

# **Audit Report on the Short Term Fellowship Programme**

**Jan Taplick and Agnès Visser-de Matteis**

For further details or questions regarding this report please contact:

Jan Taplick, PhD  
Fellowship Programme Manager, EMBO

European Molecular Biology Organization  
Postfach 1022.40 D-69012 Heidelberg  
Meyerohofstrasse 1, D-69117 Heidelberg  
Germany

Tel.: +49 6221 8891 122  
Fax: +49 6221 8891 215  
e-mail: [jan.taplick@embo.org](mailto:jan.taplick@embo.org)  
<http://www.embo.org>

## Goals and Characteristics

This report summarizes the results of the Short Term Fellowship Programme audit and will be presented to the EMBC at its 34<sup>th</sup> Ordinary Session on 17 November 2003.

The Short Term Fellowship Programme that EMBO delivers on behalf of the EMBC is aimed to allow exchanges between laboratories in the member states for a period of up to three months. The programme is especially designed to exchange and transfer knowledge, practical research expertise and technology between European countries and thereby to start and foster collaborations between laboratories in the EMBC Member States. Applications are welcomed throughout the year and are evaluated by two EMBO Members or EMBO Young Investigators with expertise in the field of the proposal. While the most important elements considered during the evaluation process are the quality of proposed research and the qualification of the applicant, a further major component is the benefit to the home laboratory of the applicant.

In order to gain insight and information on the benefits and goals achieved by the Short Term Fellowship Programme, we contacted fellows who visited a foreign laboratory in 1998 or 2001. Since the majority of fellows are in an early stage of career involving a high degree of mobility, it was not possible to identify the current address of all 267 fellows who received the fellowship in 1998 or 2001. We were able to verify the present location of 214 former fellows who were asked to complete a questionnaire relating to their fellowship. The fact that 62% of former fellows completed the form is a very positive sign of appreciation of the programme. The majority not only answered the questions but also added detailed comments about how this fellowship contributed to their further career decisions or about the start of collaborations. Examples of individual comments are included in this document and will be given during the presentation at the EMBC Meeting on November 17<sup>th</sup> 2003. The Fellowship Programme Manager will ensure that EMBC Delegates interested in all fellows comments will have access to the questionnaire database during the entire EMBC session.

In summary, the outcome of the survey of former Short Term Fellows who were supported by EMBC/EMBO together with related statistics demonstrates the impressive impact, a programme involving a relative small investment per fellowship, has on further careers of scientists and on the fostering of fruitful collaborations between laboratories in EMBC Member States.

This report summary contains the following information:

1. Evaluation procedure
2. General statistic data about Short Term Fellowships in recent years (country distribution, gender issues)
3. Results of the Fellowship Questionnaire

## 1. Evaluation Procedure

After submission of the application by the EMBO office, the Short Term Fellowship Administrator collects all documents needed for evaluation. These include the application form, a statement of current work of the applicant and the actual proposal of planned research at the receiving institute. Furthermore two confidential letters of reference and a statement by the host institute explaining why they wish to have the applicant visiting their laboratory are submitted. Once all documents are received, the fellowship programme manager reads the application and assigns two expert referees from the EMBO Members and Young Investigators. They are requested to evaluate the application based on the track record of the applicant, the quality of the research proposal, the expertise of the receiving laboratory in the field of proposed research and the benefit of the fellowship to the home laboratory of the applicant. Based on the comments and the advice of the referees, the fellowship programme manager decides on the funding. In cases of unclear or conflicting comments by referees, another member of the EMBO management team, editors of the EMBO Journal or the Executive Director are consulted and asked for advice. If the application is accepted for funding, the Finance Department of EMBO transfers the fellowship funding to the applicant two to four weeks before the starting date, confirmed by the applicant on accepting the fellowship. In case of a negative outcome of the application, the fellowship programme manager provides referee reports and further advice if requested by the applicant. The evaluation procedures are also monitored by the internal and external auditors of the EMBC.

