Report on the Long-term Fellowship Programme based on the application years 1993 and 1998

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1. General outline and programme goals

The EMBO Long-term Fellowship scheme was established to support advanced training, research and international mobility of postdoctoral scientists in Europe and when justified, also in non-European countries. Shortly after EMBO was established in 1964, the organisation awarded the first long-term fellowships with funds provided by the Volkswagen Foundation. In 1969, governments of 14 countries established the European Molecular Biology Conference (EMBC), an intergovernmental organisation that continued the funding initiated by the Volkswagen Foundation until today. Over the period of 40 years, the EMBO Long-term Fellowship scheme retained its reputation as one of the most prestigious programmes for research training of young scientists in the molecular life sciences. Over the years, not only has the number of member states of the EMBC expanded to 25 countries as of today, he demand for EMBO Long-term Fellowships has also increased from around 250 applications in the 1970's to more than 1200 proposals submitted in 2005 (Figure 1). This demonstrates the popularity of the programme, but also the fact that today more students are attracted by a career in the field of modern biology.

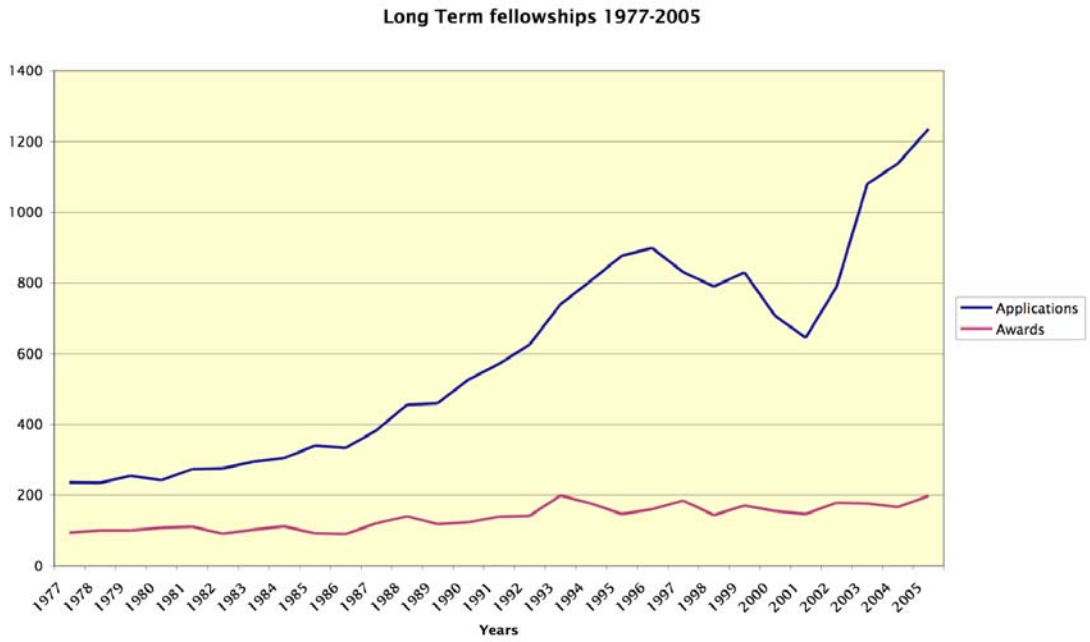

Figure 1: Applications and awards 1977-2005

The aim of this report is to provide the Member States of the EMBC with information about the achievements of the programme. Predominantly this will be based on data of Long-term Fellows elected in 1993 and 1998. These data include achievements of the fellows during their term, their further career path as well as opinions about the fellows and the programme itself by the former supervisors. In case of the fellowship selections in 1998, the EMBO office had access to all application files, which made it possible to compare the further careers of the EMBO Fellows with those applicants who were unfortunately not selected. From the information on the two selected cohorts of fellows, some general conclusions can be obtained.

2. The selection of EMBO Fellows

Today more than 1200 applications for EMBO Long-term Fellowships are received at two deadlines on February 15 and August 15 each year. The timeframe for the handling and the evaluation of the proposals is currently 15 weeks. During this period, the fellowship programme office composed of one Programme Manager (currently Jan Taplick) and one Administrative Assistant (currently Liselott Maidment) ensure the completeness of application documents, select experts in the area of proposed research, organise the interview process and provide the Fellowship Committee a maximal possible time for the evaluation of the applications. Until 2004, all eligible applicants were invited for an expert interview with an EMBO Member or EMBO Young Investigator. Given the significant increase in applications since 2001, the Fellowship Committee introduced a pre-screening of applications in order to identify the top 50% of applicants who are interviewed and evaluated further. Since 2006, all applications are received electronically allowing a faster processing of the application files and thereby providing more time for the Fellowship Committee for the evaluation of candidates.
The selection of EMBO Fellows would be impossible without the dedicated work of the Fellowship Committee members who commit their valuable time for several years in order to ensure a fast and fair application procedure and without the input of EMBO members who are involved in the expert assessment by candidate interviews. More than 600 interview reports are currently received annually. The report also aims to acknowledge their support of the fellowship programme during the past years.

In summary, the report will demonstrate that the EMBO Fellowship Committee selected the best candidates who continue to contribute to excellence in the Molecular Life Sciences in Europe. In addition, the report shows how the EMBC funded Long-term Fellowships contributed to the training of a new generation of European life scientists who will have their stake in shaping the European research area in coming years.

Members of the EMBO Fellowship Committee since 1993:

Kari Alitalo (Finland)
Robin Allshire (United Kingdom)
Jesus Avila (Spain)
Francisco Baralle (Italy)
Peter Becker (Germany)
Francesco Blasi (Italy)
August Boeck (Germany)
Bernd Bukau (Germany)
Harald von Boehmer (Switzerland)
Gianni Cesareni (Italy)
Francois Cuzin (France)
John Diffley (United Kingdom)
Bauke Dijksra (Netherlands)
Thomas Edlund (Sweden)
Costa Georgopoulos (Switzerland)
Alain Ghysen (France)
Nicolas Glaichenhaus (France)
Crisanto Gutierrez (Spain)

Ernst Hafen (Switzerland)
Reinhold Herrmannn (Germany)
Cornelis Hilbers (Netherlands)
Thomas Hohn (Switzerland)
Tim Hunt (United Kingdom)
Claude Jacq (France)
Leszek Kaczmarek (Poland)
Regine Kahmann (Germany)
Robert Kaptein (Netherlands)
Rolf Kemler, (Germany)
Juergen Knoblich (Austria)
Angela Kraemer (Switzerland)
Wilhelm Krek (Switzerland)
Robb Krumlauf (United Kingdom)
Bernard Malissen (France)
Diane Mathis (France)
Montserrat Pages (Spain)
Anthony Pugsley (France)
Daniela Rhodes (United Kingdom)
Varda Rotter (Israel)
Francesco Salamini (Italy)
Angela Santoni (Italy)
David Sherratt (United Kingdom)
Yosef Shiloh (Israel)
Hermona Soreq (Israel)
Irma Thesleff (Finland)
Antti Vaheri (Finland)

3. Analysis of data

As indicated in the introduction, this report is built around an indepth analysis of the statistics from 1993 and 1998 as indicators of the impact of the programme.

The application year 1993

In 1993, the EMBO office received 739 applications during the two application deadlines and the EMBO Fund Committee (renamed to Fellowship Committee in 1996) awarded 199 fellowships corresponding to an exceptionally high success rate of 27%.

The following EMBO Members served in the Fund Committee in 1993:

Francisco Baralle (Italy)
Harald von Boehmer (Switzerland)
Francois Cuzin (France) (chair)
Alain Ghysen (France)
Tim Hunt (United Kingdom)
Claude Jacq (France)
Regine Kahmann (Germany)
Robert Kaptein (Netherlands)
Rolf Kemler, (Germany)
Francesco Salamini (Italy)

Fellowship applications were handled by John Tooze and Jennifer Norman at the EMBO Secretariat in Heidelberg. During the meeting the committee also discussed the representation of women amongst the applicants for EMBO Long-term fellowships. This is particularly interesting when the percentage of female applicants is compared to the gender distribution at present. Over the years the percentage of women applying to the programme increased to reaching 51% in 2005. This is encouraging when compared to the significant lower representation in the beginning of the 90's when the percentage of female applicants was 26-28 %.

The application year 1998

At the deadlines of 1998, the EMBO office received 790 applications for Long-term Fellowships. The Fellowship committee awarded 144 fellowships corresponding to an overall success rate of 18% in 1998.

The EMBO Fellowship Committee was composed of the following EMBO Members:

Jesus Avila (Spain)
Gianni Cesareni (Italy)
Reinhold Herrmannn (Germany)
Cornelis Hilbers (Netherlands)
Thomas Hohn (Switzerland)
Robb Krumlauf (United Kingdom)
Diane Mathis (France) (chair)
David Sherratt (United Kingdom)
Hermona Soreq (Israel)
Antti Vaheri (Finland)

The applications were processed in the EMBO office by Frank Gannon and Jennifer Norman.

Figure 2 shows the impact factors of first author publications by candidates of the application year 1998 and the scores given by the committee members.

