The mentoring programme
at Irisa/Inria Rennes (France)

Nicolas Markey
Anne Siegel
One of the largest computer-science lab in France

- ca. **800 members**, of which
  - 300+ permanent researchers;
  - 270+ PhD students, 100+ postdocs, engineers.

- organized as ca. **40 research teams**:
  - various size (8 to 50 members);
  - wide range of topics: cybersecurity, artificial intelligence, bio-info, robotics, networks, ...

- sponsored by **8 institutions**: 
Irisa and Inria Rennes

One of the largest computer-science lab in France

- **ca. 800 members**, of which
  - 300+ permanent researchers;
  - 270+ PhD students, 100+ postdocs, engineers.

- organized as **ca. 40 research teams**:
  - various size (8 to 50 members);
  - **wide range of topics**: cybersecurity, artificial intelligence, bio-info, robotics, networks, ...

- sponsored by **8 institutions**: 
Irisa and Inria Rennes

One of the largest computer-science lab in France

- ca. **800 members**, of which
  - 300+ permanent researchers;
  - 270+ PhD students, 100+ postdocs, engineers.

- organized as ca. **40 research teams**:
  - various size (**8 to 50 members**);
  - **wide range of topics**: cybersecurity, artificial intelligence, bio-info, robotics, networks, ...

- sponsored by **8 institutions**:
Our motivations for running a mentoring programme

- the programme was **initiated by the** gender-equality group:
  - **women are under-represented** in the lab (ca. 20%);
  - especially among full professors (ca. 15%);
  - very few team leaders are women,
    (at that time) **no women** at executive positions...

![Gender representation](https://egalite-fh.irisa.fr)

**junior members**
- 24.5% women
- 75.5% men

**senior members**
- 13.2% women
- 86.8% men
Our motivations for running a mentoring programme

- the programme was initiated by the gender-equality group:
  - women are under-represented in the lab (ca. 20%);
  - especially among full professors (ca. 15%);
  - very few team leaders are women, (at that time) no women at executive positions...

- several reasons may explain these facts:
  - work/life balance, household and family tasks;
  - impostor syndrome, lack of self-confidence;
  - sexism, stereotypes and gender roles.

2. Do we have a problem?
Science faculties like to see themselves as a meritocracy in which promotions are based entirely on the performance of the employee. However, there is a growing body of evidence that documents the role of gender bias in driving women out of science careers. For instance:

- A classic 1999 study showed that in some of the science departments of MIT there were differences in salary, resources, awards, and allocated space between men and women with similar accomplishments. (A follow-up study in 2011 showed distinct progress.)

- A 2009 study of recommendation letters showed that women were described as more communal and less agentic than men, and that communal characteristics have a negative relationship with hiring decisions in academia that are based on letters of recommendation.

- A 2011 study surveys evidence that the very fact of being a mother is perceived as a disqualification ("motherhood penalty"), whereas fatherhood enhances the perception of positive interpersonal qualities ("fatherhood bonus").

- A 2012 randomized, double-blind study found that both male and female faculty rated male applicants as significantly more competent and hirable than women with identical application materials.

- A 2014 study found that both men and women were twice as likely to hire a man for a job that required math than a woman, although they performed equally well in an arithmetic test.

- A 2014 study exposed gender bias in student ratings of teaching through an experiment in which assistant instructors in an online class each operated under two different gender identities.

- A 2015 study supports the hypothesis that, across the academic spectrum, women are underrepresented in fields whose practitioners believe that raw, innate talent is the main requirement for success, because women are stereotyped as not possessing such talents.

There is no reason to believe that these biases (or forces, as astrophysicist Neil deGrasse Tyson calls them) are not at work within our Faculty. Like everybody else we are susceptible to gender stereotypes, and this provides at least part of the explanation of the low percentage of tenured women. This has been confirmed by the results of the gender awareness training in three research institutes (DI, ICIS and IMAPP).

But diversity is not just about being fair. A recent review article in the Communications of the ACM surveys evidence that teams and organizations whose members are heterogeneous in meaningful ways have a higher potential for innovation than teams whose members are homogeneous. For instance, the number of women in a group has been...
Our motivations for running a mentoring programme

- The programme was initiated by the gender-equality group:
  - Women are under-represented in the lab (ca. 20%);
  - Especially among full professors (ca. 15%);
  - Very few team leaders are women,
    (at that time) no women at executive positions...

Several reasons may explain these facts:
- Work/life balance,
- Impostor syndrome,
- Sexism, stereotypes and gender roles.

