

Annual Award Report to HFSP Members

Singapore FY 2024-2025

(1 April 2024 - 31 March 2025)

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1 Executive summary

General

The HFSP Board of Trustees approved the following awards for 2024:

- 34 Research Grants out of a total of 711 eligible Letters of Intent and 100 Full Proposals (34%). Of those awarded, 25 were Research Grants-Program and 9 were Research Grants-Early Career. The success rate of HFSP Research Grants in 2024: 4.8%
- 59 Postdoctoral Fellowships out of a total of 535 Letters of Intent and 107 Full Proposals (55%). Of those awarded, 48 were Long-Term Fellowships and 11 were Cross-Disciplinary Fellowships. The success rate of HFSP Fellowships in 2024: 11%

Singapore

With awards starting in 2024, HFSP will support:

- One Singaporean scientist who was awarded a Long-Term Fellowship to work in Germany.

For awards in previous years, see *Chapter 4 Singapore 1990-2024*

2 Introduction to HFSP programs

The International Human Frontier Science Program Organization (HFSP) funds an international program of research support for frontier research on the complex mechanisms of living organisms through the Human Frontier Science Program (HFSP). Research is funded at all levels of biological complexity from biomolecules to the interactions between organisms.

Key elements of HFSP's mission are to support innovative, cutting edge research at the frontiers of the life sciences, to encourage high risk research, to promote international collaboration in the spirit of science without borders, and to support early career researchers.

HFSP schemes are highly competitive, but also highly prestigious. This prestige, together with the fact that the schemes provide researchers with unique opportunities to work collaboratively across all countries and disciplines, attracts many outstanding applications each year.

HFSP Research Grants (Research Grants-Program and Research Grants-Early Career) provide 3 years of support for international teams involving at least two countries. Preference is given to intercontinental collaborations (rather than all N. American or all European teams). All team members are expected to broaden the character of their research compared to their ongoing research programs and interact with teams bringing expertise that is very different from their own so as to create novel approaches to problems in fundamental biology. All members of a Research-Grant Early Career team must be within 5 years of establishing their independent research group and no more than 10 years from their doctoral degree. Research Grant-Program teams may consist of team members at any stage of their career as independent investigators. Each grant is an award to at least two researchers from different countries. Furthermore, HFSP expects that by creating new exchanges, these international interactions will lead to innovative projects.

There is a single annual competition for HFSP Research Grants and a full description of the review process is available at:

https://www.hfsp.org/funding/hfsp-funding/research-grants#review_procedures

HFSP Fellowships support innovative, ground-breaking projects that have the potential to advance knowledge in the applicants' field of study or open a new approach to a research problem. High risk research is supported.

Long-Term Fellowships support applicants with a degree in the life science to obtain training in a new area of research in an outstanding laboratory of their choice in another country. *Cross-Disciplinary Fellowships* are intended for postdoctoral fellows with a degree outside the life sciences (e.g. physical sciences, chemistry, mathematics, engineering or computer sciences) who wish to receive training in biology. HFSP Fellows receive 3 years of support to obtain training in an outstanding laboratory of their choice in another country. The annual competition for HFSP Fellowship awards is explained in detail at <http://www.hfsp.org/funding/postdoctoral-fellowships>.

3 Awards in 2024 for Singapore

HFSP support provided to Singaporean and non-Singaporean scientists working in Singaporean laboratories, and Singaporean scientists working abroad.

3.1. Overview

Fellowships

Number of fellowships awarded to Singaporean applicants:

Long-Term Fellowships	1
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3.2 Fellowships 2024

Fellowships awarded to Singaporean applicants

Long-Term Fellowships

TAN Yi Han Singapore	From	National University of Singapore Singapore Singapore	<i>Understanding the host-microbe arms race through the TLR5- flagellin axis</i>
	To	Max Planck Institute for Biology Tübingen Tübingen Germany	
			Supervisor: LEY Ruth

4 Singapore 1990-2024

This section summarizes Singapore's involvement in HFSP funded research projects in 2024 and integrates a historical perspective with running totals over the last 10 years.

4.1 HFSP Research Grants

The table below lists the number of Singaporean based scientists at the Letter of Intent (LI) stage and those scientists who participated in a Full Proposal. The data shown in the table express the status at the time of submitting the application to HFSP. Scientists may have moved their laboratory to a different country in the years after receiving HFSP support.

different country in the years after receiving HFSP support.

	Letters of Intent (LI)		Full Proposals (FP)		Awardees (AW)	
Year	All team members	Singapore based scientists	All team members	Singapore based scientists	Total Awarded	Awardees based in Singapore
1990-2014	28944*	121	17891+	29	3606	8
2015	3092	24	252	2	98	1
2016	2604	71	272	7	100	2
2017	3208	45	252	3	98	0
2018	2321	35	251	5	102	4
2019	2394	44	268	7	105	1
2020	2051	39	256	4	86	0
2021	2062	30	292	3	94	1
2022	2032	28	206	0	100	0
2023	1672	21	247	2	107	0
2024	1978	31	313	5	108	0
Total	52358	489	20500	67	4604	17

*there were no Letters of Intent in the application process before 2001

+ for 1990/91, there is no information available on the number of applicants

The table below lists the number of teams including Singapore based scientists in the last 10 years.