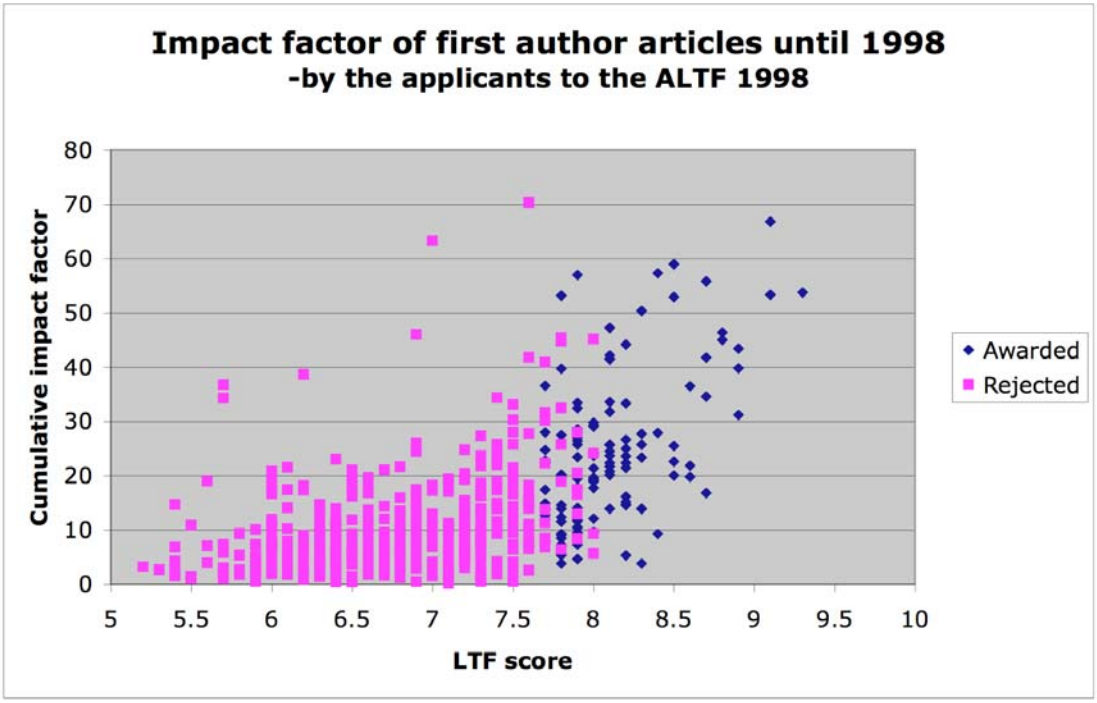

Figure 2: Impact factors and committee scores 1998

When judging applications, the Fellowship Committee has to take several factors into account when deciding on the awards of long-term fellowships. Those include the past achievements of candidates, the biological significance of the research proposal and the quality of the receiving laboratory. This figure suggests that the cumulative impact factors of journals in which candidates published their first author articles until 1998 was not the only criterion for the committee when

coming to decisions since no significant differences between many awarded and rejected candidates can be observed. It is therefore important to recall that other aspects such as proposed research project, quality of the host laboratory, career stage of applicants and performance during the interview all contribute to the final score given by the fellowship committee members. A linear correlation between the committee score and the publication record is therefore not to be expected.

The same comparison was done for all first and last author articles of awarded and rejected candidates by following their careers from 1998 until 2006. Such a comparison is a partial indicator for the research output of the two groups after the decision of the fellowship committee in 1998. As demonstrated in Figure 3, most of the selected EMBO Fellows achieved a cumulative impact factor of higher than 20, which is not the case for many applicants who were rejected in 1998.

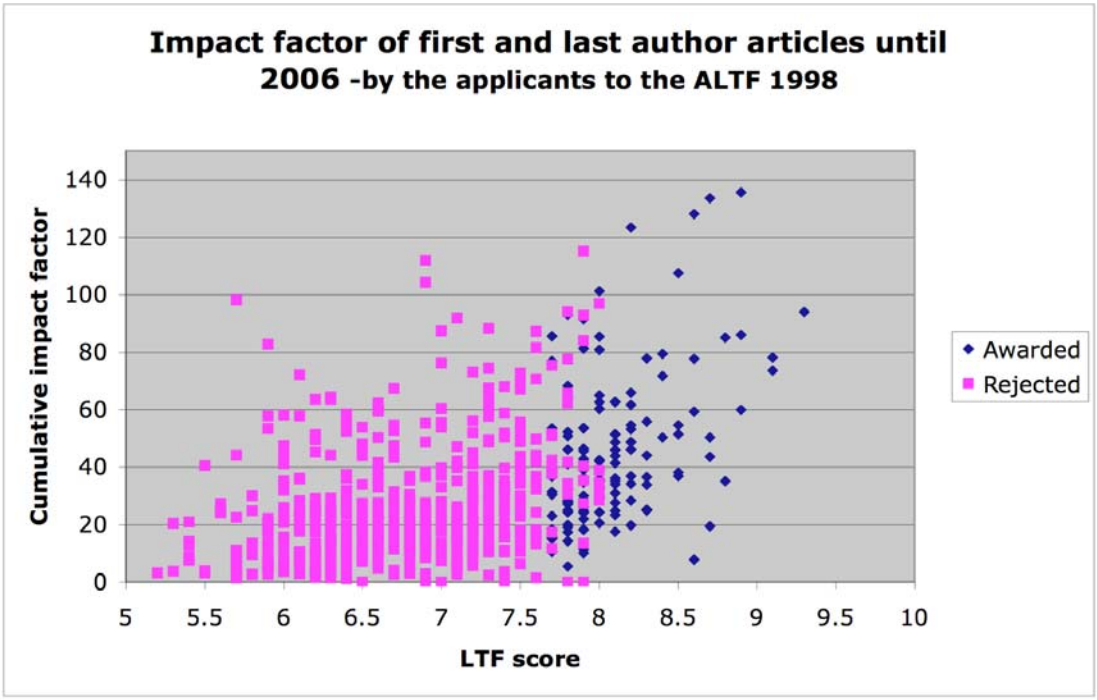

Figure 3: Impact factors until 2006 and committee scores in 1998

However, this comparison also shows that the performance of many rejected applicants resulted in high impact factor publications. This implies that the EMBC and EMBO would be able to support more excellent candidates if more funds would be available for the fellowship programme.

The Fellows and Supervisors Questionnaires

In order to assess the achievements of the Long-term Fellows during their EMBC/EMBO supported term and their later career path, a questionnaire was send to the respective groups of EMBO fellows selected in 1993 and 1998 as well as to applicants rejected in 1998.
As suggested by the Conference during the presentation of the Quality Report on Short-term Fellowships in 2003, the supervisors of the EMBO fellows also were

contacted and asked for their opinions on the performance of the EMBO Fellows and about the EMBO Long-term Fellowships in general.
A detailed list of the questions answered by fellows, applicants and supervisors is listed in the Annex.

General responses to the questionnaires

In order to find out current locations and addresses of fellows, supervisors and applicants several searches had to be performed. Those included PubMed searches for recent publications, internet search engines and personal contacts of former supervisors.
As shown in Table 1, around 80% of former EMBO Fellows and more than 90% of supervisors were located. However, only 62% of current addresses of applicants who were rejected in 1998 could be located.

	total N	located	% located	Replied	% replied	% of N
1993 Awards	190	152	80	107	70	56
1993 Supervisors	190	177	93	128	72	67
1998 Awards	130	103	79	81	79	62
1998 Supervisors	130	119	92	80	67	62
1998 Applicants	584	364	62	193	53	33
Rejected	542	335	62	181	54	33
Withdrawn	42	29	69	12	41	29
TOTAL	**1224**	**915**	75	**589**	**64**	**48**

Table 1: Statistics on received replies from fellows, applicants and supervisors

Around 70% (67-79%) of EMBO Fellows and their former supervisors responded and completed the questionnaire. Despite several reminders, the response rate by applicants rejected in 1998 is significantly lower at 53%, which has to be taken into account during the comparison of applicants and fellows later in the report.

Experience as an EMBO Fellow

The aim of the EMBO Long-term fellowship scheme is to identify the most promising young scientists and to support their postdoctoral training in excellent laboratories abroad in order to prepare for their future careers as independent scientists in the molecular life sciences.
When asked about the opportunities provided by the EMBO/EMBC supported postdoctoral training, the majority of EMBO Fellows indicated that it allowed

them to obtain their training in a leading international laboratory. The fellows also stated that the fellowship allowed them to work independently in the host laboratory, provided them with the opportunity to work abroad for part of their career and to change the research area after their graduate training. Table 2 summarizes the answers of the EMBO Fellows selected in 1993 and 1998 regarding the opportunities provided by the EMBO Long-term Fellowship:

	1993	% 1993	1998	% 1998
Work in a leading laboratory	87	32.6	62	30.1
Work independently in the host laboratory	52	19.5	51	24.8
Start international collaborations	24	9.0	22	10.7
Change country	53	19.9	34	16.5
Change research area	42	15.7	32	15.5
Others	9	3.4	5	2.4

Table 2: Appreciation of opportunities offered by the EMBO Fellowship (multiple options could be selected)

As indicated by the cumulative impact factor analysis and the literature searches to find their current location, the majority of former EMBO Fellows are pursuing a successful career in science. Therefore, their opinion on how the EMBO/EMBC supported postdoctoral stay abroad influenced their career is particularly interesting for judging the achievements of the programme (see Table 3). In both groups of fellows, most stated that their postdoctoral training in an excellent foreign laboratory resulted in a stronger publication record that allowed them later to compete successfully for their next position. A relatively high percentage of fellows also indicated that their move to another country broadened their horizons by learning about a different culture and living environment. Furthermore, their further career was influenced by the fact that many established collaborations during their training that last until today and that they were able to become part of an international research network.

