tbody>
<tr>
<td>#5283</td>
<td>Performance of electrical measurements</td>
<td>2</td>
<td>IL</td>
</tr>
<tr>
<td>#5501</td>
<td>For the design of magnets considered in</td>
<td>30</td>
<td>DE</td>
</tr>
<tr>
<td>#5521</td>
<td>The LHC beam dumping system is a safety</td>
<td>44</td>
<td>NL</td>
</tr>
<tr>
<td>#5562</td>
<td>As LabVIEW is a extensively used tool in</td>
<td>14</td>
<td>AT</td>
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</tbody>
</table>

#### ALICE

<table>
<thead>
<tr>
<th>Reference</th>
<th>Description</th>
<th>Year</th>
<th>Country</th>
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</thead>
<tbody>
<tr>
<td>#5585</td>
<td>WIRE RESONANCES IN THE ALICE-TPC Recomended</td>
<td>5</td>
<td>SE</td>
</tr>
<tr>
<td>#5584</td>
<td>The ALICE silicon pixel detector (SPD) h</td>
<td>24</td>
<td>NL</td>
</tr>
<tr>
<td>#5581</td>
<td>Online monitoring and data analysis of</td>
<td>25</td>
<td>GB</td>
</tr>
<tr>
<td>#5542</td>
<td>To participate in the development and in</td>
<td>42</td>
<td>BE</td>
</tr>
<tr>
<td>#5587</td>
<td>In pp collisions at the LHC particles an</td>
<td>23</td>
<td>PL</td>
</tr>
<tr>
<td>#5501</td>
<td>PROTON-PROTON PHYSICS ANALYSIS WITH ALICE</td>
<td>58</td>
<td>DK</td>
</tr>
<tr>
<td>#5521</td>
<td>The project consists in the integration</td>
<td>70</td>
<td>NL</td>
</tr>
<tr>
<td>#5522</td>
<td>Study of the possibility to measure pola</td>
<td>79</td>
<td>SK</td>
</tr>
<tr>
<td>#5524</td>
<td>The ALICE Transition Radiation Detector</td>
<td>84</td>
<td>SE</td>
</tr>
<tr>
<td>#5541</td>
<td>TITLE: $\Lambda$ Kaon transverse momentum spectru</td>
<td>92</td>
<td>NE</td>
</tr>
<tr>
<td>#5561</td>
<td>The proposed project is based on the dat</td>
<td>97</td>
<td>DK</td>
</tr>
<tr>
<td>#5541</td>
<td>The ALICE Detector Control System measur</td>
<td>100</td>
<td>IT</td>
</tr>
</tbody>
</table>

Student taken by this proj, another proj, over nat. quota, not taken
Feedback
“The new form and the new selection procedure are fantastic!”

“Congratulations and thank you so much for this well thought-through, easy to use and incredibly informative application! It’s actually "fun" to select students now! :-)

“For me the experience of this year’s selection was very good. No stress and I did get my first choice candidate!”

“Thanks for all the work and the big improvement of the selection procedure.”
Contract/Offer

- March
  - Candidates Informed
- April
  - Official Contracts go to candidates
  - Refusals (generally low rate) managed
  - Questions on Accommodation etc start coming in.
  - Arrival Preparations commence
Arrival/Induction

- Every Tuesday from 1\textsuperscript{st} June to mid-July
- In large room / or Globe
**Lecture & Workshop Programme**

**Lectures**
- 6 weeks in the Globe
- 31 lecturers, leaders in their field
- 29 different subjects, 300 students

**Workshops**
- 7 areas
- Very popular
- Registration on web
Also

Visits - Every Tuesday & Thursday from 20th July for 4 weeks
- Tuesday: SM18 & ATLAS
- Thursday: LINAC & Computing Centre

Student Sessions in the Globe
17-19 August, 28 presentations, full capacity. Videos on CDS

Social Programme
- Speakers from 2009 Summies
- Use of «Pump Hall»
  - Dance classes (salsa, tango, valse, breakdance, rock…)
  - Parties
  - Other activities (poker tournament)
- Talent Show!
Departure Formalities

Electronic doc
Report & feedback survey to be completed

Best Summer of My life...