	Letters of Intent (LI)	Full Proposals (FP)	Awardees (AW)	Success rate based on Lis (%)	Success rate based on FPs (%)	Total Awarded teams
Year	Teams with member (s) in Singapore	Teams with member (s) in Singapore	Teams with member (s) in Singapore			
2015	24	2	1	4,2	50,0	31
2016	64	6	2	3,1	33,3	32
2017	41	3	0	0,0	0,0	30
2018	33	5	4	12,1	80,0	31
2019	42	7	1	2,4	14,3	34
2020	38	4	0	0,0	0,0	28
2021	27	3	1	3,7	33,3	28
2022	28	0	0	0,0	0,0	32
2023	21	2	0	0,0	0,0	34
2024	31	5	0	0,0	0,0	34

4.2 HFSP Postdoctoral Fellowships

The table below shows the number of fellowship applications reviewed and awards granted to Singaporean applicants and the number of fellowships applied for and carried out in Singapore.

Award year	Singaporean fellowship applicants	Total applicants	Singaporean fellowship awardees	Total awards	Singapore as proposed host country by fellowship applicants	Singapore as host country of HFSP fellows
1990-2014*	34	16,150	3	2,844	23	0
2015	2	788		75	1	1
2016	5	697	1	75	8	
2017	4	776	1	72	8	
2018	2	588		90	7	
2019	1	580		82	4	2
2020	4	544		65	5	1
2021	3	665		56	5	
2022	1	493		65	7	
2023	5	429	1	50	2	
2024**	3	535	1	59	6	
Total	64	22,245	7	3,533	76	4

* The number of candidates from and to Singapore for award year 1990 to 1992 is not available.

** The figures for 2024 reflect the awards approved by the Board of Trustees in March 2024 and may be subject to change.

5 International distribution of 2024 awards

As last year, this section shows tabular breakdown according to country (location of laboratory), nationality and host country (of HFSP fellowship holders) for 2024 Awards.

In addition, this year, new figures present a country comparison for the complete record and the last 10 years of HFSP awards for MSP and a separate presentation for the awardees in or from European countries.

5.1 Research Grants 2024

34 grants were awarded (25 Research Grants-Program and 9 Research Grants-Early Career). Each grant is an award to at least two researchers from different countries. The Principal Investigator is responsible for submitting the application and coordinating the collaboration.

The countries in which the 34 Principal Investigators and the 74 co-applicants work are shown in Table I, together with the total number of applications. Their nationalities are shown in Table II.

Table I Applicants / Awardees listed by COUNTRY - Research Grants

<i>RG-P= Program</i> <i>RG-EC= Early Career</i>	Letters of Intent*			Full Proposals			Awardees		
	RG-P	RG-EC	TOTAL	RG-P	RG-EC	TOTAL	RG-P	RG-EC	TOTAL
Australia	67	5	72	8	1	9	3	0	3
Canada	76	18	94	10	2	12	3	1	4
EU	262(a)	66(a)	328(a)	40(b)	13(b)	53(b)	11(c)	5(c)	16(c)
France	105	6	111	20	1	21	9	0	9
Germany	148	28	176	21	3	24	7	2	9
India	41	9	50	5	0	5	0	0	0
Israel	69	14	83	19	1	20	8	0	8
Italy	64	10	74	5	1	6	1	0	1
Japan	95	12	107	13	3	16	4	2	6
Korea	8	5	13	1	0	1	0	0	0
New Zealand	6	0	6	1	0	1	1	0	1
Norway	22	3	25	2	1	3	0	1	1
Singapore	28	3	31	5	0	5	0	0	0
South Africa	10	7	17	2	1	3	0	1	1
Switzerland	45	5	50	6	1	7	1	0	1
UK	144	24	168	31	9	40	12	6	18
USA	371	87	458	62	14	76	20	7	27
Non MSPs	92(a')	23(a')	115(a')	8(b')	3(b')	11(b')	2(c')	1(c')	3(c')
TOTAL	1653	325	1978	259	54	313	82	26	108

*Eligible Letters of Intent

(a) EU Letters of Intent

RG-P: Austria 18, Belgium 15, Czech Republic 16, Denmark 20, Estonia 2, Finland 4, Greece 2, Hungary 3, Ireland 9, Malta 1, Netherlands 54, Poland 5, Portugal 17, Romania 2, Slovakia 1, Slovenia 3, Spain 60, Sweden 30.

RG-EC: Austria 5, Belgium 5, Czech Republic 1, Denmark 4, Estonia 1, Finland 1, Greece 2, Ireland 3, Netherlands 17, Portugal 5, Slovakia 1, Slovenia 1, Spain 14, Sweden 6.

(b) EU Full Proposals

RG-P: Austria 3, Belgium 4, Czech Republic 2, Denmark 3, Hungary 1, Ireland 2, Netherlands 8, Poland 2, Portugal 4, Slovenia 1, Spain 7, Sweden 3.

RG-EC: Austria 1, Belgium 1, Netherlands 6, Spain 4, Sweden 1.

(c) EU Awardees

RG-P: Austria 1, Belgium 1, Denmark 1, Netherlands 1, Portugal 1, Spain 5, Sweden 1.

RG-EC: Netherlands 2, Spain 2, Sweden 1.