	1993	% 1993	1998	% 1998
Stronger publication list	74	31.0	52	30.4
Job offer	42	17.6	28	16.4
Learned & appreciated a different culture	44	18.4	37	21.6
Established collaborations that lasted	42	17.6	24	14.0
Networking	30	12.6	21	12.3
Others	7	2.9	9	5.3

Table 3: Influence on further career (multiple options could be selected)

The vast majority of fellows were satisfied with the host laboratory they had selected for their postdoctoral training (1993: 96% / 1998: 88%). These figures will also be reflected by the opinions of supervisors later in the report.

The ongoing collaboration with the former host laboratory is naturally higher for those fellows selected in 1998 with 50.6% having still collaborative projects with their former supervisors (see Table 4). The percentage of 1993 EMBO Fellows having still ongoing collaborations with the former host laboratory is significantly lower with 34% indicating that many of them established their own research line in the meantime or have evolved in their pool of collaborations.

	1993	% 1993	1998	% 1998
Yes	34	32.4	41	50.6
No	71	67.6	40	49.4

Table 4: Ongoing collaboration with the former host laboratory

The EMBO/EMBC supported period in the host laboratory resulted in an average of 3 publications for both groups selected in 1993 and 1998. The total number of publications achieved during the postdoctoral training in host laboratory was higher with an average of 6 publications for those selected in 1993 and 4 articles for fellows of 1998. This difference can be explained by the fact that fellows stayed for a longer period in the host laboratory supported by alternative sources.

Career path of EMBO Fellows

One impressive and encouraging result is that the vast majority of former fellows followed a successful career in science after their EMBO/EMBC supported postdoctoral training. Figure 4 demonstrates that almost every fellow is active in research after they finished their postdoctoral term five or ten years ago.

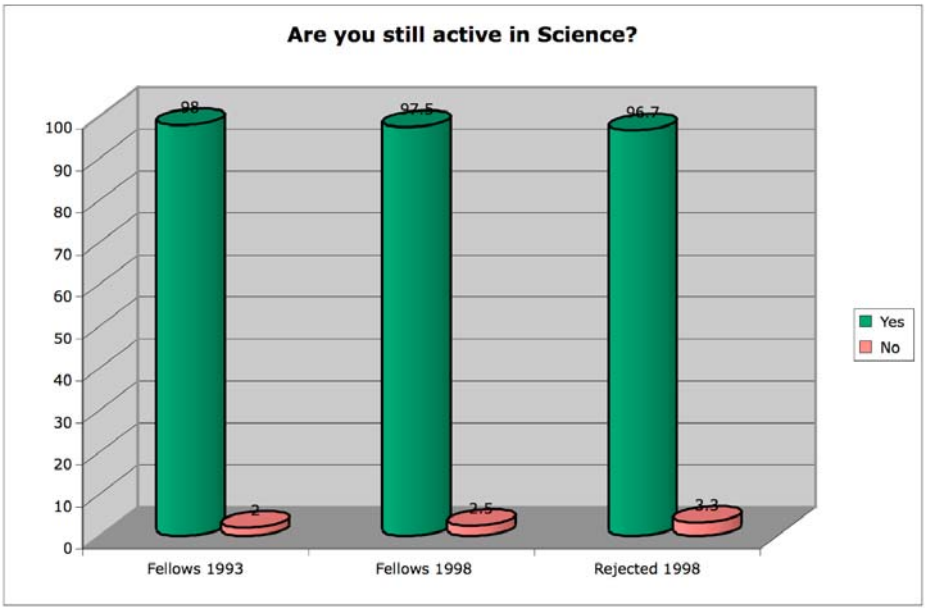

Figure 4: Current career status

Figure 4 also shows that there is almost no difference between EMBO Fellows selected in 1998 and those applicants who were not accepted in the programme. However, as pointed out earlier in the report, the response rate of applicants was significantly lower and it was not possible to obtain a valid address for 38% of rejected applicants. This might suggest that the percentage of applicants who left a scientific career might be higher than the data shown in Figure 4 is suggesting, particularly as the search tools used to locate applicants would have a low chance to find individuals that are not publishing.

In order to obtain information about the current scientific activity of all fellows and applicants who were evaluated in 1998 and not only from those who responded to the questionnaire, an in-depth search for publications was performed. The aim of this search was to determine in which year the last publications of fellows and rejected candidates were published in the scientific literature. This would indicate the date of their "drop-out" from academic research but cannot be equated with the end of their careers as many jobs open to fellows would not result in publications in the scientific literature. As shown in Figure 5, the percentage of rejected applicants who published in 2005 and 2006 is significantly lower compared to EMBO fellows. The opposite result is obtained for the years 1998 to 2004 when the percentage of applicants publishing their last article was always higher compared to EMBO Fellows. This is indeed indicating that more applicants who were rejected in 1998 left a career in academic science compared to the data presented in Figure 4 where no difference between fellows and applicants was observed.

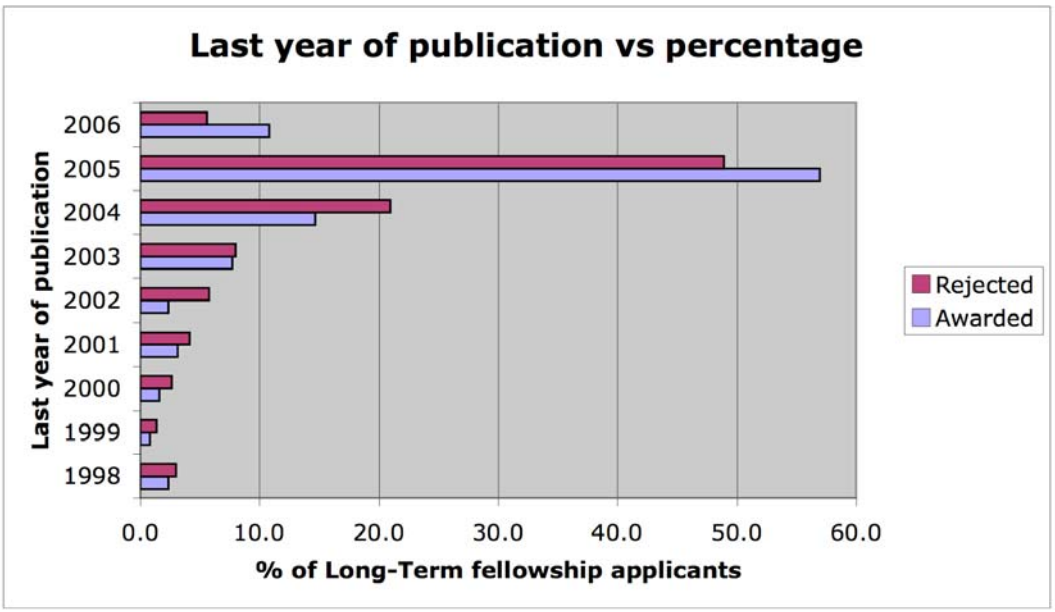

Figure 5: Last year of publication of awarded and rejected applicants

The majority of scientists who replied are currently working in academia. Around 90% of former fellows are currently pursuing a career in academic research institutions. A slightly higher proportion of the rejected applicants moved to

industry as compared to former EMBO Fellows (Figure 6). When asked for the reasons for leaving an academic environment, unclear career perspectives and unsatisfactory salary levels were mentioned as the main reason for the decision to move to industry.

