The 1st European employment survey for chemists & chemical engineers and an outlook for the next one

Reiner Salzer
ECTN & TU Dresden

1. The Complete Report
2. Responses and Language
3. Qualification and Job Market
4. Salaries
European Survey for Chemists

The Professional Status of European Chemists and Chemical Engineers


European chemists and chemistry:
This guest editorial presents the results of the first European employment survey for chemists and chemical engineers. It provides fascinating insights into which chemical sub-discipline offers the most jobs, in which country is a chemist likely to get a job quickest and where is the chemist likely to earn the highest salary.
This article has an **Altmetric score of 53**. This is our high-level measure of the quality and quantity of online attention that this article has received. This score was calculated when the article was last mentioned on **22 July 2015**.

<table>
<thead>
<tr>
<th>Category</th>
<th>Rank</th>
<th>Total Articles</th>
<th>Age Range</th>
<th>Rank</th>
<th>Total Articles</th>
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<tbody>
<tr>
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<td></td>
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<td><strong>#5</strong></td>
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<tr>
<td></td>
<td></td>
<td>of 4,271,945 articles</td>
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<td>of 2,967 articles</td>
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<td><strong>ARTICLES IN CHEMISTRY - A EUROPEAN JOURNAL</strong></td>
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<td><strong>ARTICLES OF SIMILAR AGE</strong></td>
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<td></td>
<td><strong>#1</strong></td>
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<td>of 154,790 articles</td>
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<td>of 386 articles</td>
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</tbody>
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Altmetric has tracked 4,271,945 articles across all sources so far. Compared to these this article has done particularly well and is in the **98th percentile**: it's **in the top 5% of all articles ever tracked** by Altmetric.
Regional chemical industry strengthens ties with educators to build skills and ensure employment needs are filled.

EuCheMS as successful political player
A Post by Chemjobber

- It seems goofy to report the salaries of chemists and chemical engineers together (it would be in the US, anyway, dunno about Europe.)
- We have no idea how well this survey reflects the actual makeup of European chemists.
- We have no idea how well this survey reflects the actual makeup of European chemical societies.
- There was no attempt to understand who did not answer the survey. What was the response rate?

2. Responses

4440 responses
3830 responses accepted
2445 graduated within last 15 years

<3% EuCheMS Membership

Age distribution

Shares:
Industry: 47%
Females: 39%
Not employed: 3%

Still without FECCIA!

EuCheMS GA Vienna, 28.-29.09.15
Current Working Country

Responses stored in anonymous form

26% of all responses from Italy
23% of all responses from UK

10 Countries: Italy, UK, Belgium, Germany, Portugal, Switzerland, Slovenia, Czech Republic, Romania, Spain

... Thanks to the G10 Societies!

EuCheMS GA Vienna, 28.-29.09.15
How to become an Activator?

Based on EuCheMS Membership data 2013

Country

- Belgium
- Slovenia
- Portugal
- Italy
- Switzerland
- Czech Republic
- Romania
- Norway
- Hungary
- Austria
- Norway
- Hungary
- Austria

60%
40%
20%

Thanks to the Catalysts!

EuCheMS GA Vienna, 28.-29.09.15
Results only Valid for Italy and UK?

Continuing Education: Participation

Number of events per attendee

G10 countries

Graduates of last 15 years

EuCheMS GA Vienna, 28.-29.09.15
What, if You Simply do not Participate?

My Share / Importance

Country

- 0%
- 5%
- 10%
- 15%
- 20%
Percentage of responses in English even though the native language was available:

<table>
<thead>
<tr>
<th>Country</th>
<th>Responses</th>
</tr>
</thead>
<tbody>
<tr>
<td>Italy</td>
<td>0%</td>
</tr>
<tr>
<td>UK</td>
<td>100%</td>
</tr>
<tr>
<td>Belgium</td>
<td>25%</td>
</tr>
<tr>
<td>Germany</td>
<td>100%</td>
</tr>
<tr>
<td>Portugal</td>
<td>50%</td>
</tr>
<tr>
<td>Switzerland</td>
<td>75%</td>
</tr>
<tr>
<td>Slovenia</td>
<td>100%</td>
</tr>
<tr>
<td>Czech Republic</td>
<td>25%</td>
</tr>
<tr>
<td>Romania</td>
<td>50%</td>
</tr>
<tr>
<td>Spain</td>
<td>25%</td>
</tr>
</tbody>
</table>