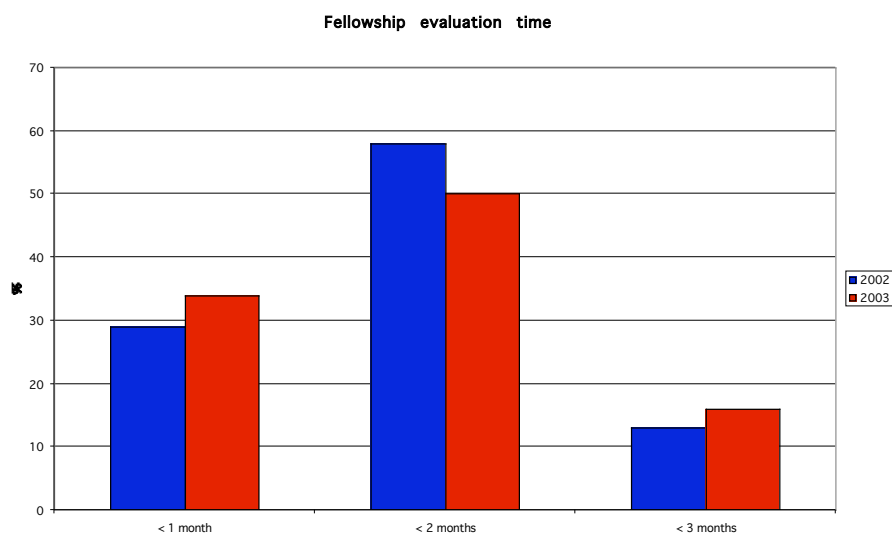


Fig. 1: Time from receiving the application to date of funding decision in 2002 and 2003

An important aspect in the delivery of the programme is that a fast, efficient and fair evaluation process is established. Although applicants, sponsors and the receiving

institute are advised to submit all necessary documents two to three months before the proposed starting date of the fellowship, the actual evaluation process is much shorter in most cases. In 2002 the average time needed between receiving the application form to the decision on funding was 42 days. As shown in Figure 1, 29 % of applications were processed in less than one month, 58% between one and two months and 13% were decided within three months. In 2003 a comparable processing time was observed with 34% of applications processed within one month, 50% within two months and 16% within three months. The average evaluation time in 2003 was 43 days. The reason for the processing time differences between individual applications is attributed to missing documents from the applicant or the receiving institute, workload in the programme office at peak times after deadlines of the Long Term Fellowship Programme or unavailability of referees. The fact that most applications are evaluated within a short period of time is a sign of the excellent involvement of EMBO's networks of Members and Young Investigators who volunteer to act as expert referees.

## 2. General Statistics

### Country specific distribution of applications and awards

#### Applications and awards from countries

Country	from 2000	2001	2002	total	% of Total	2000	2001	2002	total	% of total
Austria	1	0	2	3	0.40	1	0	2	3	0.64
Belgium	6	4	5	15	1.98	5	2	4	11	2.35
Croatia*	2	1	4	7	0.92	1	1	3	5	1.07
Czech Republic	6	4	6	16	2.11	4	1	4	9	1.92
Denmark	1	4	0	5	0.66	1	3	0	4	0.85
Finland	2	2	0	4	0.53	2	2	0	4	0.85
France	27	13	17	57	7.51	18	7	12	37	7.89
Germany	27	21	10	58	7.64	15	11	6	32	6.82
Greece	10	6	11	27	3.56	3	4	8	15	3.20
Hungary	8	5	6	19	2.50	4	3	5	12	2.56
Iceland	1	0	1	2	0.26	1	0	1	2	0.43
Ireland	3	2	2	7	0.92	2	1	1	4	0.85
Israel	17	11	9	37	4.87	12	7	8	27	5.76
Italy	30	49	34	113	14.89	24	23	23	70	14.93
Netherlands	6	1	6	13	1.71	5	1	5	11	2.35
Norway	1	1	2	4	0.53	0	1	1	2	0.43
Poland*	0	9	15	24	3.16	0	5	6	11	2.35
Portugal	9	2	3	14	1.84	6	1	2	9	1.92
Slovenia*	1	4	3	8	1.05	0	2	2	4	0.85
Spain	41	40	49	130	17.13	29	24	32	85	18.12
Sweden	3	5	3	11	1.45	2	4	2	8	1.71
Switzerland	3	3	2	8	1.05	1	0	1	2	0.43
Turkey	7	2	9	18	2.37	2	0	3	5	1.07
United Kingdom	4	8	12	24	3.16	3	3	10	16	3.41
East Europe	29	23	26	78	10.28	15	10	16	41	8.74
USA/Canada	0	0	3	0	0.00	0	0	3	0	-
Others	29	13	12	54	7.11	20	8	9	37	7.89
<b>Total</b>	<b>274</b>	<b>233</b>	<b>252</b>	<b>759</b>	<b>100</b>	<b>176</b>	<b>124</b>	<b>169</b>	<b>469</b>	<b>100</b>