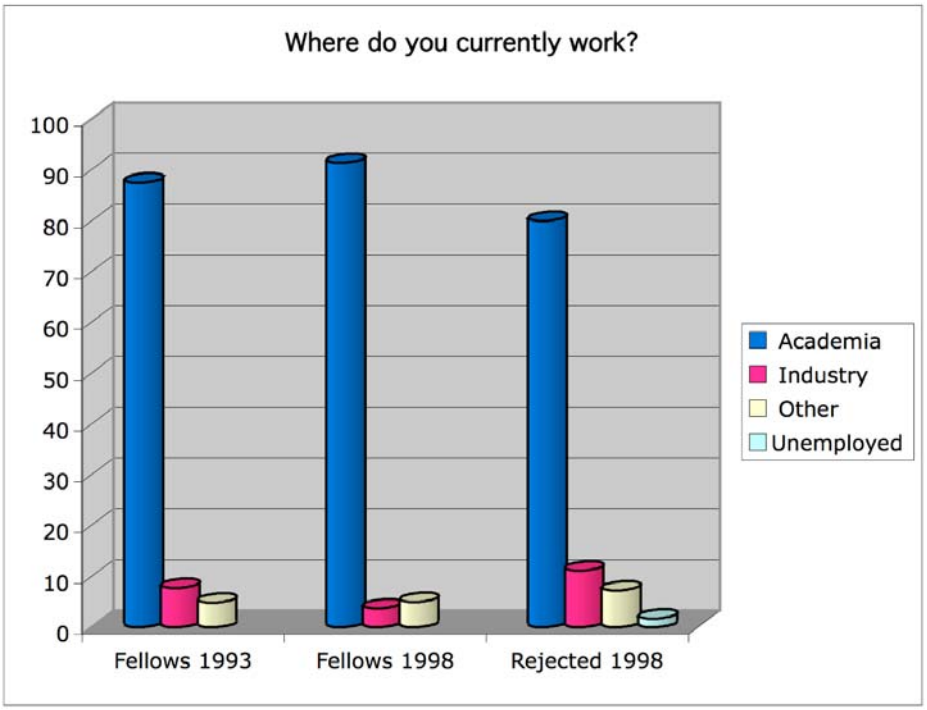

Figure 6: Current place of work

A crucial in every scientific career is the ability to secure a position as an independent researcher following the postdoctoral training period and to continue the career path as group leader, associate or full professor. Figures 7 A-C summarize the current career stages of the different groups in this survey.

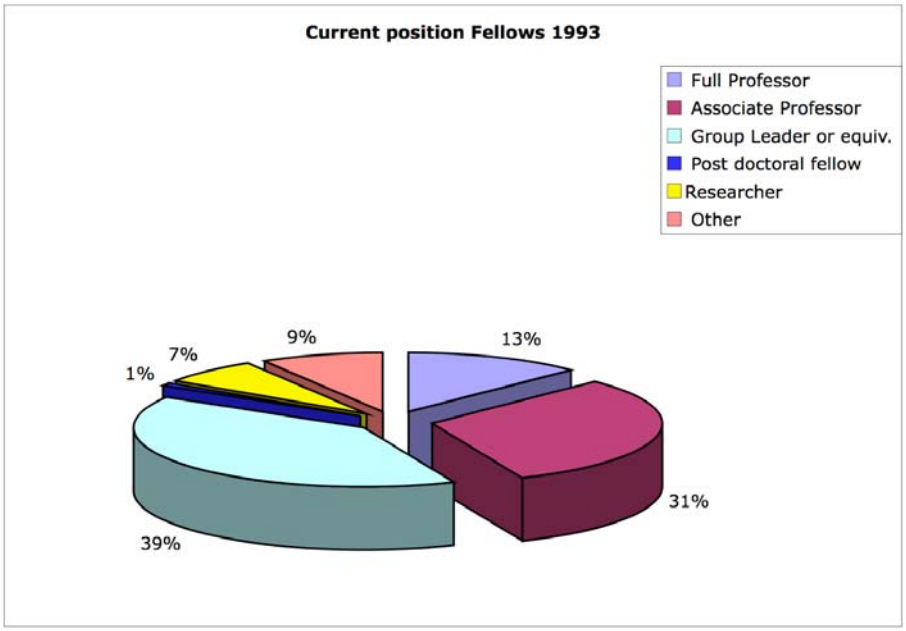

Figure 7A: Current positions of 1993 EMBO Fellows

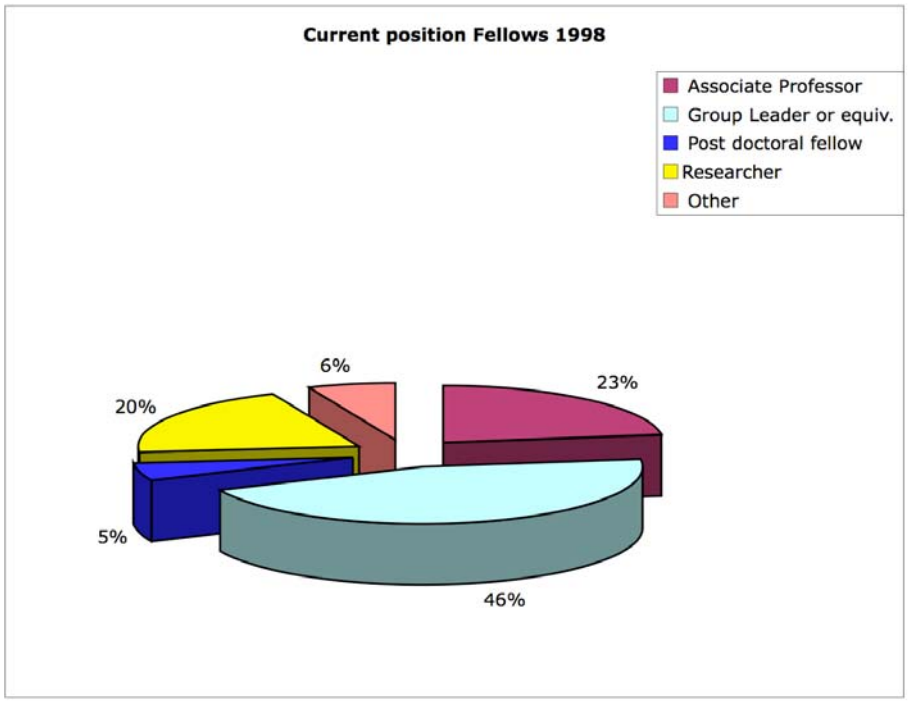

Figure 7B: Current positions of 1998 EMBO Fellows

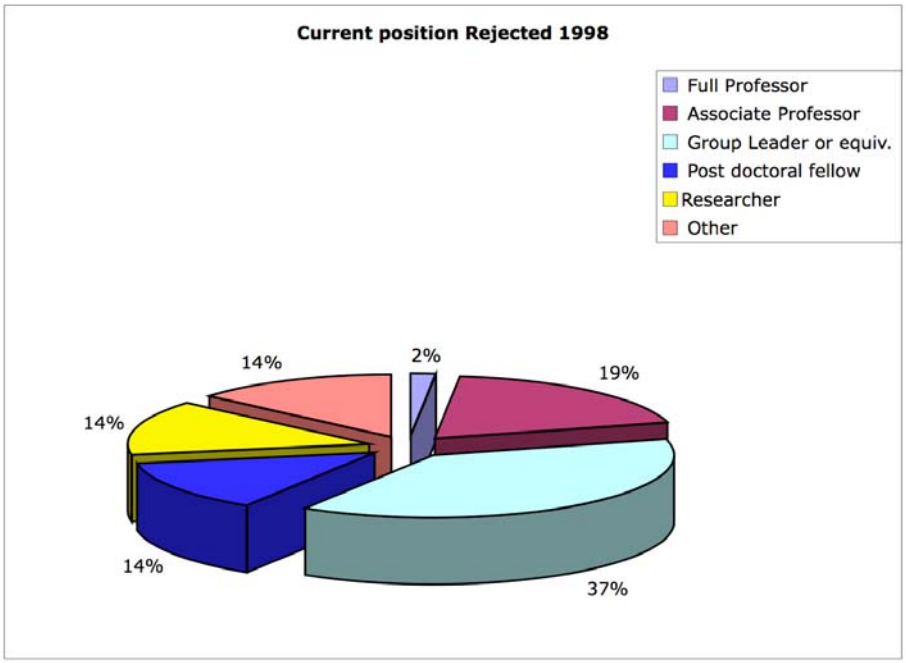

Figure 7C: Current positions of rejected applicants of 1998

One encouraging result is that the majority of 90% of 1993 EMBO Fellows are in permanent research positions with 13% being Full Professors, 31% Associate Professors, 39% group leaders and 7% occupying positions as permanent researchers or staff scientists. EMBO Fellows selected in 1998 were also very

successful in applying for permanent research positions since only 5% of them are still postdoctoral scientists five years after they completed their term as EMBO Fellows. The percentage of rejected applicants still holding postdoctoral is higher at 16%. However, two rejected applicants succeeded in obtaining a position as Full Professor. A direct comparison of the positions occupied by the three groups is provided in Figure 8.