G10 countries
Online Questionnaire

Requires Simplification!
No Free-text anymore

24 Languages required?
Who translates?
3. Qualification and Job Market

Current Job Contracts

<table>
<thead>
<tr>
<th>Employment Status</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Full time</td>
<td>84%</td>
</tr>
<tr>
<td>Part time</td>
<td>6%</td>
</tr>
</tbody>
</table>

Share of females:

- Permanent: 34%
- Apprentice ship: 48%
- Temporary: 6%
- Graduate study: 6%
- Undergraduate study: 4%
- Postdoc: 3%
- No data: 1%

EuCheMS GA Vienna, 28.-29.09.15
<table>
<thead>
<tr>
<th>Qualification</th>
<th>EuCheMS/ACS data comparable?</th>
<th>Joint Survey!</th>
</tr>
</thead>
<tbody>
<tr>
<td>M.Sc. or equiv.</td>
<td>44% 38% 48% 37% 48%</td>
<td>19%</td>
</tr>
<tr>
<td>Habilitation</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ph.D. or equiv.</td>
<td>37% 39% 48% 48%</td>
<td></td>
</tr>
</tbody>
</table>

All grads 2009, Grads 2009, ACS 2009, Females
My Current Job is dominated by ...

Graduates of last 15 years, top 9 sub-disciplines

16 grad. disciplines
41 job disciplines

EuCheMS GA Vienna, 28.-29.09.15
Country-specific Job Market

G10 Country
Graduates of the last 15 years

Employer Sector
- Industry, manufacturing
- Research institution
- Higher education
- Industry, non-manufacturing
- Nat. government / public serv.
- Self-employed
- Secondary school
- Publishing company
- Vocational school

Share of Jobs

0%
10%
20%
30%
40%
50%
My Job ...

... the image of chemistry
## 4. Salaries

### Median Salaries (EUR)

<table>
<thead>
<tr>
<th>Country</th>
<th>Master</th>
<th>PhD</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>#resp.</td>
<td>salary</td>
</tr>
<tr>
<td>Italy</td>
<td>242</td>
<td>35000</td>
</tr>
<tr>
<td>UK</td>
<td>122</td>
<td>49302</td>
</tr>
<tr>
<td><strong>Belgium</strong></td>
<td>62</td>
<td><strong>53150</strong></td>
</tr>
<tr>
<td>Germany</td>
<td>15</td>
<td>51000</td>
</tr>
<tr>
<td>Portugal</td>
<td>49</td>
<td>35000</td>
</tr>
<tr>
<td><strong>Switzerland</strong></td>
<td>13</td>
<td><strong>98000</strong></td>
</tr>
<tr>
<td>Czech Republic</td>
<td>i.d.</td>
<td></td>
</tr>
<tr>
<td><strong>Romania</strong></td>
<td>i.d.</td>
<td></td>
</tr>
<tr>
<td>Spain</td>
<td>27</td>
<td>43000</td>
</tr>
</tbody>
</table>

Full time, perm. contract, >3 years experience
## 4. Salaries

### Median Salaries (EUR)

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<td></td>
</tr>
<tr>
<td>Spain</td>
<td>27</td>
<td>43000</td>
</tr>
</tbody>
</table>

**EU: Ph.D. BE/RO: 16.6**

**USA: male Ph.D. Pac.Coast/Central 1.3**
Proposals for the 2nd Survey

- EuCheMS/ACS project in 2017 (?)
- ECTN is responsible partner, Cefic, JRC participate actively
- Simplified online questionnaire, common core plus special pages
- Translation by national societies
- National societies approach their members directly (>5% response)
Immediate Next Step: Questionnaire