## Applications and awards to countries

Country to	2000	2001	2002	total	% of Total	2000	2001	2002	total	% of total
Austria	6	2	4	12	1.62	3	2	3	8	1.77
Belgium	9	0	5	14	1.88	7	0	4	11	2.43
Croatia*	0	0	0	0	0.00	0	0	0	0	0.00
Czech Republic	2	0	0	2	0.27	0	0	0	0	0.00
Denmark	7	6	5	18	2.42	6	1	3	10	2.21
Finland	3	2	2	7	0.94	2	0	1	3	0.66
France	32	29	43	104	14.00	24	16	29	69	15.27
Germany	46	44	52	142	19.11	28	20	40	88	19.47
Greece	0	4	1	5	0.67	0	3	0	3	0.66
Hungary	2	0	0	2	0.27	0	0	0	1	0.22
Iceland	0	0	0	0	0.00	0	0	0	0	0.00
Ireland	3	0	1	4	0.54	2	0	1	3	0.66
Israel	10	6	2	18	2.42	7	3	2	12	2.65
Italy	9	12	8	29	3.90	6	7	5	18	4.00
Netherlands	24	10	19	53	7.13	21	6	11	38	8.41
Norway	2	3	0	5	0.67	2	2	0	4	0.88
Poland*	0	0	0	0	0.00	0	0	0	0	0.00
Portugal	0	0	4	4	0.54	0	0	2	2	0.44
Slovenia	0	0	0	0	0.00	0	0	0	0	0.00
Spain	5	9	6	20	2.69	2	4	4	10	2.21
Sweden	12	6	8	26	3.50	7	3	8	18	3.98
Switzerland	21	17	17	55	7.40	15	11	12	38	8.41
Turkey	0	0	0	0	0.00	0	0	0	0	0.00
United Kingdom	49	68	62	179	24.09	26	42	36	104	23.01
East Europe	0	0	0	0	0.00	1	0	0	1	0.22
USA/Canada	16	15	13	44	5.92	0	4	8	12	2.65
Others	0	0	0	0	0.00	0	0	0	0	0.00
<b>Total</b>	<b>258</b>	<b>233</b>	<b>252</b>	<b>743</b>	<b>100</b>	<b>159</b>	<b>124</b>	<b>169</b>	<b>452</b>	<b>100</b>

## Applications and awards from 1978 to 2002

Year of Application	Number of Applications	Number of Award	% Awarded
1978	349	244	70
1979	344	243	71
1980	357	242	68
1981	339	235	69
1982	321	213	66
1983	335	223	67
1984	320	226	71
1985	304	221	73
1986	309	215	70
1987	301	212	70
1988	351	211	60
1989	331	199	60
1990	346	211	61
1991	344	194	56
1992	351	213	61
1993	376	209	55
1994	369	203	55
1995	325	187	57
1996	316	180	57
1997	339	188	55
1998	279	143	51
1999	230	138	60
2000	274	176	64
2001	233	124	53
2002	252	169	67

The evaluation of Short Term Fellowships in 2003 is still ongoing. Up to 1<sup>st</sup> of November EMBO received 314 applications. This represents a minimum increase of 25% in 2003 when compared with 252 applications received in 2002. 146 awards were given with a corresponding success rate of 50.2%, based on previously evaluated applications.

## Gender Distribution

EMBO

Comment:

During the last three years both genders almost equally participated in the Short Term Fellowship Programme (Fig. 2). This distribution remains nearly the same after the evaluation process and Figure 3 demonstrates that female and male applicants are equally successful with their applications for the fellowship.

