

EURON II Summer Schools



1. Report Summer Schools 2004
2. Balance and Conclusion 2004
3. Other issues

1 Summer Schools 2004

- 5th Summer School on Images & Robotics (two weeks)
 - June 14 - 24, 2004, INRIA Sophia Antipolis, France, Christian Laugier, Juan-Manuel Ahuactzin, <http://www-sop.inria.fr/icare/WEB/SSIR04/>
 - 54 participants, EURON sponsoring: €10'000
- RAS/IFRR Summer school on Human-Robot Interaction
 - 19 - 23 July 2004, Volterra, Italy, Henrik Christensen, Ron Arkin, <http://www.cas.kth.se/ras-ifrr-ss04/index.html>
 - 35 participants, EURON sponsoring: €10'000
- EURON Summer School on Simultaneous Localization and Mapping
 - August 3 - 7, 2004, Toulouse, France, Raja Chatila, Juan D. Tardós, <http://www.laas.fr/SLAM>
 - 75 participants, EURON sponsoring: €10'000
- 4th International UJI Robotic's School on Mobile Manipulators
 - September, 13-17, 2004, Benicàssim, SPAIN, Pedro J. Sanz, Raúl Marín, Markus Vincze, <http://ciclop.act.uji.es/Euron04/>
 - 23 participants, EURON sponsoring: €10'000

Thank you to all organizers and participants

1 Summer Schools 2004

5th School on Images & Robotics

(two weeks)

- June 14 - 24, 2004, INRIA Sophia Antipolis, France, Christian Laugier, Juan-Manuel Ahuactzin, <http://www-sop.inria.fr/icare/WEB/SSIR04/>
- 54 participants, EURON sponsoring: €10'000
- Topics
 - Perception : image processing and computer vision.
 - Algorithmics : movement generation and control.
 - Mobile robotics.
 - Learning and Bayesian methods
- Lecturers

<ul style="list-style-type: none"> ➤ C. Laugier ➤ Th. Fraichard ➤ J.M. Ahuactzin ➤ P. Morin ➤ J.L. Gordillo ➤ G. Olague ➤ J-P. Laumond ➤ M. Devy ➤ P. Bessiere 	<ul style="list-style-type: none"> ➤ E. Sucar ➤ P. Rives ➤ T. Papadopoulo ➤ J.-P. Merlet ➤ V. Ayala ➤ D. Sol ➤ E. Malis ➤ N. Ayache ➤ H. Delingette
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1 Summer Schools 2004

RAS/IFRR School on Human-Robot Interaction

- 19 - 23 July 2004, Volterra, Italy, Henrik Christensen, Ron Arkin
<http://www.cas.kth.se/ras-ifrr-ss04/index.html>
- 35 participants, EURON sponsoring: €10'000
- Topics
 - *Human robot and human computer interaction*
 - *Evaluation of Human-Robot Interaction*
 - *Embodied Learning / Imitation*
 - *Affective Interfaces*
 - *Collaborative Interfaces*
 - *Case studies*
- Lecturers
 - *Aude Billard, EPFL: Embodied Learning / Imitation*
 - *Cynthia Breazeal, MIT: Affective Interfaces*
 - *Hiroshi Ishiguro, Osaka/ATR: Case Studies*
 - *Erika Rogers, CALPOLY: HCI Introduction*
 - *Jean Scholtz, NIST Usability / Experimental Design*
 - *Alan Schultz, NRL: Collaborative Interfaces*



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Summer Schools 2004

School on Simultaneous Localization and Mapping

- August 3 - 7, 2004, Toulouse, France, Raja Chatila, Juan D. Tardós
<http://www.laas.fr/SLAM>
- 75 participants, EURON sponsoring: €10'000
- Lecturers
 - Wolfram Burgard, Univ. of Freiburg
 - Raja Chatila, LAAS, Toulouse
 - Henrik I. Christensen, KTH, Stockholm
 - Andrew Davison, Univ. of Oxford
 - Michel Devy, LAAS, Toulouse
 - Hugh Durrant-Whyte, ACFR, Sydney
 - Kurt Konolige, SRI
 - John Leonard, MIT, Cambridge
 - Andre Monin, LAAS, Toulouse
 - Eduardo Nebot, ACFR, Sydney
 - José Neira, Univ. of Zaragoza
 - Paul Newman, Univ. of Oxford
 - Salah Sukkarieh, ACFR, Sydney
 - Juan D. Tardós, Univ. of Zaragoza
 - Sebastian Thrun, Stanford University
- Topics
 - Fundamentals of Filtering techniques
 - Definition of the SLAM problem
 - Representational issues (points, lines, grids, etc)
 - Bayesian interpretation of SLAM
 - Basic SLAM algorithm using EKF
 - Data association
 - Mapping of large environments
 - Dynamic environments
 - SLAM with vision
 - Multirobot SLAM
 - Case studies: indoor, land, sub-sea and air vehicles