2. DO WE HAVE A PROBLEM?

Science faculties like to see themselves as a meritocracy in which promotions are based entirely on the performance of the employee. However, there is a growing body of evidence that documents the role of gender bias in driving women out of science careers. For instance:
- A classic 1999 study showed that in some of the science departments of MIT there were differences in salary, resources, awards, and allocated space between men and women with similar accomplishments. (A follow-up study in 2011 showed distinct progress.)
- A 2009 study of recommendation letters showed that women were described as more communal and less agentic than men, and that communal characteristics have a negative relationship with hiring decisions in academia that are based on letters of recommendation.
- A 2011 study surveys evidence that the very fact of being a mother is perceived as a disqualification (“motherhood penalty”), whereas fatherhood enhances the perception of positive interpersonal qualities (“fatherhood bonus”).
- A 2012 randomized, double-blind study found that both male and female faculty rated male applicants as significantly more competent and hirable than women with identical application materials.
- A 2014 study found that both men and women were twice as likely to hire a man for a job that required math than a woman, although they performed equally well in an arithmetic test.
- A 2014 study exposed gender bias in student ratings of teaching through an experiment in which assistant instructors in an online class each operated under two different gender identities.
- A 2015 study supports the hypothesis that, across the academic spectrum, women are underrepresented in fields whose practitioners believe that raw, innate talent is the main requirement for success, because women are stereotyped as not possessing such talents.

There is no reason to believe that these biases (or forces, as astrophysicist Neil deGrasse Tyson calls them) are not at work within our Faculty. Like everybody else we are susceptible to gender stereotypes, and this provides at least part of the explanation of the low percentage of tenured women. This has been confirmed by the results of the gender awareness training in three research institutes (DI, ICIS and IMAPP).

But diversity is not just about being fair. A recent review article in the Communications of the ACM surveys evidence that teams and organizations whose members are heterogeneous in meaningful ways have a higher potential for innovation than teams whose members are homogeneous. For instance, the number of women in a group has been
What is mentoring?

Mentoring is a relationship in which an individual supports a colleague, by sharing their professional knowledge and experiences, and utilising key skills and personal attributes, to enable that colleague to achieve their goals.

Mentoring guide
University of Cambridge, 2020

Mentoring is a process for the informal transmission of knowledge, social capital, and the psychosocial support perceived by the recipient as relevant to work, career, or professional development [...]

Wikipedia
What is mentoring in our context?

What it is:

- voluntary transmission of knowledge and experience;
- numerous possible topics on which mentees look for advices;
- independant feedback.

What it can become:

- answers to questions you never dare (or thought) to ask.

What it is not:

- ‘do it the way I did it’;
- a hierarchical relationship;
- solving personnal or interpersonnal problems.
What is mentoring in our context?

What it is:

✓ voluntary transmission of knowledge and experience;
✓ numerous possible topics on which mentees look for advices;
✓ independant feedback.

What it can become:

✓ answers to questions you never dare (or thought) to ask.

What it is not:

✗ ‘do it the way I did it’;
✗ a hierarchical relationship;
✗ solving personnal or interpersonnal problems.
What is mentoring in our context?

What it is:
- voluntary transmission of knowledge and experience;
- numerous possible topics on which mentees look for advices;
- independant feedback.

What it can become:
- answers to questions you never dare (or thought) to ask.

What it is not:
- 'do it the way I did it';
- a hierarchical relationship;
- solving personnal or interpersonnal problems.
Objectives

**share knowledge and experience**
- functioning of institutions;
- work opportunities, career evolution;
- reconciling personal and professional life.

**build self-esteem and self-confidence**
- increase motivation;
- fight discouragement.

**facilitate integration in the laboratory**
- encourage openness and dialogue;
- limit isolation.
Objectives

**share knowledge and experience**
- functioning of institutions;
- work opportunities, career evolution;
- reconciling personal and professional life.

**build self-esteem and self-confidence**
- increase motivation;
- fight discouragement.

**facilitate integration in the laboratory**
- encourage openness and dialogue;
- limit isolation.
# Implementation of our mentoring programme

## General principles

- **large perimeter:**
  - mixed-gender;
  - from PhD students to (junior) permanent members.

- **limited duration:** one year (can be renewed);

- **training course** for mentors:
  - active listening;
  - identify limits of the mentoring programme.

- **pairing committee** to associate mentors and mentees.

(inspired from a similar programme at LBNL (Berkeley Lab))
# Implementation of our mentoring programme

## General principles

- **large perimeter:**
  - mixed-gender;
  - from PhD students to (junior) permanent members.

- **limited duration:** one year (can be renewed);

- **training course** for mentors:
  - active listening;
  - identify limits of the mentoring programme.