Name of the National Society:
Name of the President / Secretary General:

Our society supports a stronger political activity of EuCheMS: yes / no

Our society supports regular EESs organized by EuCheMS and executed by its Member ECTN: yes / no

Cefic and the European Commission/Joint Research Centre shall be invited for active participation: yes / no

We support a joint survey EuCheMS/ACS: yes / no

The EuCheMS/ACS questionnaire shall consist of a common core and a partner-specific part: yes / no

....
3. Employment

Found Job not Immediately after Graduation

(not employed: 3%) 

... the higher the level of education, the lower the unemployment ratio of young people.

Yerevan 2015
Problems to Find New Employees?

**G6 Country**

- **Problem to find people**
- **No problem**

<table>
<thead>
<tr>
<th>Country</th>
<th>#Managers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Italy</td>
<td>40</td>
</tr>
<tr>
<td>UK</td>
<td>60</td>
</tr>
<tr>
<td>Belgium</td>
<td>80</td>
</tr>
<tr>
<td>Germany</td>
<td>20</td>
</tr>
<tr>
<td>Portugal</td>
<td>30</td>
</tr>
<tr>
<td>Switzerland</td>
<td>10</td>
</tr>
</tbody>
</table>
I Graduated in ...

Graduates of last 15 years

Sub-discipline

Chemical engineering
Organic chemistry
Analytical chemistry
General Chemistry
Inorganic chemistry
Physical chemistry
Materials chemistry
Biochemistry
Polymer chemistry
Catalysis
Biotechnology
Food chemistry
Chemical education
Theoretical chemistry
Process control/optimization
Nuclear chemistry

Share

0%  5%  10%  15%  20%

16 grad. disciplines

EuCheMS GA Vienna, 28.-29.09.15
Continuing Education: Participation

<table>
<thead>
<tr>
<th>Degree</th>
<th>Participated</th>
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</thead>
<tbody>
<tr>
<td>Bachelor</td>
<td>50%</td>
</tr>
<tr>
<td>Master</td>
<td>38%</td>
</tr>
<tr>
<td>Doctoral</td>
<td>32%</td>
</tr>
<tr>
<td>Habilitation</td>
<td>25%</td>
</tr>
</tbody>
</table>
5. Salaries: M.Sc.

Fully employed, permanent contract

<table>
<thead>
<tr>
<th>Years of experience</th>
<th>responder number</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>1</td>
<td>...</td>
</tr>
<tr>
<td>8</td>
<td>...</td>
</tr>
<tr>
<td>20</td>
<td></td>
</tr>
</tbody>
</table>

Euros/year

- CH
- DE
- US*
- BE
- UK
- IT
- PT

EuCheMS GA Vienna, 28.-29.09.15
• Pioneered by six network activities funded by the EC (Lifelong Learning Programmes)

• Established in 2002, comprises 120 institutional members from 31 European countries plus 8 worldwide

• Founded to give continuity to and to implement programmes of skills and knowledge in chemistry primarily, in science in general and in chemical engineering

• Supporting member of EuCheMS
ECTN - A SUSTAINABLE FUTURE FOR CHEMISTRY EDUCATION IN EUROPE

Yerevan 2015:

- Quality of learning and teaching
- Making our systems more inclusive
- Agreed structural reforms
- Employability of graduates

Your research is in the spotlight

With 141 new publication views, you were the most viewed researcher from your department last week.

Congratulations, Reiner. Your achievement is shown on the home feeds of your colleagues and co-authors. Go to your home feed now to see your peers' recent achievements.

Received Sept 22, 2015
My Current Job is dominated by …

Sub-discipline

- Chemical engineering
- Organic chemistry
- Analytical chemistry
- General Chemistry
- Inorganic chemistry
- Physical chemistry
- Materials chemistry
- Biochemistry
- Polymer chemistry

Share

0% 10% 20%

16 grad. disciplines

… what is required?

Graduates of last 15 years, top 9 sub-disciplines

EuCheMS GA Vienna, 28.-29.09.15