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Summer Schools 2004

4th Int. UJI Robotic's School on Mobile Manipulators

- September, 13-17, 2004, Benicàssim, SPAIN, Pedro J. Sanz, Raúl Marín, Markus Vincze, <http://ciclop.act.uji.es/Euron04/>
- 23 participants, EURON sponsoring: €10'000
- Topics

- *Human-Centered Robotics*
- *Sensor modelling and alignment for Visual Navigation*
- *Multi-modal Detection and Monitoring of Persons*
- *Integration, Detection and Activity Interpretation for Mobile Manipulators*
- *Mobile Manipulation: a Task-Oriented Framework*
- *Spoken Language Human-Robot Communication*
- *Vision Interaction based on Haar-like Features and Eigenfaces*
- *Perception for Mobile Manipulation and Grasping in Domestic Environments*
- *Kinematic Foundations for Mobile Robots*
- *Control Aspects of Planetary Rovers*

- Lecturers

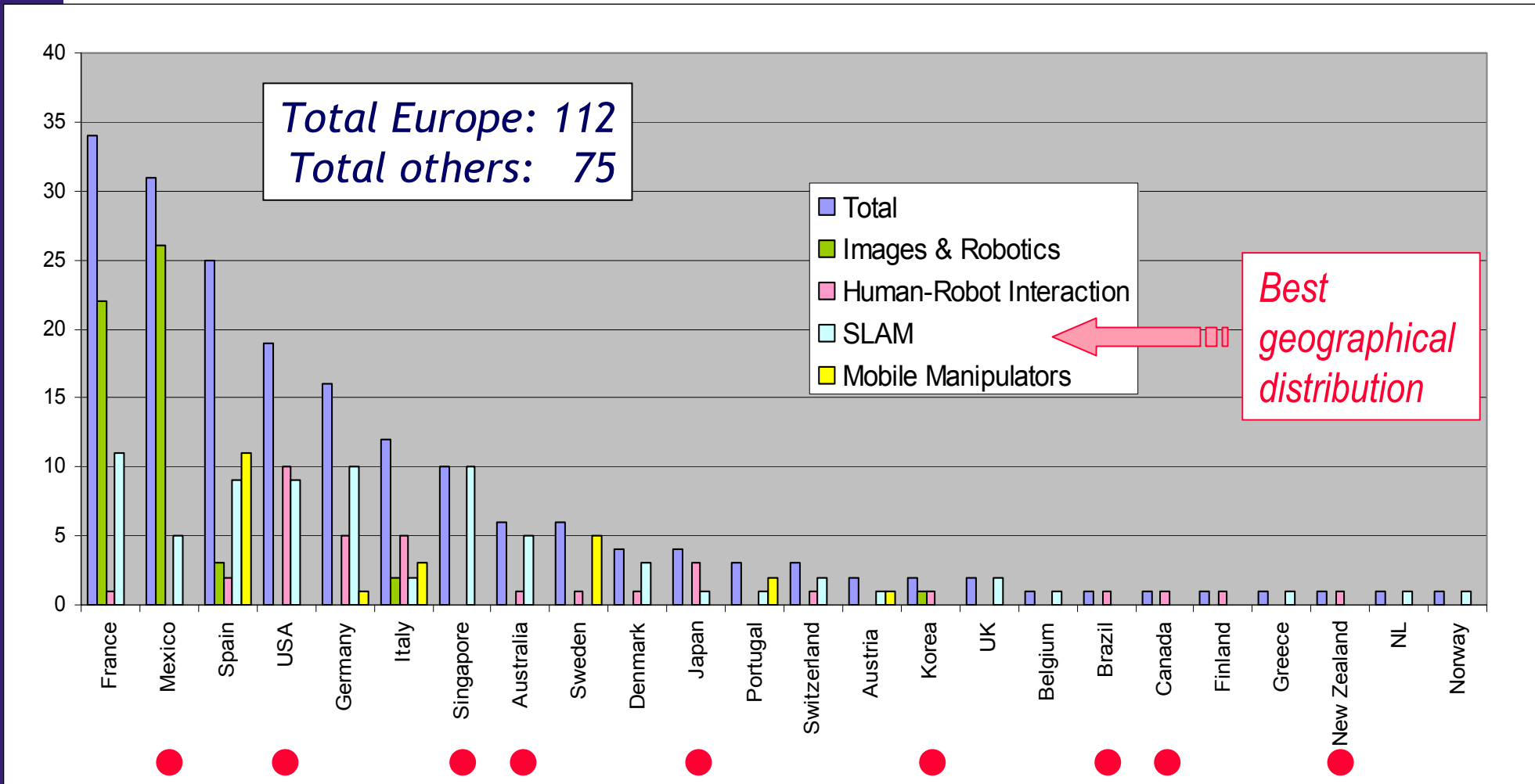
- *Oussama Khatib (Stanford University, USA)*
- *Axel Gräser (Universität Bremen, Germany)*
- *Klaus Schilling (Universität Würzburg, Germany)*
- *Danica Kragic (Royal Institute of Technology, Sweden)*
- *Gernot Fink (Bielefeld University, Germany)*
- *Jorge M. Dias (ISR, Coimbra University, Portugal)*
- *Angel P del Pobil (RI-Lab, Jaume-I University, Spain)*
- *Marcus Vincze (Technical University of Vienna, Austria)*