(a') Non MSPs Letters of Intent

RG-P: Argentina 10, Brazil 14, Cameroon 1, Chile 10, China 14, Colombia 5, Costa Rica 1, Cuba 1, DR Congo 1, Ethiopia 1, Ghana 2, Malaysia 1, Mexico 4, Nigeria 1, Pakistan 2, Panama 1, Peru 1, Serbia 1, Taiwan 5, Tunisia 1, Turkey 6, Uganda 1, United Arab Emirates 3, Uruguay 4, Vietnam 1.

RG-EC: Argentina 1, Bangladesh 1, Botswana 1, Brazil 2, Cameroon 1, Chile 1, China 5, Ethiopia 1, Kenya 1, Lebanon 1, Mexico 1, Taiwan 2, Thailand 1, Uganda 1, United Arab Emirates 2, Zimbabwe 1.

(b') Non MSPs Full Proposals

RG-P: Argentina 2, Chile 1, China 4, Uruguay 1.

RG-EC: Ethiopia 1, Hong Kong 1, Taiwan 1.

(c') Non MSPs Awardees

RG-P: Argentina 1, China 1.

RG-EC: Ethiopia 1.

Table II Applicants / Awardees listed by NATIONALITY - Research Grants

<i>RG-P= Program</i> <i>RG-EC= Early Career</i>	Letters of Intent*			Full Proposals			Awardees		
	RG-P	RG-EC	TOTAL	RG-P	RG-EC	TOTAL	RG-P	RG-EC	TOTAL
Australia	52	6	58	3	1	4	1	0	1
Canada	74	22	96	11	5	16	2	2	4
EU	290(a)	65(a)	355(a)	49(b)	11(b)	60(b)	11(c)	6(c)	17(c)
France	91	13	104	16	1	17	7	0	7
Germany	153	24	177	21	2	23	9	1	10
India	59	24	83	14	4	18	3	0	3
Israel	74	16	90	19	1	20	8	0	8
Italy	106	18	124	12	5	17	4	2	6
Japan	101	10	111	16	2	18	5	1	6
Korea	10	4	14	1	0	1	0	0	0
New Zealand	10	0	10	3	0	3	2	0	2
Norway	7	2	9	0	1	1	0	1	1
Singapore	11	2	13	1	0	1	0	0	0
South Africa	8	6	14	1	2	3	0	2	2
Switzerland	28	4	32	3	0	3	1	0	1
UK	94	11	105	18	3	21	9	3	12
USA	317	57	374	51	12	63	15	6	21
Non MSPs	163(a')	41(a')	204(a')	19(b')	4(b')	23(b')	4(c')	2(c')	6(c')
TOTAL	1653**	325	1978**	259**	54	313**	82**	26	108**

*Eligible Letters of Intent, **Unknown nationalities: 5 RGP for letters of Intent and 1 RG-P for full proposals and awards

(a) EU Letters of Intent

RG-P: Austria 13, Belgium 17, Bulgaria 1, Croatia 3, Cyprus 1, Czech Republic 12, Denmark 13, Estonia 2, Finland 7, Greece 12, Hungary 10, Ireland 13, Malta 1, Netherlands 45, Poland 10, Portugal 20, Romania 5, Slovakia 4, Slovenia 3, Spain 76, Sweden 22.
RG-EC: Austria 3, Belgium 2, Croatia 2, Czech Republic 1, Denmark 3, Greece 6, Hungary 1, Ireland 5, Netherlands 9, Poland 1, Portugal 5, Slovakia 1, Slovenia 2, Spain 21, Sweden 3.

(b) EU Full Proposals

RG-P: Belgium 2, Croatia 1, Czech Republic 1, Denmark 3, Finland 2, Greece 4, Hungary 1, Ireland 4, Netherlands 8, Poland 2, Portugal 6, Slovenia 1, Spain 11, Sweden 3.
RG-EC: Czech Republic 1, Netherlands 3, Poland 1, Spain 6.

(c) EU Awardees

RG-P: Belgium 1, Denmark 2, Portugal 2, Spain 5, Sweden 1.
RG-EC: Czech Republic 1, The Netherlands 2, Spain 3.

(a') Non MSPs Letters of Intent

RG-P: Albania 1, Argentina 16, Belarus 1, Brazil 22, Cameroon 1, Chile 10, China 30, Colombia 8, Costa Rica 1, Cuba 1, DR Congo 1, Egypt 1, Ethiopia 1, Ghana 2, Iceland 1, Indonesia 1, Iran 1, Madagascar 1, Malaysia 5, Mexico 6, Nigeria 3, Pakistan 3, Panama 1, Papua New Guinea 1, Peru 2, Russia 7, Senegal 1, Serbia 1, Taiwan 5, Thailand 1, Tunisia 1, Turkey 13, Uganda 1, Ukraine 4, United Arab Emirates 1, Uruguay 3, Vietnam 4.
RG-EC: Algeria 1, Argentina 4, Bangladesh 1, Brazil 3, Cameroon 2, Chile 1, China 10, Ethiopia 1, Kenya 2, Lebanon 1, Macedonia 1, Malaysia 1, Mexico 2, Russia 2, Taiwan 3, Thailand 1, Uganda 1, Vietnam 1, Zimbabwe 3.