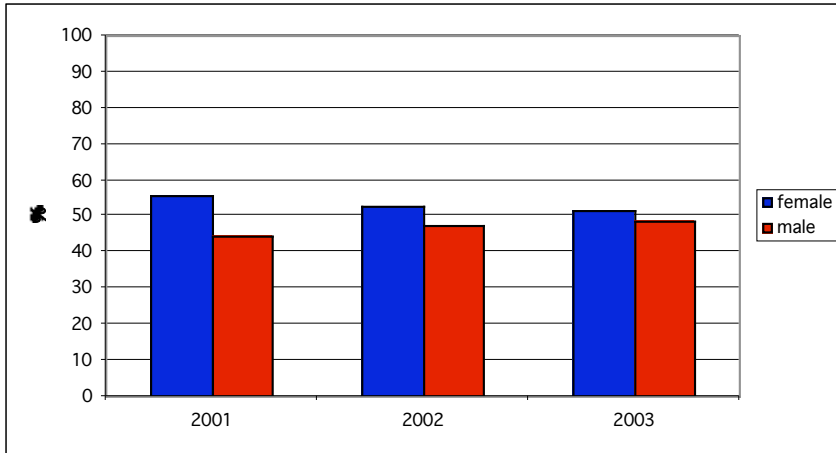


Fig. 2: Female and male applicants for Short Term Fellowships from 2001 to 2003

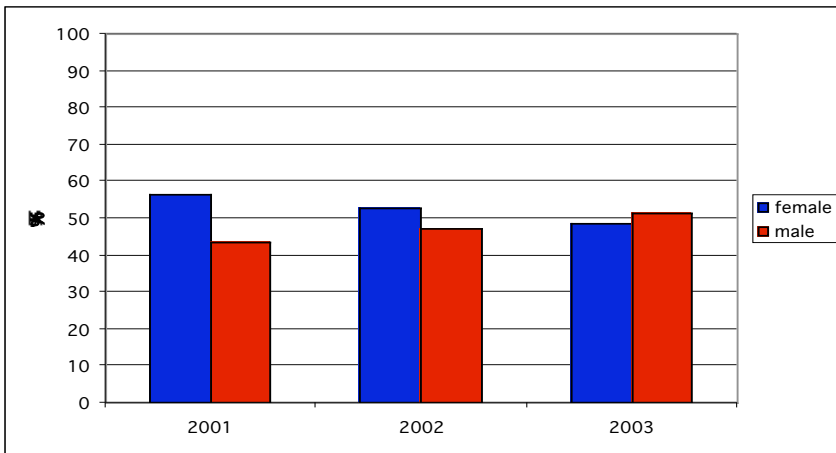
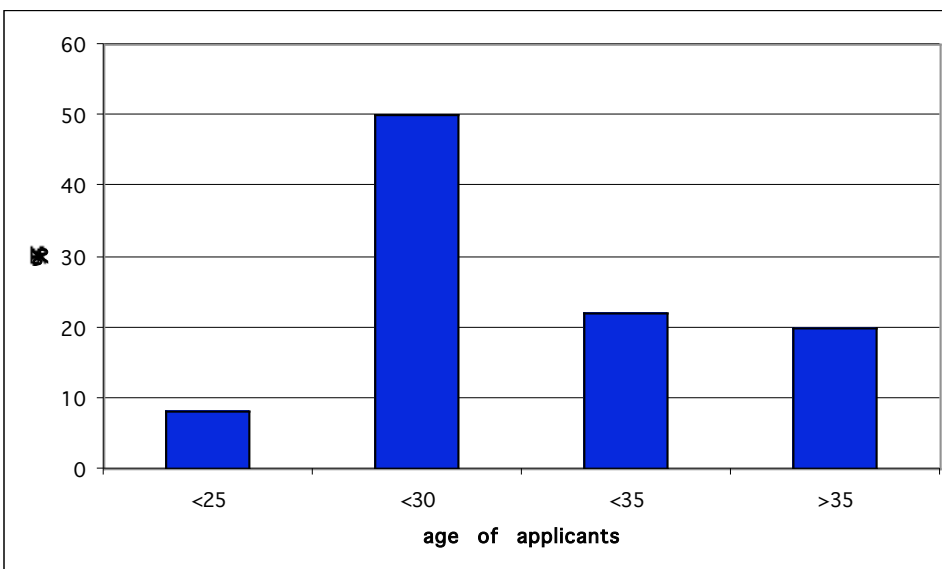