- Lecturers Exercises

- *Raúl Marín (RI-Lab, Jaume-I University, Spain)*
- *Enric Cervera (RI-Lab, Jaume-I University, Spain)*
- *Pedro J. Sanz (RI-Lab, Jaume-I University, Spain)*

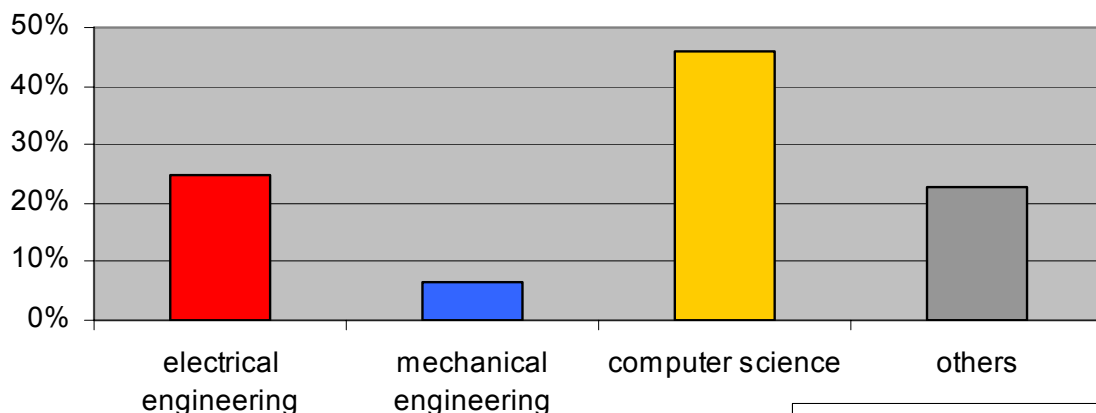


1 Summer Schools 2004 Participants by Country

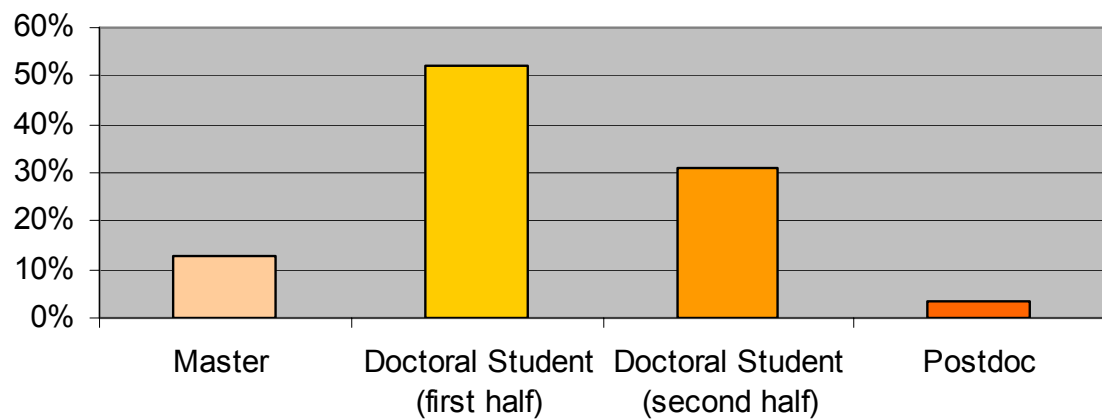