(b') Non MSPs Full Proposals

RG-P: Argentina 3, Chile 1, China 4, Colombia 1, Egypt 1, Madagascar 1, Malaysia 2, Russia 2, Turkey 1, Ukraine 2, Uruguay 1.
RG-EC: Algeria 1, Ethiopia 1, Russia 1, Taiwan 1.

(c') Non MSPs Awardees

RG-P: Argentina 2, Madagascar 1, Russia 1.
RG-EC: Ethiopia 1, Russia 1.

Fig. 1: Number of Research Grant applicants 1992-2024 and in the last ten years (2015-2024) (upper panel) and Research Grant awardees 1990-2024 and 2015-2024 (lower panel) by country where the research laboratory was located (until 2001 Research Grants were evaluated in single step of Full Proposals but as of 2002 the numbers represent submitted Letters of Intent).

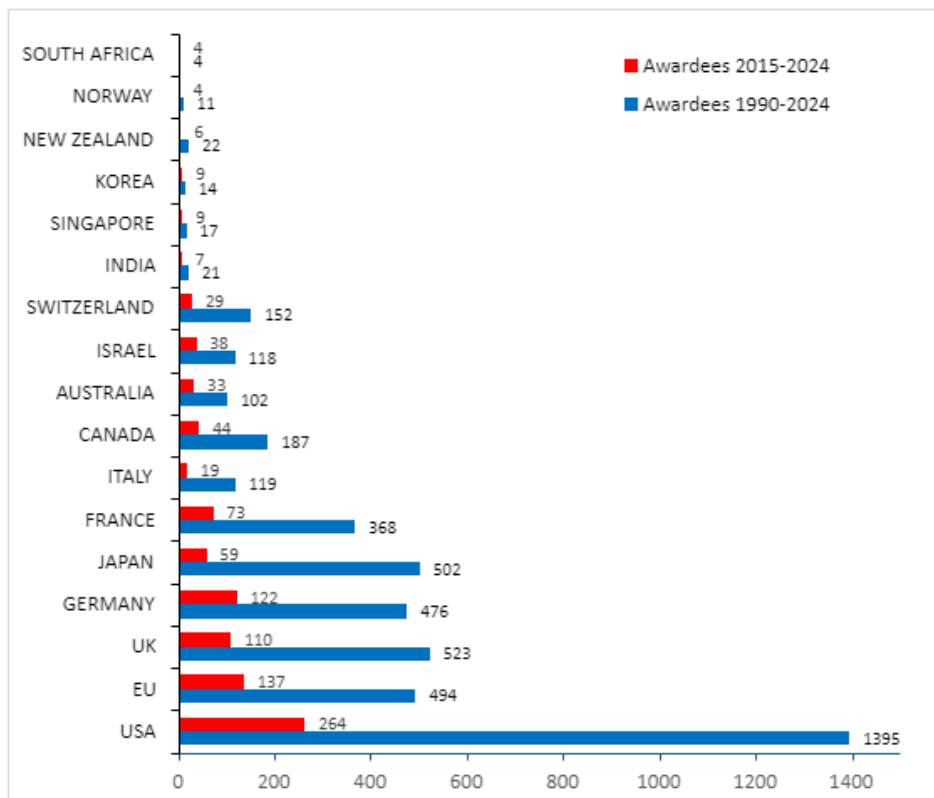
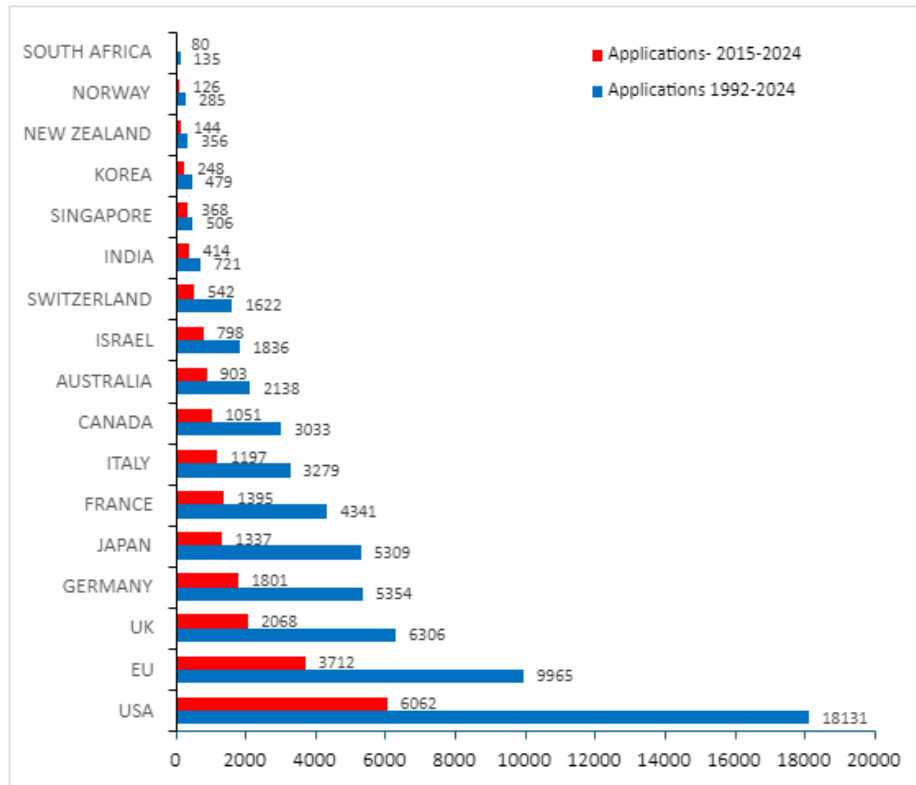
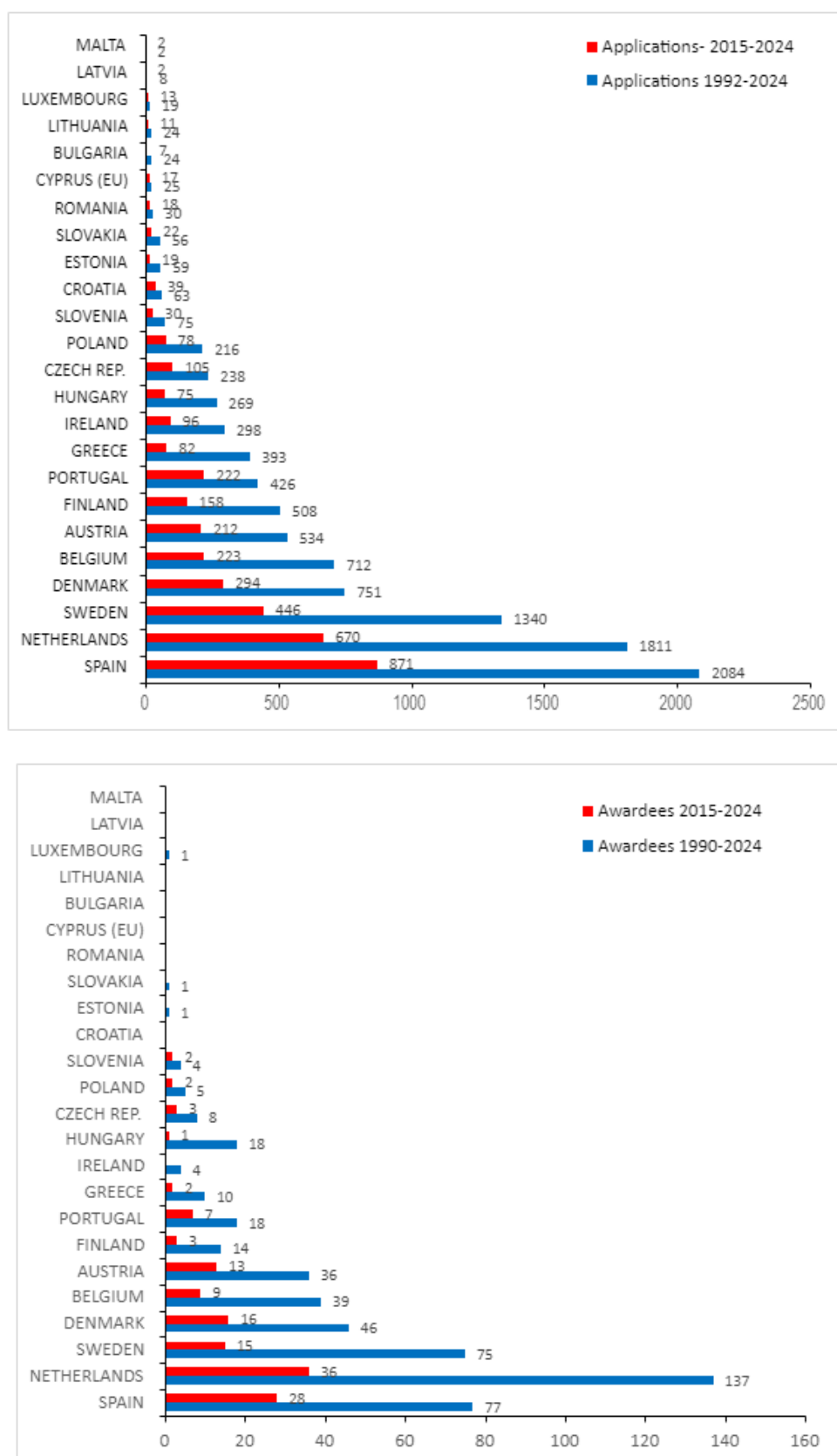