Fig. 3: Fellowship awards to female and male applicants from 2001 to 2003

### 3. Results of the Fellowship Questionnaire

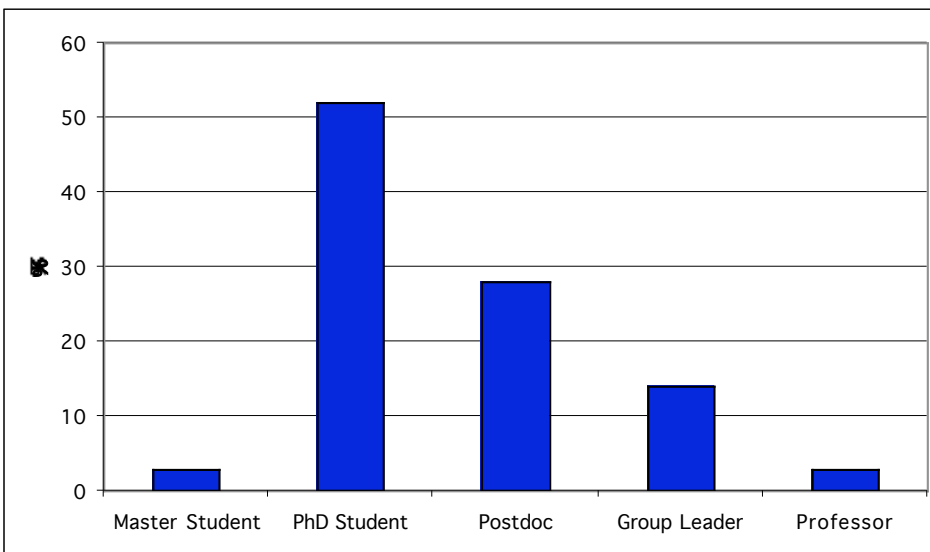
The results of this survey are based on the answers and comments of 133 former EMBO Short Term Fellows who were supported by EMBC/EMBO in 1998 or 2001. The Short Term Fellowship Programme is well known in the scientific community since most of the fellows in this survey became aware of the programme through their supervisors, the proposed host laboratories or other colleagues. Most of the fellows were satisfied with the application and evaluation procedure. With the exception of 3 fellows who stated that the application procedure is complicated, all other fellows felt that the application process for EMBO Short Term Fellowships is easy and straightforward. The answers and comments to the ten following questions demonstrate that the EMBC/EMBO supported Short Term Fellowship Programme is very much appreciated by the awarded scientists and that it fulfills its goal of enhancing scientific exchange between laboratories in the EMBC Member States by establishing collaborations and supporting the transfer of knowledge or technology.

#### What was your age at the time of your Short Term Fellowship?



The training of young scientists is an important aspect of the fellowship programme and these data demonstrate that the majority of fellows were younger than 35 years at the time of their Short Term Fellowship.

### What was your stage of career?

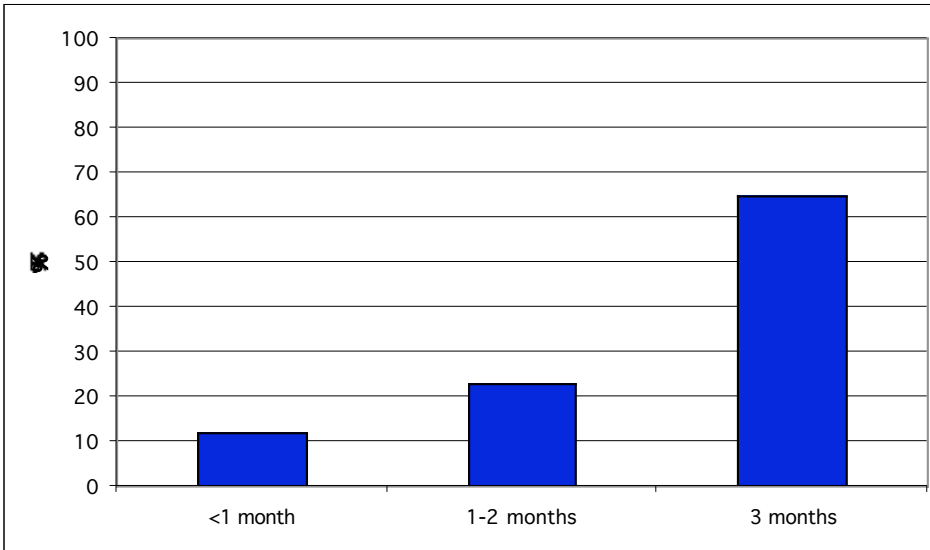


Master Student: 3%  
PhD Student: 52%  
Postdoctoral Scientist: 28%  
Group Leader: 14%  
Professor: 3%

Although the programme is open to applicants at all career stages, the majority of Short Term Fellows were in the early stages of their career. More than 50% of the awardees were PhD students at the time of their fellowship. From their individual comments and answers to the question regarding project acceleration it became evident that their EMBC/EMBO funded visit to a laboratory abroad was an important component of their studies as it allowed them to gain knowledge or expertise that was unavailable in their home laboratory before the visit.