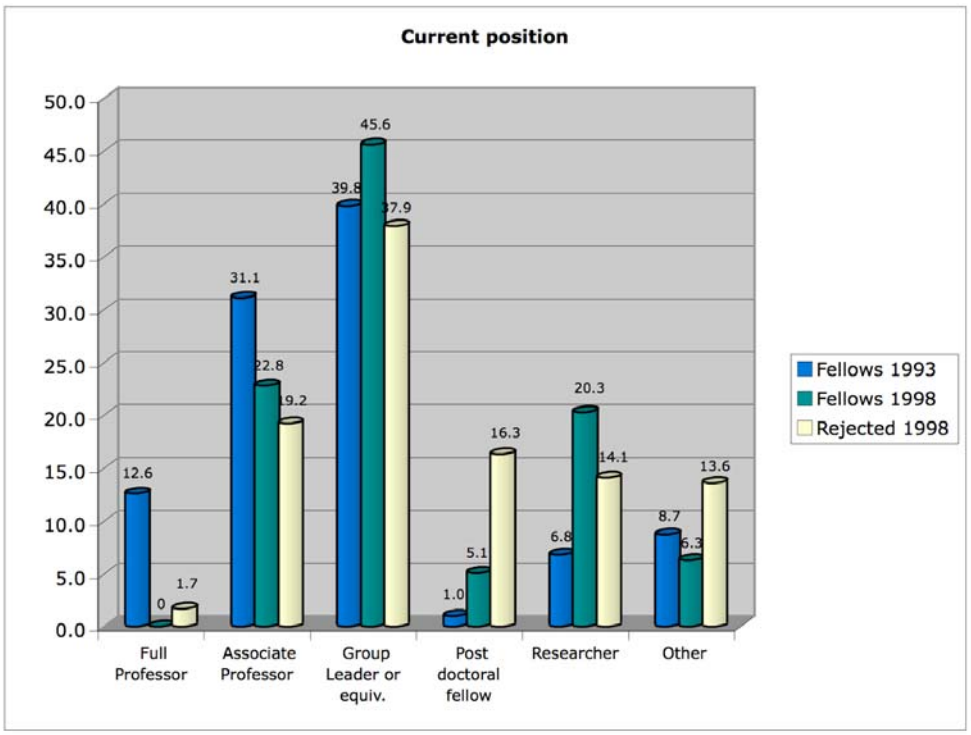

Figure 8: Comparison of current positions

Research in the life sciences became increasingly international over the last decades including a higher mobility between nations. This internationalisation is an important contributor to the promotion of life sciences in Europe and EMBO and the EMBC have been essential in this development. However, following a training period abroad, governments are interested to attract well trained young scientists back to their country of origin and to have them contributing to scientific excellence in their particular home country.
Figure 9 demonstrates that today more than 65% of scientists that went abroad with an EMBO Long-term Fellowship pursue their scientific career in there home country.

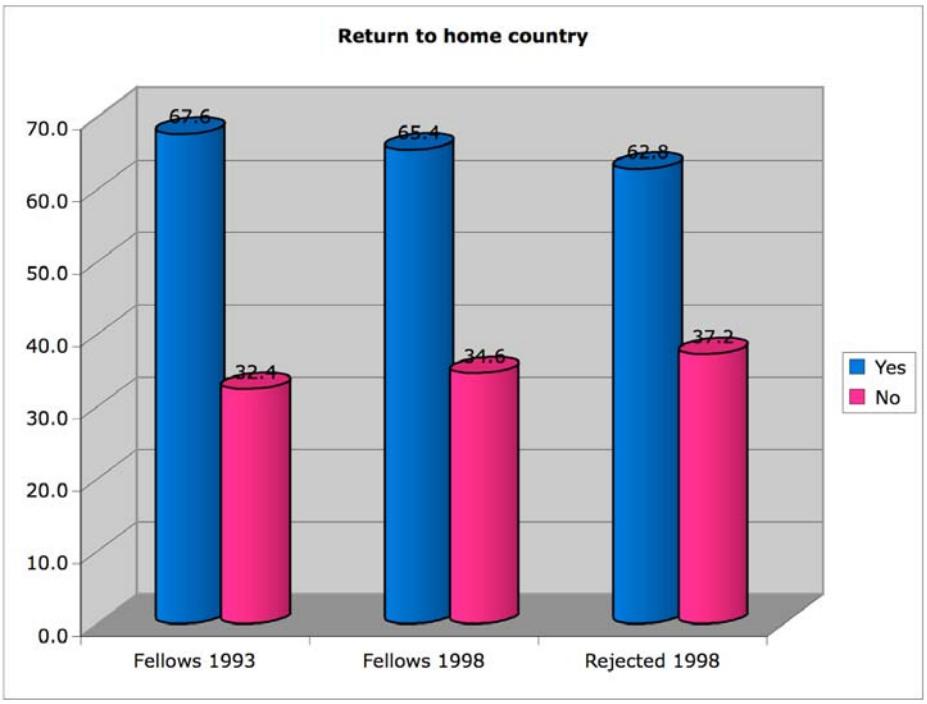

Figure 9: Return of EMBO Fellows to their home country

The Supervisor's View

The level of satisfaction with the host laboratory reported earlier is perfectly reflected by the opinions provided by the supervisors regarding the performance of the fellows in their laboratory. As shown in Figure 10, the vast majority of supervisors rated their EMBO fellows as outstanding or very good.

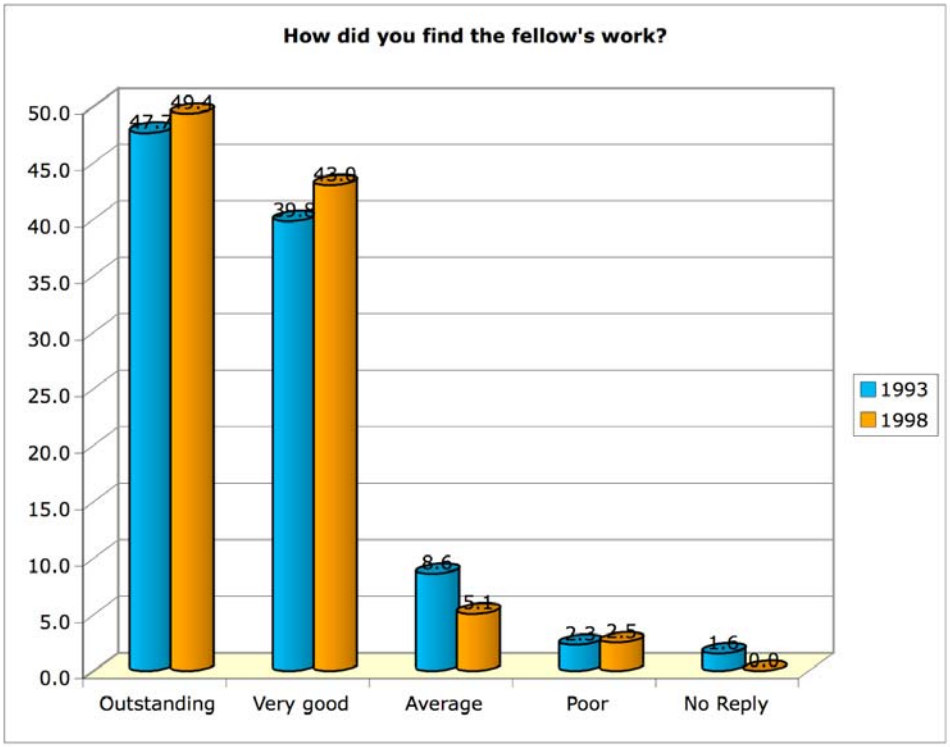

Figure 10: Performance of EMBO fellows as judged by the supervisor

Many supervisors also provided individual comments on their former fellows. Some examples are given below:

Miguel was the best postdoc I ever had in my lab. He was simply spectacular and has gone to set up his own lab in Spain…the EMBO Fellowship was instrumental in this process.

Heike was outstanding and did a body of work that dramatically influenced my lab.

He could have got an independent position in the UK but decided to return to Spain.

As a result of the work done with the fellowship, Lionel obtained a permanent position as a Professor. The cost of the fellowship was well invested.

Miklos was a truly exceptional postdoc and we have continued to collaborate over the years. After his return to Hungary, in collaboration with two other groups in the UK and USA, we obtained a joint HFSP grant that really helped Miklos financially and allowed him to establish relations with other prominent players in the field.

He has fulfilled all possible expectations, regarding both his contributions to the lab and his development as an independent scientist.

She was an outstanding postdoc and has continued successfully in her career. She is now a tenured scientist and group leader in Barcelona.

He was one of the most outstanding postdocs I ever had. His discovery and purification of the anaphase promoting complex is one of the signal accomplishments in the cell cycle field. There are over 600 papers on this subject. He represents the real success of the programme.

Axel has gone to set up a biotech company in Dundee to exploit the method he developed in my lab as a long term EMBO fellow.

Eldad was a superb postdoc and just started his own lab last year at the Weizmann Institute.

He is now a professor in his own country (Spain), so the EMBO fellowship was a valuable stepping stone in his career.

He made the important discovery of a new class of histone modification and developed new insight about how chromatin mediated silencing is regulated.

Very good to outstanding fellow with a too large tendency to do himself not following the suggestions by the supervisor.

She was the best postdoc I ever had. She was extremely bright, efficient and socially perfect.

He was an excellent member of our lab. His creativity and keen scientific mind were critical to our better understanding of the role of neuronal pentraxin in synapse formation. In addition he directly supervised the successful training of students and other fellows.

She quit her job very early and took a position as an editor after deciding that she wouldn't want to continue in academia.

After one year she went back to France where she was offered a position.

Although he mad a major discovery, his overall output was average given the long time he spent in my lab.

As demonstrated in Figure 11, the majority of former supervisor did not loose track of their EMBO fellows and are still in contact with them.