Fig. 2: Number of Research Grant applicants 1992-2024 and 2015-2024 (upper panel) and Research Grant awardees 1990-2024 and 2015-2024 (lower panel) in European countries (excluding Germany, France and Italy).



5.2 Fellowships 2024

In 2024, 535 fellowship letters of intent were reviewed. 48 Long-Term Fellowships and 11 Cross-Disciplinary Fellowships were awarded to young post-doctoral scientists who wish to work in a laboratory abroad.

Table III Applications / Awards listed by NATIONALITY (as approved by the Board in March 2024)

	Letters of Intent			Full Proposals			Awards		
	LTF	CDF	TOTAL	LTF	CDF	TOTAL	LTF	CDF	TOTAL
<i>LTF = Long-Term</i>									
<i>CDF=Cross-Disciplinary</i>									
Australia	11	0	11	1	0	1	0	0	0
Canada	11	0	11	1	0	1	1	0	1
EU	74	9	83 (a)	16	2	18 (b)	8	2	10 (c)
France	35	0	35	7	0	7	3	0	3
Germany	23	6	29	5	4	9	3	3	6
India	76	15	91	11	1	12	6	1	7
Israel	12	4	16	4	0	4	2	0	2
Italy	24	3	27	4	2	6	1	2	3
Japan	34	2	36	9	1	10	7	1	8
Korea	17	3	20	2	1	3	0	0	0
New Zealand	0	0	0	0	0	0	0	0	0
Norway	0	0	0	0	0	0	0	0	0
Singapore	3	0	3	1	0	1	1	0	1
South Africa	0	0	0	0	0	0	0	0	0
Switzerland	2	1	3	0	0	0	0	0	0
UK	12	0	12	2	0	2	1	0	1
USA	20	1	21	5	1	6	3	0	3
Other	112	25	137 (a')	23	4	27 (b')	12	2	14 (c')
TOTAL	466	69	535	91	16	107	48	11	59

(a) EU Letters of Intent

LTF: Austria 4, Belgium 3, Bulgaria 1, Croatia 2, Cyprus, EU part 2, Czech Republic 1, Denmark 3, Estonia 2, Finland 1, Greece 11, Hungary 3, Ireland 1, Lithuania 1, The Netherlands 9, Poland 5, Portugal 4, Romania 1, Slovakia 2, Spain 17, Sweden 1
 CDF: Austria 1, Greece 1, The Netherlands 3, Poland 1, Slovenia 1, Spain 2

(b) EU Full Proposals

LTF: Austria 1, Belgium 1, Cyprus, EU part 1, Finland 1, Greece 2, Hungary 1, Lithuania 1, The Netherlands 3, Portugal 1, Spain 4
 CDF: Austria 1, Slovenia 1

(c) EU Awardees

LTF: Austria 1, Finland 1, Greece 1, Lithuania 1, The Netherlands 2, Portugal 1, Spain 1
 CDF: Austria 1, Slovenia 1

(a') Letters of Intent from other nationalities

LTF: Algeria 1, Argentina 4, Bangladesh 2, Brazil 3, Cameroon 1, Chile 2, China 21, Colombia 1, Cuba 3, Egypt 1, Iran 3, Lebanon 2, Malaysia 4, Mexico 1, Morocco 1, Myanmar 1, Nigeria 3, Pakistan 6, Peru 1, Philippines 2, Russia 4, Serbia 1, Sudan 2, Taiwan 2, Turkey 4, Ukraine 1, Uruguay 1, Vietnam 1, dual nationalities 33
 CDF: Argentina 1, Bangladesh 1, Brazil 3, Chile 1, China 5, Colombia 1, Indonesia 1, Iran 1, Jordan 1, Mexico 1, Nigeria 1, Pakistan 2, Turkey 2, dual nationalities 4

(b') Full Proposals from other nationalities

LTF: Argentina 2, China 2, Malaysia 3, Pakistan 1, Sudan 1, Taiwan 2, Turkey 1, Uruguay 1, dual nationalities 10
 CDF: Brazil 1, China 1, Indonesia 1, dual nationality 1

(c') Awardees from other nationalities

LTF: Argentina 2, China 1, Sudan 1, Taiwan 2, Uruguay 1, dual nationalities 5
 CDF: Indonesia 1, dual nationality 1

Fig. 3: Number of Fellowship applicants 1993-2024 and 2014-2024 (upper panel) and Fellowship awardees 1990-2024 and 2014-2024 (lower panel) by nationality