**What was the total length of time that you spent in the host laboratory?**

Most of the Short Term Fellows spent the maximum possible period i.e. three months, in the receiving laboratory (65%). 23% stayed between one and two months while only 12% had a visit shorter than one month.

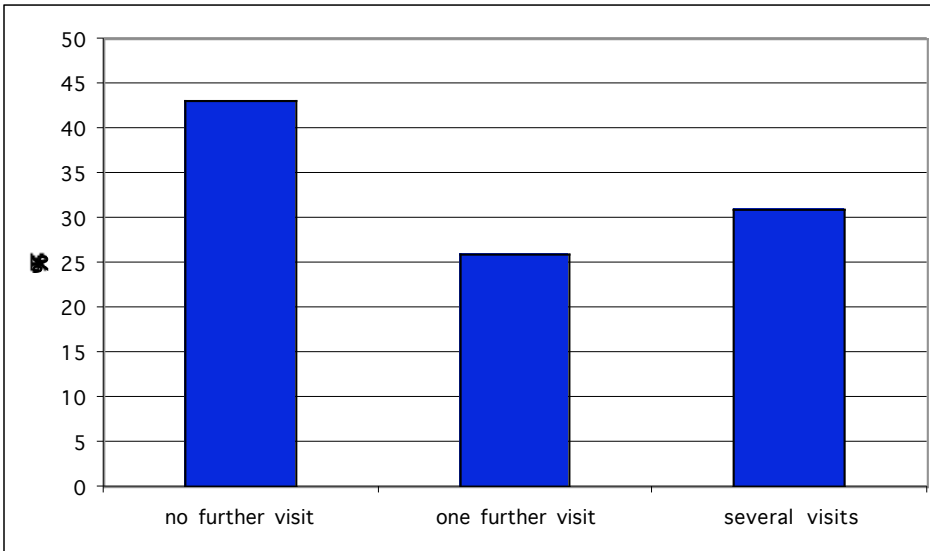


**Were you satisfied with your host laboratory?**

With one exception all fellows were satisfied with the laboratory they visited.

**Are you still in contact with your host laboratory? Did you visit the laboratory again?**

Since one of the aims of the programme is to establish and foster collaborations between laboratories in the EMBC Member States, the result that **88% of fellows** in this survey are still in contact with their former hosts is indeed impressive. For 43% of fellows this EMBC/EMBO sponsored visit was a single event, but 57% visited the host laboratory again with funding from other sources. 31% of fellows even visited the host laboratory several times after their EMBO fellowship.

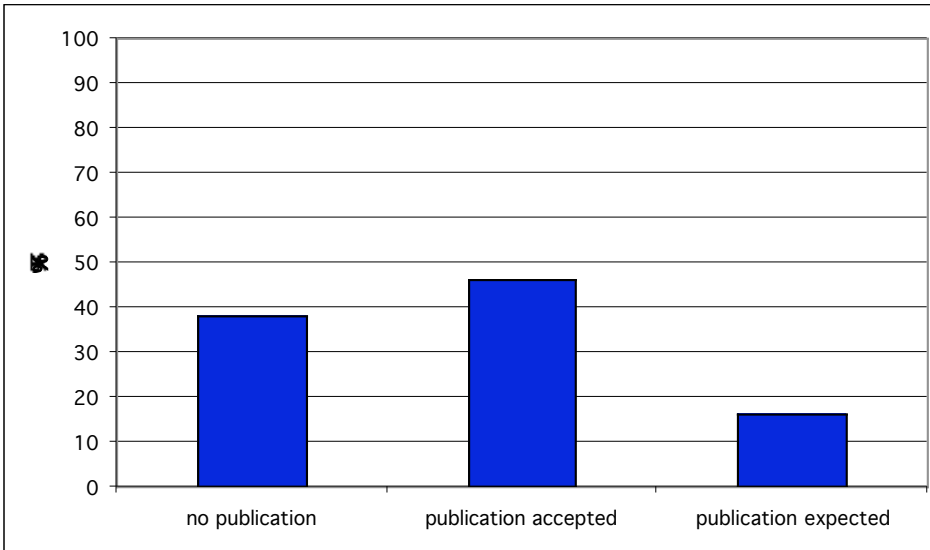


**Which of the following goals were achieved?**

Collaborations were established for 85% of the fellows. 59% stated that they transferred a new technology back to their home laboratory. Knowledge transfer to other members of the home laboratory was the case for 80% of the fellows and 41% established a novel project in the home laboratory after returning from abroad.