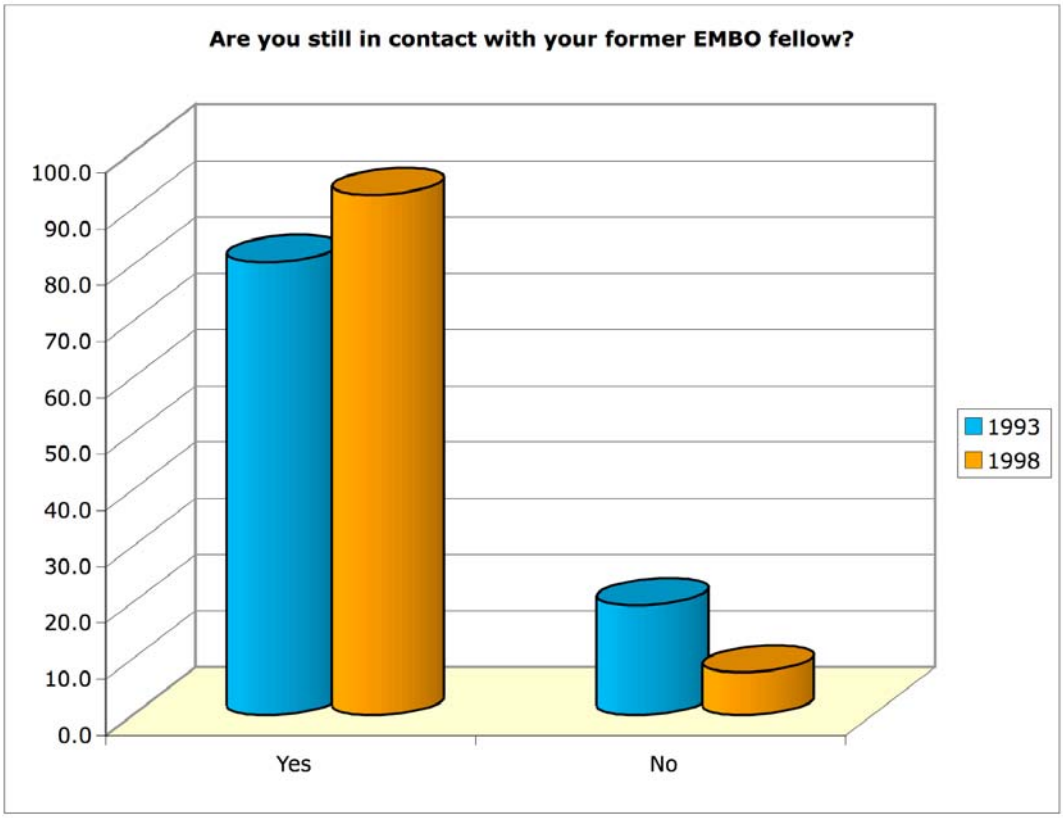

Figure 11: Contact between supervisors and fellows until 2005

All supervisors were also asked about their view on the EMBO Long-term fellowship scheme and their suggestions on how to improve the programme. Around 30% (1993: 28% / 1998: 33%) suggested changes in the programme.

Most supervisors felt that more fellowships should be provided in order to support more young scientist, followed by the proposal that a third year of funding should be provided. All individual suggestions are included in the Annex.

Interaction with EMBO and support by the organisation

Figures 12 provides information on the source of information where fellows learned about the opportunities provided by EMBO/EMBC.

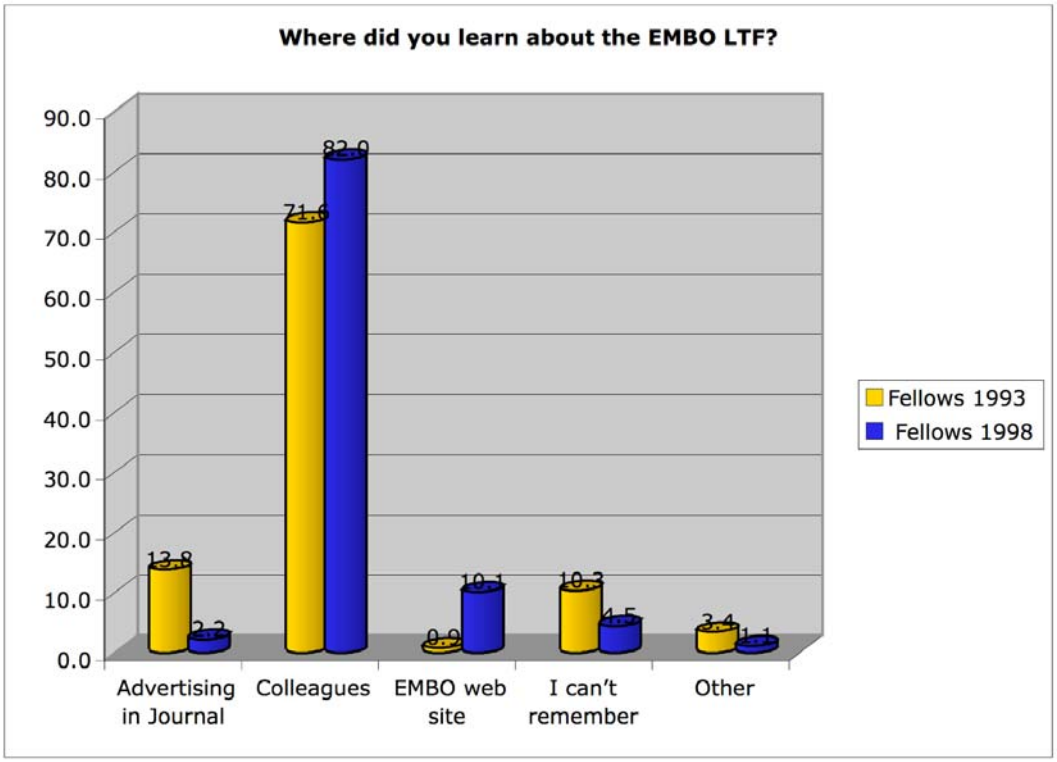

Figure 12: Awareness of the EMBO Fellowship Programme

The awareness about the fellowship programme in the scientific community was already high in 1993 when more than 70% learned about the programme from other colleagues. In 1998, this percentage increased to more than 80% while less fellows became aware about the programme through journal advertisements. Although not in existence in 1993, one fellow mentioned the EMBO webpage as source of information. In 1998, when the webpage was available, 10% of fellows became aware of the programme through this new service. Today, the EMBO website represents an essential source of information for candidates, probably to a lesser extend to become aware of the programme for the first time, but to retrieve detailed information about the conditions of the fellowship.

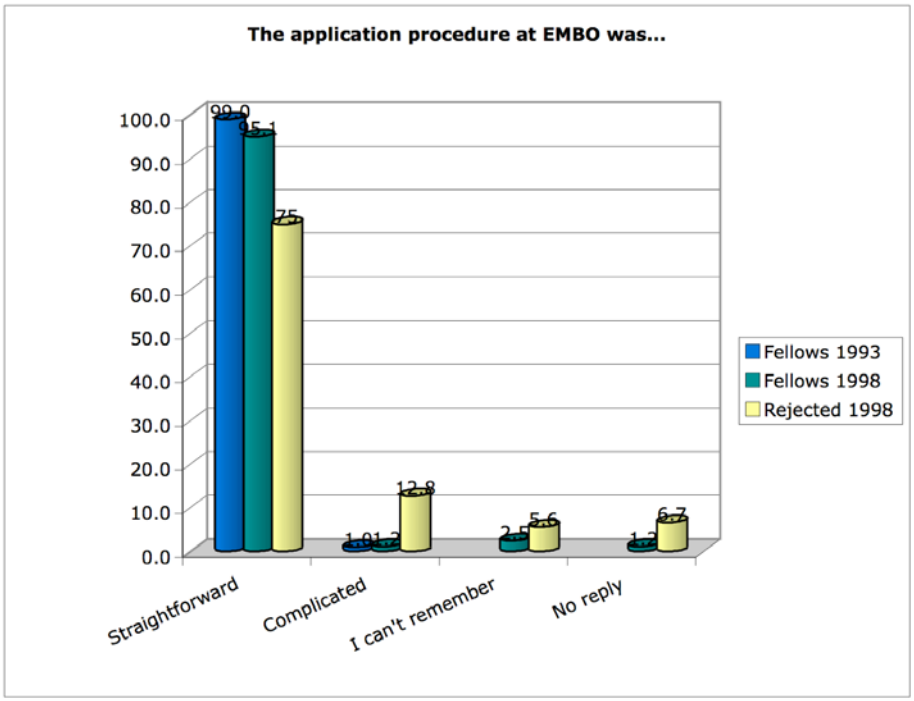

Figure 13: Application procedure

The straightforward, efficient and uncomplicated way that EMBO is praised for by the scientific community is also reflected in the opinions by the fellows about the application process. When asked about their experiences applying to the EMBO Long-term Fellowship, an impressive number of fellows felt that it was a straightforward process. Only one percent of fellows indicated that the application was complicated. The reason why, in contrast to the fellows, 12% of rejected applicants regarded the application procedure as complicated, is not easy to explain.

As equally important as the prestige of the EMBO Fellowship for young postdoctoral researchers are the conditions provided towards the fellow in order to support the postdoctoral stay abroad.

	1993	% 1993	1998	% 1998
Very good	51	48.6	36	44.4
Adequate	45	42.9	40	49.4
Poor	8	7.6	4	4.9
No reply	1	1.0	1	1.2

Table 5: Stipend and other support by EMBO

More than 90% of former fellows selected in 1993 and 1998 rated the support provided by EMBO/EMBC as adequate to very good. Those fellows who rated it as poor, commented that no bench fees were included or that the fellowship was inadequate for some locations within the USA where the living costs are very high.