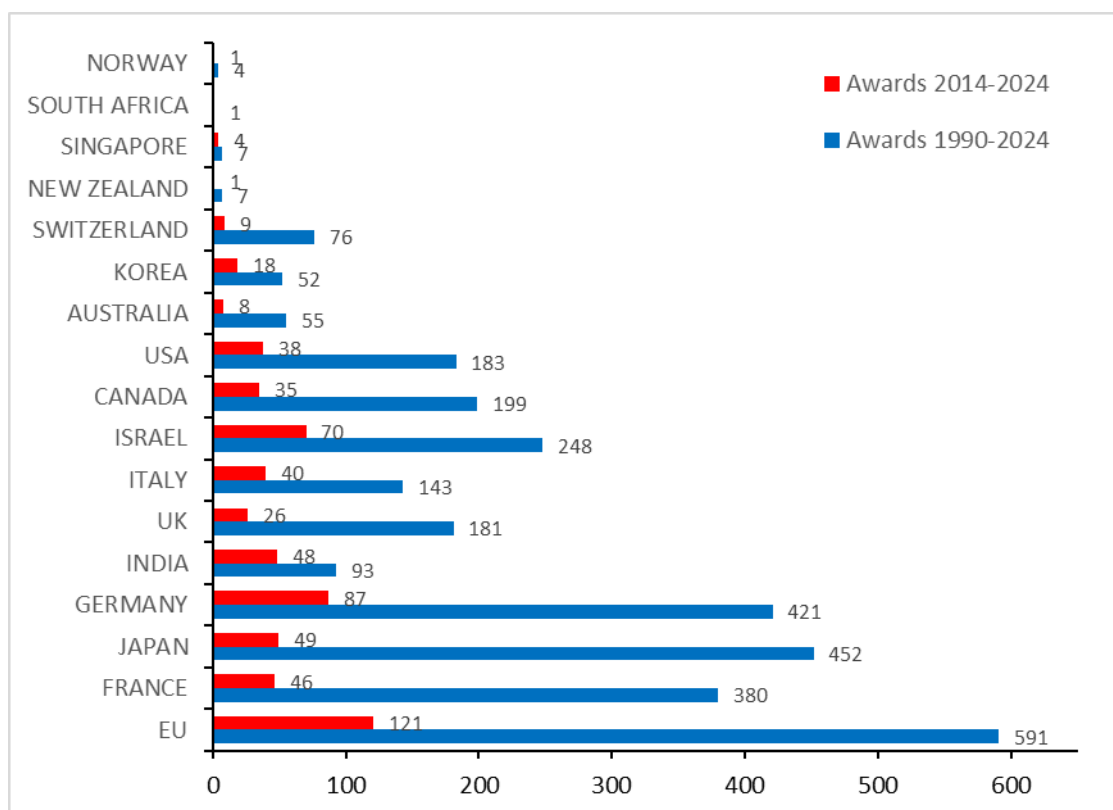
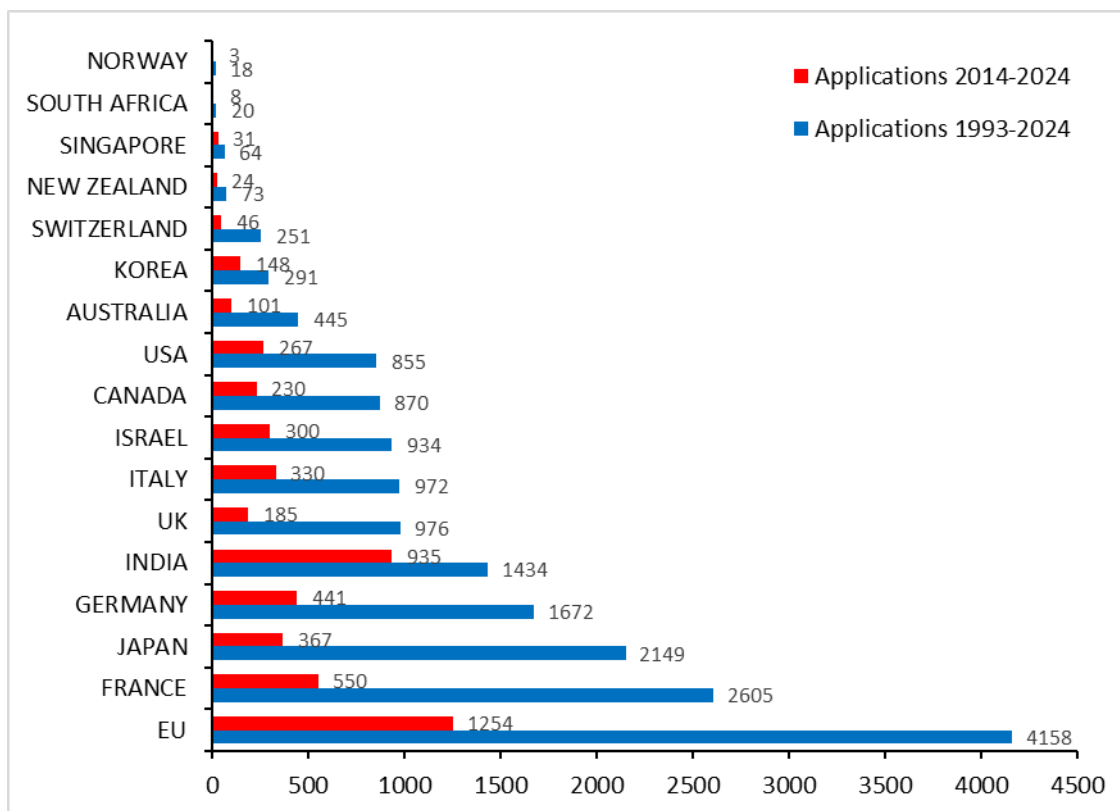


Fig. 4: Number of European Fellowship applicants 1993-2024 and 2014-2024 (upper panel) and Fellowship awardees 1990-2024 and 2014-2024 (lower panel) by nationality