1 Summer Schools 2004 Major/Level of education of Participants

Major of Participants (%)



Level of Education of Participants (%)



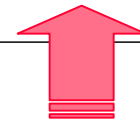
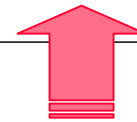
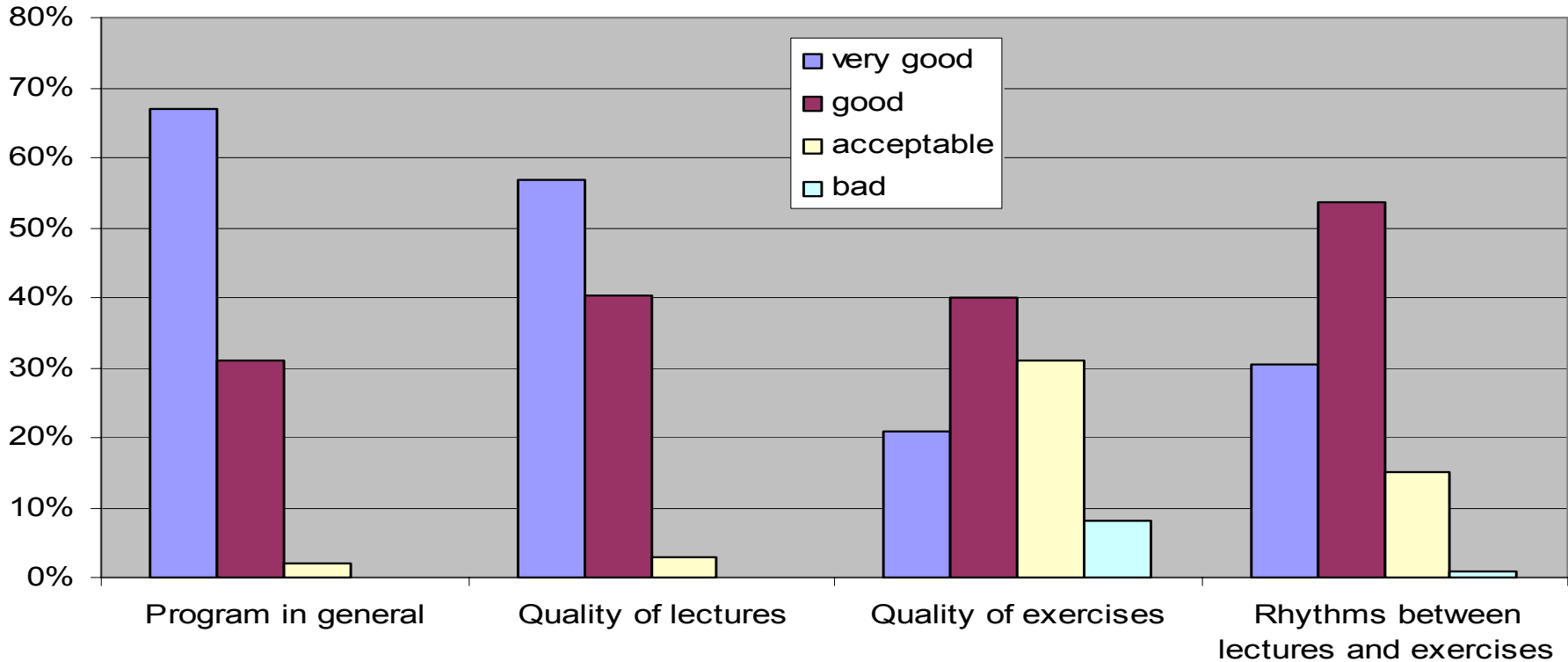
*How to get
mechanical engineers
involved ?*