For postdoctoral fellows abroad it is essential that the office of the organisation is reachable for questions and requests and that those are handled in an efficient way. The opinions of former fellows regarding their communication with the fellowship office are summarised in Figure 19.

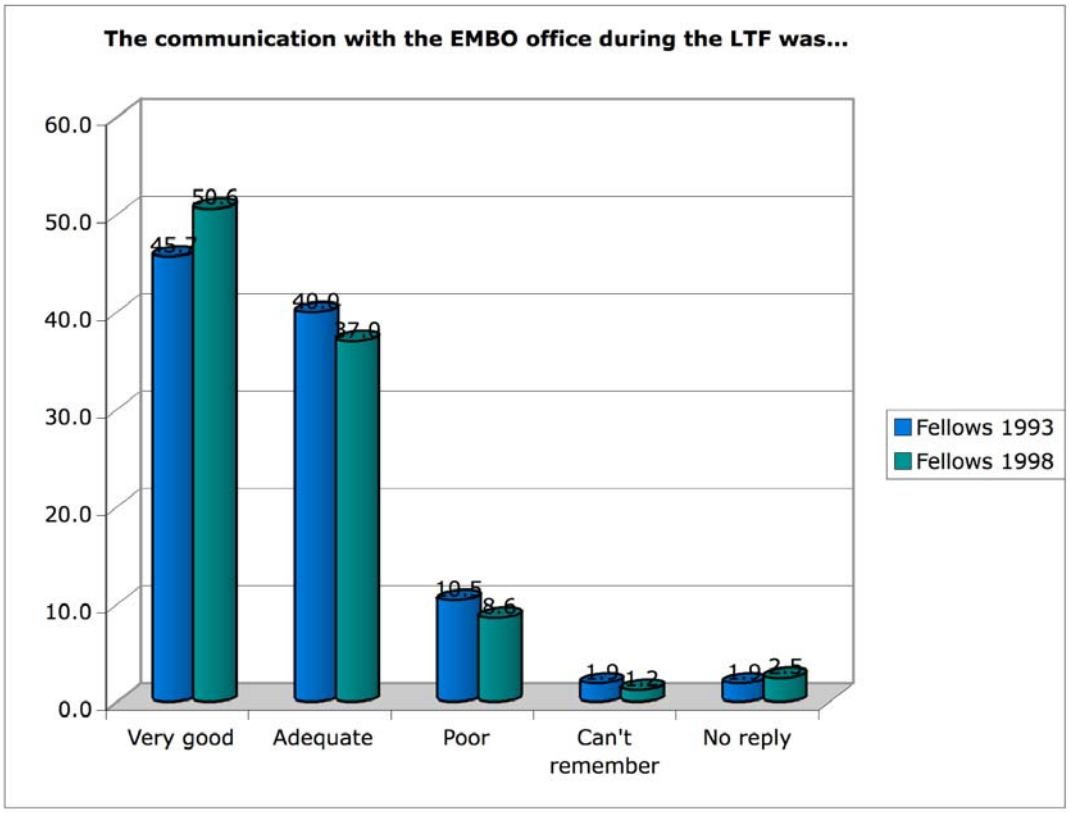

Figure 19: Communication with the EMBO office

Again, more than 90% of fellows selected in 1993 and 1998 had adequate or very good communications with the office. Those fellows who rated the communication as poor, stated in comments that the reason for that rating was the fact that no communication was necessary during their term as an EMBO Fellow.

The former fellows stayed in contact with EMBO over the years in many ways and participated in further activities of the organization. A detailed listing of their further involvement in EMBO activities can be found in the annex at the end of this report.

Annex: The complete questionnaires answered by EMBO fellows, applicants and supervisors

FELLOWS AWARDED

1. Are you still active in science?

	1993	% 1993	1998	% 1998
Yes	103	98	79	97.5
No	2	2	2	2.5
	105		81	

2. Where do you currently work?

	1993	% 1993	1998	% 1998
Academia	92	87.5	74	91.4
Industry	8	7.7	3	3.7
Other	5	4.8	4	4.9
Unemployed	-		-	
			81	

3. If you moved from research, which was the main reason?

1993 had to choose between science and writing

1998 to be involved in broader aspects of science

enjoy reading science more than doing it

4. If you are no longer in academia, why did you leave?

	1993	1998
Lost interest	3	1
Too competitive		1
Salary level unsatisfactory	2	1
Unclear career perspectives	3	1
Other		1

5. Which is your current position?

	1993	% 1993	1998	% 1998
Full Professor	13	12.6		

Associate Professor	32	31.1	18	22.8

Group Leader or equivalent	41	39.8	36	45.6
Post doctoral fellow	1	1.0	4	5.1
Researcher	7	6.8	16	20.3
Other	9	8.7	5	6.3
	103	100.0	79	100.0

6. What is your current area of research?

	1993	% 1993	1998	% 1998
Biochemistry	6		14	
Bioinformatics	1		3	
Biotechnology	2		2	
Botany	1		3	
Cancer/Oncology	8		11	
Cell Biology	25		25	
Develop biology	19		11	
Epidemiology	1		-	
Genetics	22		20	
Immunology	2		4	
Medicine	3		5	
Microbiology	6		3	
Molecular biology	24		12	
Neuroscience	9		8	
Pharmacology	3		2	
Physiology	2		-	
Structural biology	4		4	
Virology	3		3	
Zoology	1		1	
	142		131	

7. How long did you spend in total at the laboratory where you went with your EMBO fellowship?

	1993	1998
years	104 (av 3.4 yrs)	72 (av 3 yrs)
still at the host lab yrs	1(12)	9 (av 6.2)

8. Home country?

	1993	% 1993	1998	% 1998
Yes	71	67.6	53	65.4
No	34	32.4	28	34.6
			81	

9. If applicable, has your partner been able to find a position when you had moved?

	1993	% 1993	1998	% 1998
Yes	55	76.4	38	74.5
No	17	23.6	13	25.5
	72		51	

10. Is/was your partner also working in science?

	1993	% 1993	1998	% 1998
Yes	46	51.1	40	60.6
No	44	48.9	26	39.4
	90		66	

11. If yes, what is her/his position?

	1993	% 1993	1998	% 1998
Full Professor	1	2.2	-	
Associate Professor	7	15.2	5	12.5
Group Leader or equivalent	15	32.6	6	15.0
Post doctoral fellow	7	15.2	11	27.5
Researcher	3	6.5	9	22.5
Other	13	28.3	9	22.5
	46	100.0	40	100.0

12. Do you have children?

	1993	% 1993	1998	% 1998
Yes	81	77.1	55	68.8
No	24	22.9	25	31.3
	105		80	

How many children?

	1993	1998
Average	2	1.7

13. Did you already have children during your EMBO Fellowship?

	1993	% 1993	1998	% 1998
Yes	34	42.0	26	47.3
No	47	58.0	29	52.7
	81		55	

14. Where did you learn about EMBO fellowships?

	1993	% 1993	1998	% 1998
Advertising in Journal	16	13.8	2	2.2
Colleagues	83	71.6	73	82.0
EMBO web site	1	0.9	9	10.1
Sorry, I can't remember	12	10.3	4	4.5
Other	4	3.4	1	1.1
	116		89	

15. The application procedure for EMBO fellowships was:

	1993	% 1993	1998	% 1998
Straightforward	104	99.0	77	95.1
Complicated	1	1.0	1	1.2
Can't remember			2	2.5
No reply			1	1.2
Comments			81	
			1 suggest avoid yrs post doc limits	

16. Did you apply for a fellowship from a different organization?

	1993	% 1993	1998	% 1998
Yes	82	78.1	53	65.4
No	21	20.0	26	32.1
Can't remember	2	1.9		
Not replied			2	2.5

17. Did you receive an offer for funding from a different source?

	1993	% 1993	1998	% 1998
Yes	57	69.5	36	67.9
No	25	30.5	17	32.1
	82			

18. The stipend and other supports of the EMBO fellowship was:

	1993	% 1993	1998	% 1998
Very good	51	48.6	36	44.4
Adequate	45	42.9	40	49.4
Poor	8	7.6	4	4.9
No reply	1	1.0	1	1.2
	105		81	

19. How was the communication with the EMBO office during your fellowship?

	1993	% 1993	1998	% 1998
Very good	48	45.7	41	50.6
Adequate	42	40.0	30	37.0
Poor	11	10.5	7	8.6
Can't remember	2	1.9	1	1.2
No reply	2	1.9	2	2.5
	105		81	