- **pairing committee** to associate mentors and mentees.
Implementation of our mentoring programme

General principles

- **large perimeter:**
  - mixed-gender;
  - from PhD students to (junior) permanent members.

- **limited duration:** one year (can be renewed);
  - training course for mentors:
    - active listening;
    - identify limits of the mentoring programme.

- pairing committee to associate mentors and mentees.
### Implementation of our mentoring programme

#### General principles

<table>
<thead>
<tr>
<th>Principle</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>large perimeter:</strong></td>
<td>inspired from a similar programme at LBNL (Berkeley Lab)</td>
</tr>
<tr>
<td>mixed-gender</td>
<td></td>
</tr>
<tr>
<td>from PhD students to (junior)</td>
<td>permanent members.</td>
</tr>
<tr>
<td><strong>limited duration:</strong></td>
<td>one year (can be renewed);</td>
</tr>
<tr>
<td><strong>training course</strong></td>
<td>for mentors:</td>
</tr>
<tr>
<td>active listening</td>
<td></td>
</tr>
<tr>
<td>identify limits of the mentoring</td>
<td></td>
</tr>
<tr>
<td><strong>pairing committee</strong></td>
<td>to associate mentors and mentees.</td>
</tr>
</tbody>
</table>
## Implementation of our mentoring programme

### General principles

- **large perimeter:**
  - mixed-gender;
  - from PhD students to (junior) permanent members.

- **limited duration:** one year (can be renewed);

- **training course** for mentors:
  - active listening;
  - identify limits of the mentoring programme.

- **pairing committee** to associate mentors and mentees.

( inspired from a similar programme at LBNL (Berkeley Lab))
### Implementation of our mentoring programme

#### General principles
- **large perimeter**
- **limited duration**: one year (can be renewed);
- **training course** for mentors
- **pairing committee**

#### (inspired from a similar programme at LBNL (Berkeley Lab))

#### Other principles
- **synchronized**: one call per year (now two);
- **application forms** for both mentors and mentees
  - *what are your motivations?*
  - *any preferences for your mentor?* (gender, scientific domain, ...)
- **managed by researchers.**
Statistics

mentees

volunteers for being mentor

men

women


Comments

• ca. 30 mentor/mentee pairs per year;
• remains manageable "by hand".
Statistics (over 3 years)

- Mentors: 38
- Mentees: 60

Comments:
- On average, 20 new mentees per year;
- Our pool of mentors is not that large...
Statistics (over 3 years)

- **38 mentors**
  - Men: 21
  - Women: 17

- **60 mentees**
  - Men: 36
  - Women: 24

Comments:
- Women are over-represented;
- It would have been difficult to make the programme *girl-only*. 
Statistics (over 3 years)

38 mentors

60 mentees

Comments
- The programme attracts a **good number of students**;
- 7 junior permanents are both mentors and mentees.
Statistics (over 3 years)

38 mentors

- junior: 15 mentors, 7 mentees
- senior: 23 mentors, 0 mentees

60 mentees

- PhD: 20 mentors, 4 mentees
- permanent: 27 mentors, 9 mentees
- postdocs: 7 mentees, 7 junior permanents are both mentors and mentees.

Comments

- the programme attracts a good number of students;
- 7 junior permanents are both mentors and mentees.
Feedback, impact

Very positive feedback

- The mentoring programme perfectly meets my expectations.
- I would have liked to have had a mentor earlier.
- It has been a wonderful experience.

Real impact is difficult to evaluate

- increase of number of habilitation theses defended;
- tends to install a comforting atmosphere in the lab.

There is room for improvement...

- lack of agility; organization is somewhat rudimentary...
- difficulties for researchers mentoring engineers;
- extension to administrative staff.
Feedback, impact

Very positive feedback

- *The mentoring programme perfectly meets my expectations.*
- *I would have liked to have had a mentor earlier.*
- *It has been a wonderful experience.*

Real impact is difficult to evaluate

- increase of number of *habilitation theses* defended;
- tends to install a *comforting atmosphere* in the lab.

There is room for improvement...

- *lack of agility; organization is somewhat rudimentary*...
- *difficulties for researchers mentoring engineers*;
- *extension to administrative staff.*
Feedback, impact

Very positive feedback

- The mentoring programme perfectly meets my expectations.
- I would have liked to have had a mentor earlier.
- It has been a wonderful experience.

Real impact is difficult to evaluate

- Increase of number of habilitation theses defended;
- Tends to install a comforting atmosphere in the lab.

There is room for improvement...

- Lack of agility; organization is somewhat rudimentary...
- Difficulties for researchers mentoring engineers;
- Extension to administrative staff.
web:  https://egalite-fh.irisa.fr/mentorat/
contact:  mentorat-irisa@inria.fr