The Summer Student Programme

ACCU – 7th December 2011

James Purvis | Sharon Hobson
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
  - Over 6000 young scientists have benefitted to date...

One of first students working on the synchro-cylcotron
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

Completed Applications
881 Member State
812 Non-Member State

Selections
130 Member State
103 Non Member State
Process

Deadline for Summer 2012
12th January 2012

Deadline for Applications 26.1.2011
Deadline for pre-Selectors 18.2.2011
Deadline for Supervisors to submit Project Proposals 14.2.2011
Proposals Ranking 14.2 - 28.2.2011
Selection Period 3.3 - 13.3.2011
Final Selection 14.3.2011
Results communicated to Candidates 17.3.2011
Arrival Preparation, Hostel organisation & SSLP Apr-May 2011
First Arrivals 7.6.2011
Last Departures 30.9.2011
Process

- Folders sent to pre-selectors
- 881 applications
- Preselection ~512 (ratio Physics:Engineers ~2:1)
- MS quotas calculated based on MS contributions
- ...plus few externally financed positions
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
- 2010+: Heuristic algorithm
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)
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]

Search
- Activity
- Discipline
- Availability
- Application Keywords

Evaluate
- Application
- CV
- Popularity
- National Quota

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

<table>
<thead>
<tr>
<th>Student taken by</th>
<th>this proj, another proj, over nat. quota, not taken</th>
</tr>
</thead>
</table>

### Dept TE

<table>
<thead>
<tr>
<th>Project Description</th>
<th>Recommended Level</th>
<th>Rating</th>
<th>Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>#5283: Performance of electrical measurements</td>
<td>1 2 3 4 5</td>
<td>(2)</td>
<td>[IL]</td>
</tr>
<tr>
<td>#5301: For the design of magnets considered in proj</td>
<td>1 2 3 4</td>
<td>(30)</td>
<td>[DE]</td>
</tr>
<tr>
<td>#5621: The LHC beam dumping system is a safety</td>
<td>1 2 3 4 5</td>
<td>(44)</td>
<td>[NL]</td>
</tr>
<tr>
<td>#5682: As LabVIEW is a extensively used tool in proj</td>
<td>1 2 3 4 5</td>
<td>(14)</td>
<td>[AT]</td>
</tr>
</tbody>
</table>

### ALICE

<table>
<thead>
<tr>
<th>Project Description</th>
<th>Recommended Level</th>
<th>Rating</th>
<th>Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>#5485: WIRE RESONANCES IN THE ALICE-TPC Recent</td>
<td>1 2 3 4 5</td>
<td>(5)</td>
<td>[SE]</td>
</tr>
<tr>
<td>#5484: The ALICE silicon pixel detector (SPD) h</td>
<td>1 2 3 4 5</td>
<td>(24)</td>
<td>[NE]</td>
</tr>
<tr>
<td>#5481: -Online monitoring and data analysis of</td>
<td>1 2 3 4 5</td>
<td>(25)</td>
<td>[GB]</td>
</tr>
<tr>
<td>#5422: To participate in the development and in</td>
<td>1 2 3 4 5</td>
<td>(42)</td>
<td>[BE]</td>
</tr>
<tr>
<td>#5487: In pp collisions at the LHC particles are</td>
<td>1 2 3 4 5</td>
<td>(23)</td>
<td>exhausted national quota PL</td>
</tr>
<tr>
<td>#5501: PROTON-PROTON PHYSICS ANALYSIS WITH ALICE</td>
<td>1 2 3 4 5</td>
<td>(58)</td>
<td>[DK]</td>
</tr>
<tr>
<td>#5521: The project consists in the integration</td>
<td>1 2 3 4 5</td>
<td>(70)</td>
<td>[NL]</td>
</tr>
<tr>
<td>#5522: Study of the possibility to measure pola</td>
<td>1 2 3 4 5</td>
<td>(79)</td>
<td>[SK]</td>
</tr>
<tr>
<td>#5524: The ALICE Transition Radiation Detector</td>
<td>1 2 3 4 5</td>
<td>(84)</td>
<td>[SE]</td>
</tr>
<tr>
<td>#5641: TITLE: $\Delta$Kao transverse momentum spectru</td>
<td>1 2 3 4 5</td>
<td>(92)</td>
<td>[NE]</td>
</tr>
<tr>
<td>#5661: The proposed project is based on the dat</td>
<td>1 2 3 4 5</td>
<td>(97)</td>
<td>[DK]</td>
</tr>
<tr>
<td>#5641: The ALICE Detector Control System measur</td>
<td>1 2 3 4 5</td>
<td>(100)</td>
<td>[IT]</td>
</tr>
</tbody>
</table>
Results

• System has multiple constraints
  – Supervisor’s choice of student
  – Project ranking (if given)
  – Nationality quotas
• Impossible to perfectly match all requests
• Many candidates selected by many people -> clashes
  – More than half people obtained their first choice candidate.
  – 70% people obtained top 3, 80% satisfied obtained 5
  – 98% satisfied (Survey)
• Comments
  “appears to be very fair” , “all in all: selection process very straightforward. Thank you for your huge effort”
  vs
  “algorithm should be changed”
Contract/Offers

- 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 1st June to mid-July
- In large room / or Globe
Lecture & Workshop Programme

Lectures
• 6 weeks in the Auditorium
• 28 lecturers, leaders in their field
• 28 different subjects, 300 students

Workshops
• 9 areas
• Very popular
• registration on web
Also

Visits - Every Tuesday & Thursday from 19th July for 4 weeks

- Tuesday : SM18 & ATLAS
- Tuesday : CMS (+ 5 during shutdown)
- Thursday : LINAC & Computing Centre

Student Sessions in the main amphi
16-18 August, 28 presentations, full capacity.

Poster Session – 21 posters

Social Programme

- Use of « Pump Hall »
- Physicists can Dance Youtube video
- Acapella choir
- Mr Higgs & Miss Susy party
Departure Formalities

Electronic doc
Report & feedback survey to be completed
Feedback

- Able to Learn New Skills: 92%
- Work met expectations: 96%
- Project relevant to study: 88%
- Challenging: 94%
- Workplace prepared for me: 100%
- Clear instructions about work: 94%
- Supervisor Satisfaction: 84%
Comments

“Thank you very much for the programme, it is the best summer in my life!”

“The organisation was very good. I did not have to figure out many things myself, but all was done for me already. I appreciate that a lot.”

“I hope it could be easier to get an internet access when arriving to CERN. Also the setup of the wi-fi took quite a lot of patience to get working.”

“All of the workshops I attended were educational and rich in information.”

“It would be interesting to have a visit also to LHCb, ALICE, NA61, COMPASS.”
Changes For 2012

Increase in Number of Students

– To accommodate Associate Member States
– Increase in engineering intake, (but not to the detriment of physics)
Thanks to

CERN Summer Student Team (MS)

MS : Sharon Hobson, Laura Saulnier, Sara Noack
NMS : Morna Robillard, Anca Burghart, Michelle Connor, Marina Savino