20. Have you received further funding from EMBO?

	1993	% 1993	1998	% 1998
Yes	7	6.7	4	4.9
No	98	93.3	77	95.1
			81	

1993:1 unknown, 1 courses, 5 YIP

1998: 2 YIP, 1 Another LTF, 1 EMBO/HHMI grant

21. Have you received an EMBO short-term fellowship?

	1993	% 1993	1998	% 1998
Yes	12	11.4	8	9.9
No	93	88.6	73	90.1

22. Have you participated in an EMBO workshop/conference?

	1993	% 1993	1998	% 1998
Yes	54 (av 2)	51.9	36 (av 1.7)	44.4
No	51	48.6	45	55.6

23. Have you participated in an EMBO course?

1993	% 1993	1998	% 1998

Yes	16 (av 2)	15.2	13 (av 1.2)	16.0
No	89	84.8	68	84.0

24. Were you satisfied with the host laboratory to which you went as an EMBO fellow?

	1993	% 1993	1998	% 1998
Yes	101	96.2	71	87.7
No	4	3.8	9	11.1
No Reply			1	1.2
	105		81	

25. Are you still collaborating with the host laboratory?

	1993	% 1993	1998	% 1998
Yes	34	32.4	41	50.6
No	71	67.6	40	49.4
			81	

26. Did you continue to work on projects initiated during your postdoctoral stay after leaving the host laboratory?

	1993	% 1993	1998	% 1993
Yes	60	57.1	51	63.0
No	41	39.0	30	37.0
No Reply	4	3.8		

27. Number of publications you had in the host laboratory?

	1993	1998
Average	6	4.3

28. Your total number of publications:

	1993	1998
Average	28.7	19.9

29. Number of publications that resulted from EMBO support:

	1993	1998
Average	3	2.8

31. Your EMBO supported postdoctoral period allowed you to:

	1993	% 1993	1998	% 1998

Work in a leading laboratory	87	32.6	62	30.1
Work independently in the host laboratory	52	19.5	51	24.8
Start international collaborations	24	9.0	22	10.7
Change country	53	19.9	34	16.5
Change research area	42	15.7	32	15.5
Others	9	3.4	5	2.4
	267		206	

32. How did the EMBO-supported postdoctoral stay in the host laboratory influence your further career?

	1993	% 1993	1998	% 1998
Stronger publication list	74	31.0	52	30.4
Job offer	42	17.6	28	16.4
Learned & appreciated a different culture	44	18.4	37	21.6
Established collaborations that lasted	42	17.6	24	14.0
Networking	30	12.6	21	12.3
Others	7	2.9	9	5.3
	239		171	

APPLICANTS 1998 Rejected or withdrawn

1. Are you still active in science?

	1998	Rejected	% Rejected	Withdrawn
Yes	185	174	96.7	11
No	7	6	3.3	1
		180		

2. Where do you currently work?

	1998	Rejected	% Rejected	Withdrawn
Academia	155	144	80.0	11
Industry	20	20	11.1	
Other	14	13	7.2	1
Unemployed	3	3	1.7	
		180		12

3. If you are no longer in academia, why did you leave?

	1998	Rejected	Withdrawn
Lost interest	5	4	1
Too competitive	3	3	
Salary level unsatisfactory	9	9	
Unclear career perspectives	23	22	1
Other	4	4	

4. Which is your current position?

	1998	Rejected	% Rejected	Withdrawn
Full Professor	3	3	1.7	
Associate Professor	35	34	19.2	1
Group Leader or equivalent	73	67	37.9	6
Post doctoral fellow	26	24	13.6	2
Researcher	26	25	14.1	1
Other	26	24	13.6	2
		177		12

5. Did you move to the laboratory you applied to go to with the EMBO fellowship?

	total	Rejected	% Rejected	Withdrawn
Yes	158	149	82.8	9
No	34	31	17.2	3
	192	180		

Moved abrod to another Host Lab

	total	% total	Rejected	% Rejected	Withdrawn
Yes	17	50.0	16	51.6	2
No	12	35.3	11	35.5	1
Unknown	5	14.7	4	12.9	0
	34		31		3

Moved Abroad to another Host Lab

Yes	Associate Professor		4
	Group Leader or equivalent		5
	Other		3

	Researcher	3
	Unemployed	1
	total	**16**
No	Full Professor	1
	Group Leader or equivalent	6
	Other	3
	Post doctoral fellow	1
	total	**11**
Unknown	Associate Professor	1
	Group Leader or equivalent	1
	Other	1
	Researcher	1
	total	**4**

6. Could you please specify the source of funding?

	1998	Rejected	Withdrawn
ARC	3	3	
BBSRC	1	1	
Cancer Research UK	1	1	
DAAD	1	1	
DFG	8	8	
FEBS	4	3	1
Fritz-Thyssen-Stiftung	1	1	
HFSP	22	20	2
Internal Institute Funding	21	21	
Leukemia & Lymphoma Soc.	1	1	
Marie-Curie Fellowship	23	21	2
MRC	4	4	
my own money!	1	1	
Other National Funding	35	34	1
NATO	1	1	
NIH	7	7	
NWO	2	2	
Pharmaceutical Co	1	1	

Rothschild Fellowship	1	1	
SNF	5	5	
The Wellcome Trust	4	3	1
No reply	2		2
	149	140	9

7. Home country?

	1998	Rejected	% Rejected	Withdrawn
Yes	118	113	62.8	5
No	74	67	37.2	7
	192	180		

8. The application procedure for EMBO fellowships was:

	1998	Rejected	% Rejected	Withdrawn
Straightforward	146	135	75.0	11
Complicated	24	23	12.8	1
Can't remember	10	10	5.6	
No reply	12	12	6.7	
	192	180		12

9. Have you applied further funding from EMBO?

	1998	Rejected	% Rejected	Withdrawn
Yes	18	17	9.4	1
No	172	161	89.4	11
No reply	2	2	1.1	
Rej: 12 YIP, 1 courses, 2 LTF		180		12
With: 1 LTF				

10. Have you received an EMBO short-term fellowship?

	1998	Rejected	% Rejected	Withdrawn
Yes	14	13	7.2	1
No	175	164	91.1	11
No reply	3	3	1.7	
	192	180		

11. Have you participated in an EMBO workshop/conference?

	1998	Rejected	% Rejected	Withdrawn
Yes	46	44 (av 1.7)	24.4	2 (av 1.5)
No	144	134	74.4	10
No reply	2	2	1.1	
	192			

12. Have you participated in an EMBO course?

	1998	Rejected	% Rejected	Withdrawn
Yes	30	30 (av 1.2)	16.7	
No	157	145	80.6	12
No reply	5	5	2.8	
	192			

13. Were you satisfied with the host laboratory for which you applied to go to with the EMBO fellowship?

	1998	Rejected	% Rejected	Withdrawn
Yes	142	133	73.9	9
No	11	11	6.1	
NA	35	32	17.8	3
No reply	4	4	2.2	
	192	180		

14. Are you still collaborating with this host laboratory?

	1998	Rejected	% Rejected	Withdrawn
Yes	84	82	45.6	2
No	70	63	35.0	7
NA	32	29	16.1	3
No reply	6	6	3.3	
	192	180		

15. Publications resulting from your postdoctoral period:

	1998	Rejected	Withdrawn
Average	4.8	4.8	4.3

16. Your total number of publications:

	1998	Rejected	Withdrawn
Average	16.1	16.1	15.6

SUPERVISORS

1. Are you still in contact with your former EMBO fellow?

	1993	1998	total	% 93	% 98	% tot
Yes	103	73	176	80.5	92.4	85.0
No	25	6	31	19.5	7.6	15.0
	128	79	207			

3. Number of publications arising from the fellowship

	1993	1998	total			
Average	3.7	2.8	3.3			

4. Number (if any) of patents arising from the fellowship:

	1993	1998	total
Number (av)	7 (av 1.4)	3 (av 1.3)	10 (av 1.4)

5. How did you find the fellow's work?

	1993	1998	total	% 93	% 98	% tot
Outstanding	61	39	100	47.7	49.4	48.3
Very good	51	34	85	39.8	43.0	41.1
Average	11	4	15	8.6	5.1	7.2
Poor	3	2	5	2.3	2.5	2.4
No Reply	2		2	1.6	0.0	1.0
	128	79	207			

6. Was your interaction with EMBO satisfactory?

	1993	1998	total	% 93	% 98	% tot
Yes	120	75	195	93.8	94.9	94.2
No		2	2		2.5	1.0

No Reply	8	2	10	6.3	2.5	4.8

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1. Have you suggestions on changes that should be made to the EMBO LTF program?

	1993	1998	total	% 93	% 98	% tot
Yes	36	26	62	28.1	32.9	30.0
No	92	53	145	71.9	67.1	70.0

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	1993	1998	total
more fellowships	11	7	18
3 years funding	11	6	17
expand the program	5		5
supplemental funds (running costs)	2	1	3
additional support after LTF to the best ones	1	2	3
Europe should increase EMBO budget instead of EC action	1	1	2
increase the amount of the fellowship	1	1	2
it might reject excellent candidate too competitive		2	2
awarding 2yrs automatically		1	1
consider e-interview when hi costs and outstanding application		1	1
always fund 2yrs even if 1 yr already at RI		1	1
feedback from the lab after 1st year		1	1
fund PhD fellowships in US		1	1
less fellowships outside EMBC (US)	1		1
more fellowships to work in the US	1		1
national tax department will tax fellowship		1	1
no interview to save money and have more fellowship		1	1
no mobility required		1	1
no time limit for US	1		1

possibility to foreigner to apply same country for 1 yr	1		1
support to Easter EC Countries	1		1
too much power to the interviewer, better 2 opinions		1	1