**Did the Short Term Fellowship result in a joint publication with the host laboratory?**

The aim of this question is to highlight the quality of awardees and receiving laboratories. This EMBC/EMBO supported short visit of only 3 months resulted in 46% of fellows publishing manuscripts. A further 16% expect a joint publication to be submitted to a journal in near future. For 38% the visit will not result in a publication with the host laboratory.



**Had your Short Term Fellowship an influence on your further career path?**

More than half of the fellows (56%) stated that this visit influenced their further career. Examples of individual comments by the former fellows are given below:

The fellowship let me believe that I am able to work as a successful biologist abroad and collaborate with scientists from different countries.

It enabled me to find a good post-doctoral position.

Because I decided to return to the host lab for a post doc.

Because I initiated a long-term collaboration between the lab at Imperial College and the institute visited.

The new project that I started under the fellowship and then continued in my home lab helped me to reach the position of group leader.

Yes, because it gave me the opportunity to start a very efficient collaboration leading to very good publications, which then helped me very much getting my researcher position at the CNRS institution in France.

My family situation didn't allow a long time post doc period abroad and the STF was a compromise to get the experience needed to continue with science. This worked out very well and I am now a group leader still collaborating with my STF host.

Of course, it influenced me and further career decisions. I actually think it made it easier for me to take the decision to move to the US for my post doc. I'm moving back to Sweden at the end of the year.

By originating a long term collaboration that made possible my current research in Stockholm and facilitating the establishment of a strong network for scientific discussion and collaboration with colleagues in Germany, Spain and Italy.

I did my postdoc in the lab of a former lab member of my host lab and I was able to start my own field of research during that time.

I met several people from different cultures (mostly post docs) that strongly influenced me to pursue my career as a post doc. In my home lab, there was no post-doc at that time. This was a very (and unique) opportunity to meet with some post-docs from the same discipline.

I have established and run Biological Mass Spectrometry facility in the Weizmann Institute of Science.

It was my first hands-on experience with the study of evolution and development and confirmed that I would like to continue in this field, as I am now doing in my home lab.

I will do my post-doc in the host laboratory.

Yes, as it has allowed me to establish new independent research lines in my home laboratory.

It enabled me to get enough good results for my PhD thesis and hence defend it at the University of Utrecht instead of the University of Ljubljana, which is my home university.

I am doing my post doc with one of my supervisors from the host laboratory.

At least the ASTF gave me the possibility to learn new methods to further characterize the behavior of my mutant proteins. The two publications containing data from my short visit are important milestones in my career.

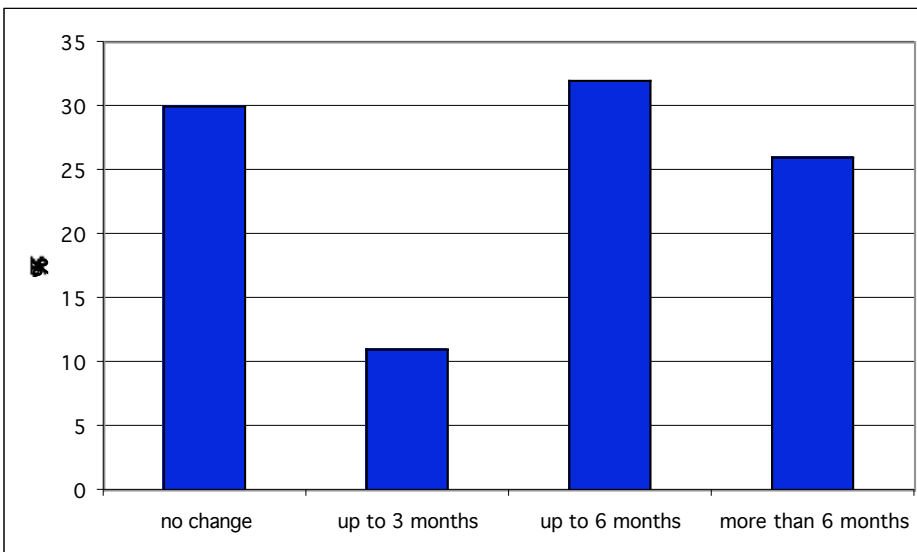
The STF assured me on my career path, but did not influence me.