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Summer Schools 2004

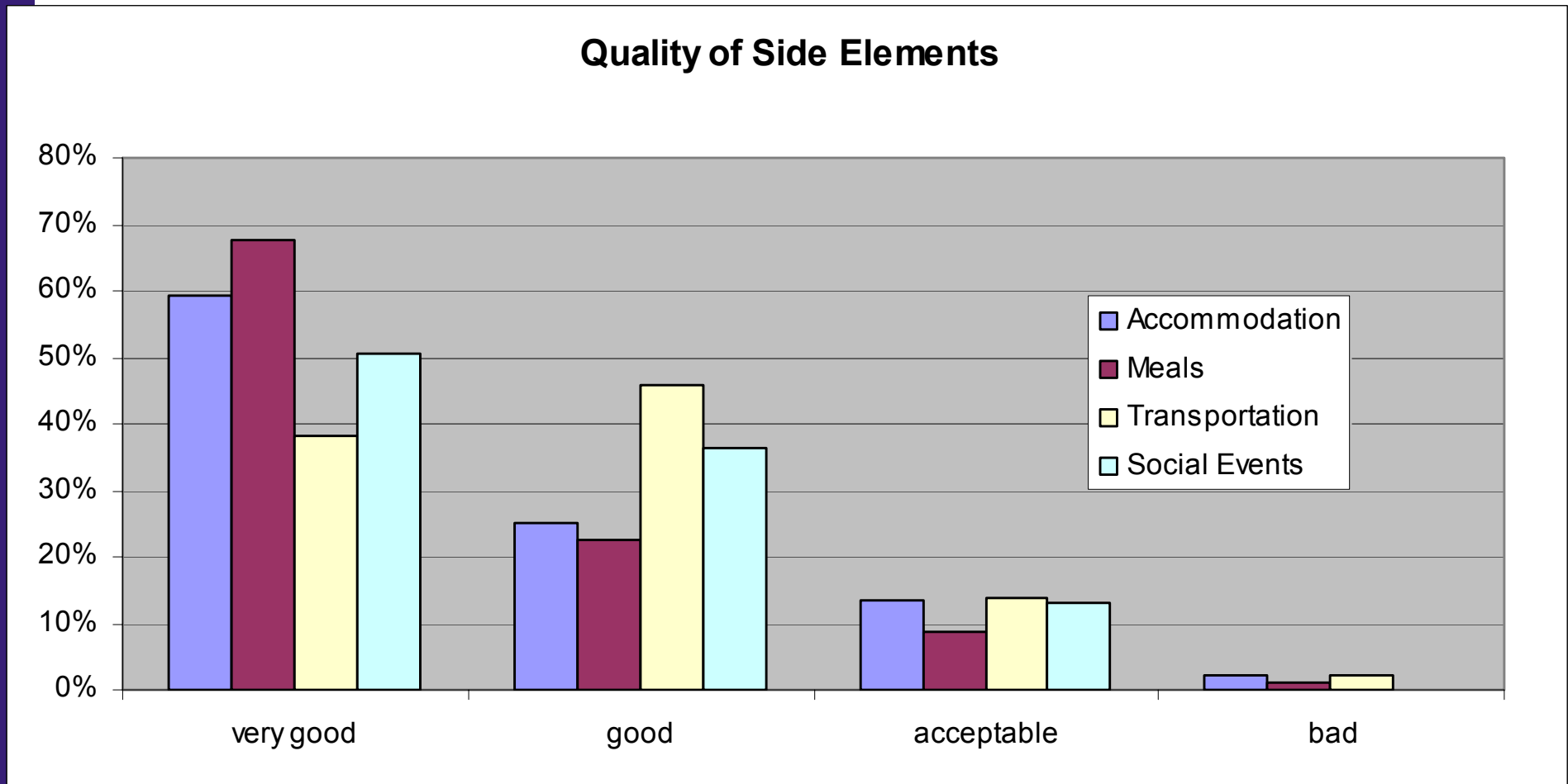
Quality of Program, Lectures, Exercises and Rhythm,

Quality of the Technical Program



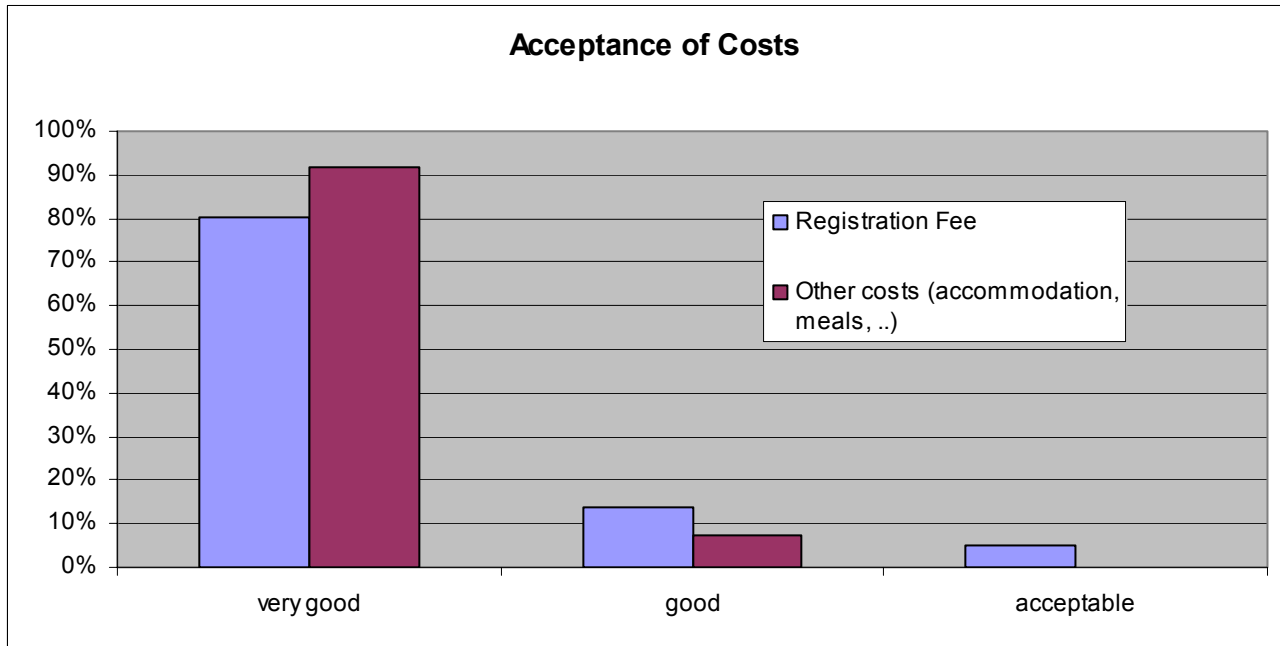
To be improved

1 Summer Schools 2004 Quality of Side Elements



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Summer Schools 2004

Costs / Future Editions

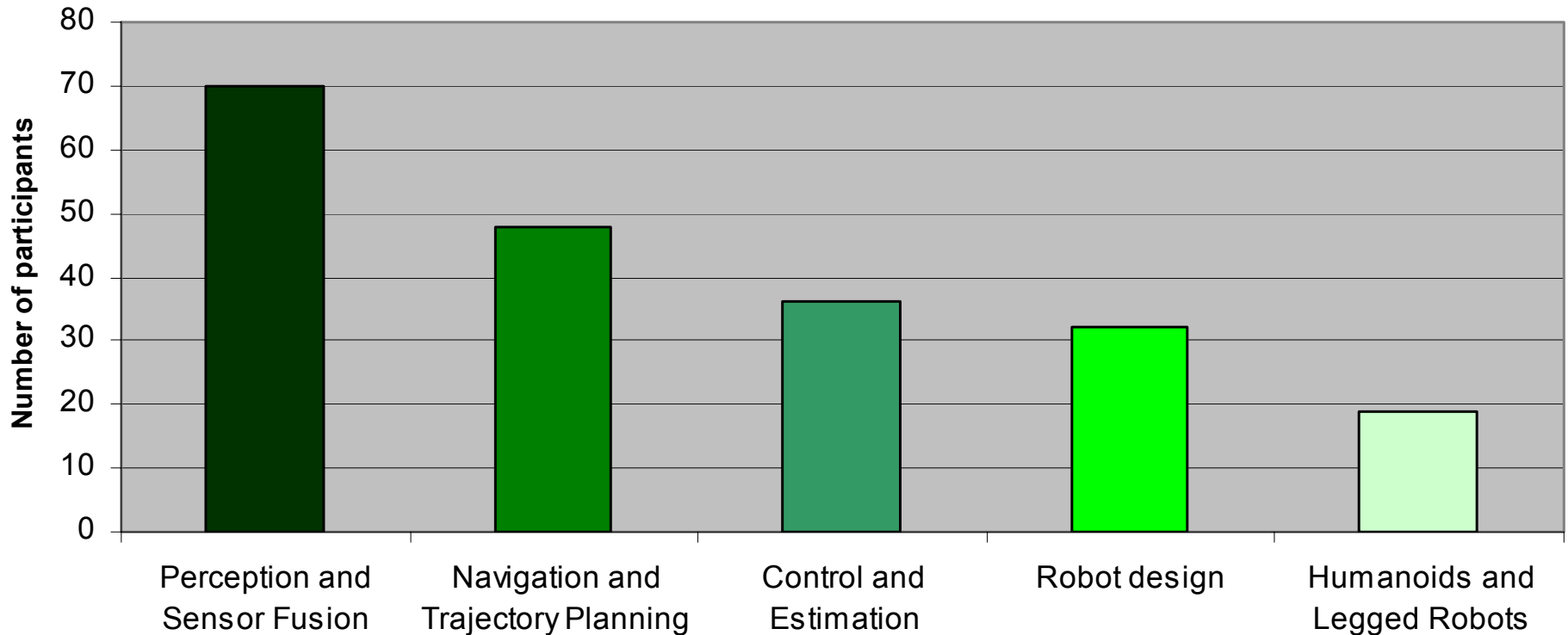
Do you like to participate on future editions of EURON Summer Schools?

- *Yes absolutely* **71%**
- *Probably* **29%**
- *No* **0%**

1 Propositions of Students for Future Summer Schools

■ The key list

Propositions for Future Schools



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Other Propositions of Students for **Future Schools**

- Active sensing
- Advanced issues in manipulation
- Applications of Service Robots
- Artificial skins
- Autonomous systems
- Medical, biomedical robotics
- Bionic, Biologically-inspired robotics
- Cognition, knowledge models
- Computer vision
- Developmental Robotics
- Different (fast) learning principles
- Emotions
- Grasping
- HRI Evaluation
- Impact of Software frameworks
- Learning and Evolution
- Mixed Imitative interaction
- Modelling 3D of the environment
- More Affective Computing
- Motion control
- Motion detection and Tracking
- Neuroscience and Robotics
- Object recognition
- Primitives of outdoor recognition
- Qualitative approaches, planning, reasoning
- Robot Architecture (design and implementation)