My visit to the host laboratory allowed me to take advantage of their experience in the field and to reorient my project. In that sense, I have been able to explore quite a few new perspectives that would not have been possible in my home laboratory. Part of the work was successful and led to publications (impact on CV and thereby on career). I also acquired some experience in structural biology, which was a new field for me. This opens new directions, opportunities for my career.

After EMBO STF the host lab was interested in the continuation of the collaboration with me; during my post doc in this lab, I developed a new project, the origin of which was work accomplished during short-term fellowship. Moreover, Now, I am looking for a job after my post doc and according to reactions of my potential employers I can say that the EMBO STF is an important point of my CV.

**Did your fellowship accelerate the completion of your project in your home laboratory?**

The benefit for the home laboratory is a major component of the fellowship. One way of measuring this impact is the time the scientist saved because of knowledge and technology transfer after the fellowship. While 30% stated that the fellowship did not accelerate their project, the majority stated that they saved time in completing their project at home. This acceleration ranged from up to three months (11%), up to 6 months (32%) and more than 6 months (26%).



**Did your fellowship lead to interdisciplinary approaches and thinking?**

56% of fellows answered this question with “YES”. Examples of individual comments made by fellows regarding interdisciplinary approaches:

During my visit a project arose, which combines designing of artificial transcription factors with mitochondrial technology

The whole research was in the field of physicochemical biology! We investigated molecular (=chemical) aspects of biological objects using physical methods.

Genetics approaches are complimenting strongly our structural research since the visit.

I had the opportunity to discuss with scientists of different background and I learned new procedures for analysis and evaluation of the research projects I am developing in my laboratory in Verona.

Previously, I was working exclusively on *Drosophila melanogaster* and was studying genetic problems, but the host laboratory I visited works on mammalian systems, using cell biological and biochemical approaches. This way I had a chance to experience a completely different way of examining biological problems.

The work I did during my fellowship helped introduce me to a whole new way of thinking about protein structures, protein folding and their function. This has helped me to interact with people that are doing computational biology and to consider the way of thinking more carefully in my own research.

Most people from the host laboratory are chemists, people from the home laboratory are biologists or physicists. At the beginning of the project both groups were interested in the project, but for different reasons. At the end mutual understanding opened new perspectives and therefore extended the duration of the project.

My host laboratory worked within a different area of research than for the basis of my PhD. My background is in bone research, but Prof. Soreq is a world expert not only in the protein I work on (Acetylcholinesterase) but also in the techniques I used there. Analysis of the bone phenotype of AChE transgenic mouse models developed by her group, and the use of real time PCR were avenues previously closed to us and that took the project in a different direction.

I was a biologist working in a physics laboratory.

I developed other projects and I started a interdisciplinary PhD program in Bonn.

My colleague is an expert in confocal microscopy whereas I am a molecular biologist. Thus, I have been able to use approaches not available in my lab.

I had broaden my biochemical knowledge and become familiar with many biophysical techniques such as DLS (dynamic light scattering), CD and X-ray crystallography used in structural biology. Also I was introduced to programs for computer modeling and protein structure prediction, which are really useful.

Connection between clinical medicine and molecular biology was established.

I am initially a chemist with some experience in molecular biology and chemistry whereas my collaborators in the host laboratory are structural biologists (crystallographers). We had very interesting discussions, everybody bringing his own point of view resulting from a different background. I am convinced that this was beneficial for all of us.

I was coming from a laboratory with strong classical genetic background. In the host lab, I could learn at least that there are lots of in vitro techniques that could support genetic data to understand molecular functions.

The study of evolutionary developmental biology combines molecular biology, developmental genetics, histology, and phylogenetics. Both my host and home laboratories have taught me how to integrate these disciplines to best answer the biological questions that interest me.

Applications of physical /chemical techniques to biological problems, increased awareness of what properties of biological macromolecules can be exploited for investigating their behavior in vitro and in vivo.