- Robotic Application to human
- Robotics and AI
- Robotics and Ethics
- Sociable Robots
- Tactile Sensors
- Team Work / Collaboration
- User models

1 Some remarks by the students

- Main values for the students:
 - *Interaction / Networking among students*
 - *Meet and personally interact with leaders in the field*
 - *Get impulses and visions for research*
- Some general remarks
 - *More “active” and guided exercises*
 - *Poster session for students to present their work*
 - *More detailed development of methods and approaches*
 - *Less lecturers ?*
 - *More informal interaction between the lecturers and the students (e.g. same hotel)*
 - *More social and networking events*

2 Balance and Conclusion 2004

■ Financial issues

- *Budget:* 45 k€ / year
- *Allocation 2004:* 40 k€

■ Conclusion

- *Excellent start of EURON II summer schools with four successful events and 187 happy students*
- *Some delays in decision process due to transition phase*
- *Webpage still missing -> Implementation before end of year*

3 *Other Issues*

- How to attract participants from all over Europe ?
- Credits for Summer Schools ?
- Co-sponsoring of existing schools ?
 - “Local” schools ?
 - Beyond Europe ?
- Availability of lecture notes (Webbook) ?

Create official EURON certificate
Exam probably not possible

New EU countries

Consider Springer Robotics Series