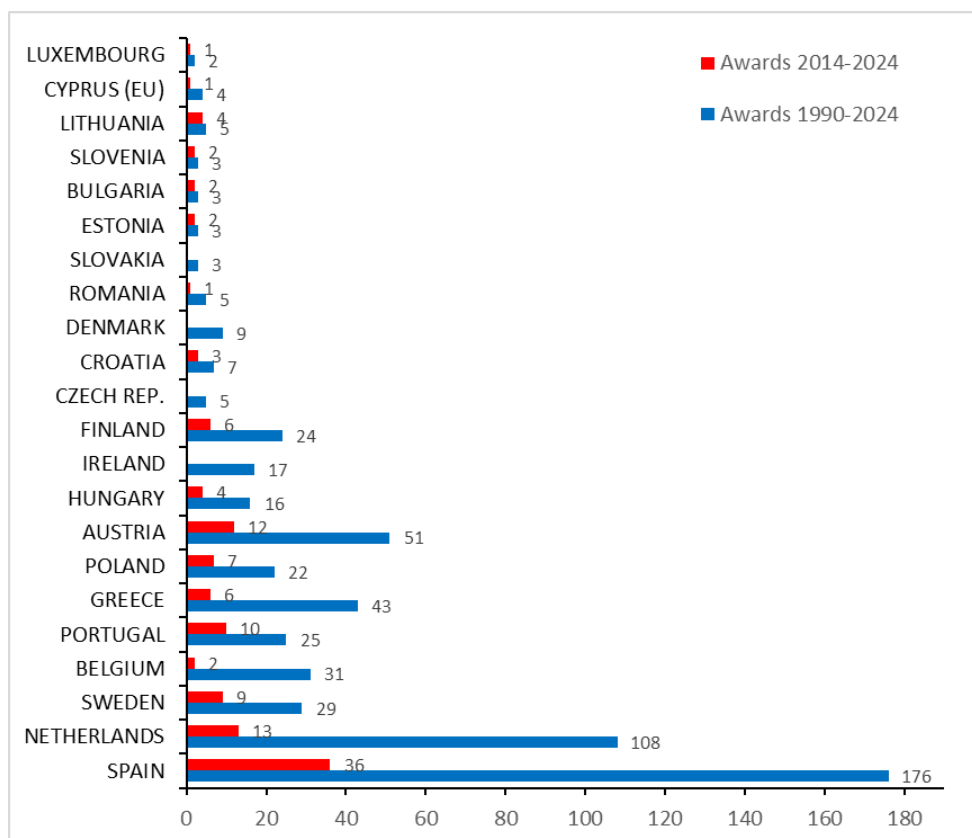
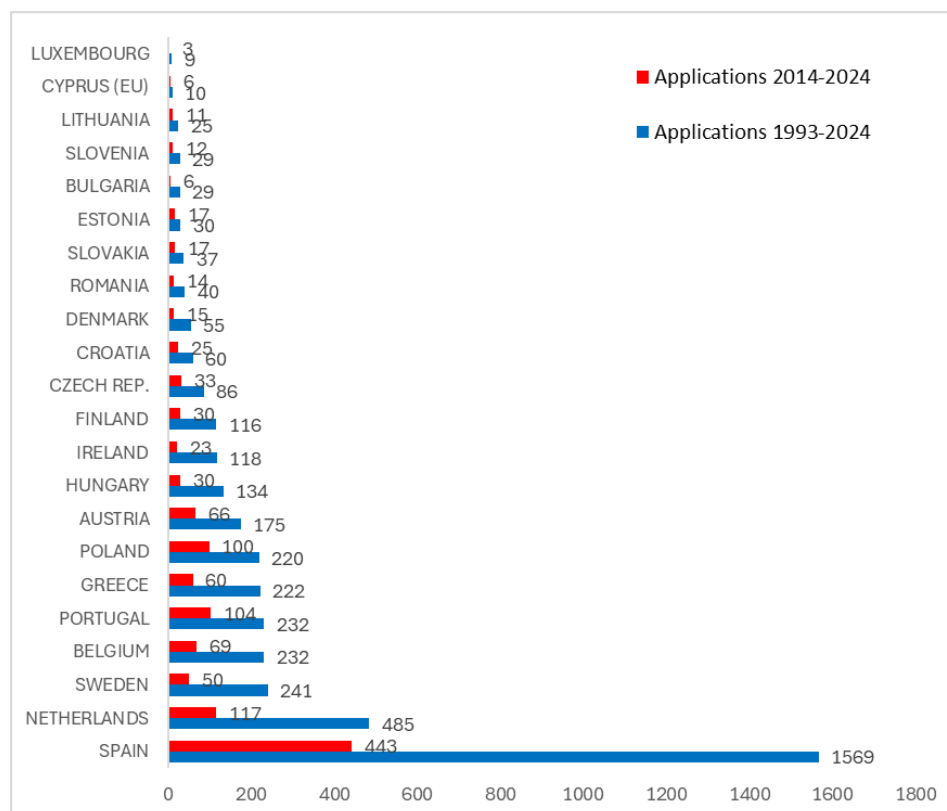


Table IV Applications / Awards listed by HOST COUNTRY
(as approved by the Board in March 2024)

<i>LTF = Long-Term</i> <i>CDF=Cross-Disciplinary</i>	Letters of Intent			Full Proposals			Awards		
	LTF	CDF	TOTAL	LTF	CDF	TOTAL	LTF	CDF	TOTAL
Australia	7	2	9	1	1	2	0	1	1
Canada	24	3	27	3	2	5	2	1	3
EU	75	5	80 (a)	13	1	14 (b)	4	1	5 (c)
France	27	5	32	5	2	7	4	1	5
Germany	38	4	42	13	1	14	10	1	11
India	0	0	0	0	0	0	0	0	0
Israel	5	0	5	0	0	0	0	0	0
Italy	4	1	5	1	0	1	1	0	1
Japan	2	0	2	0	0	0	0	0	0
Korea	0	0	0	0	0	0	0	0	0
New Zealand	3	0	3	0	0	0	0	0	0
Norway	2	0	2	0	0	0	0	0	0
Singapore	6	0	6	0	0	0	0	0	0
South Africa	1	0	1	0	0	0	0	0	0
Switzerland	33	3	36	3	1	4	2	1	3
UK	60	8	68	14	0	14	6	0	6
USA	174	38	212	37	8	45	19	5	24
Other	5	0	5 (a')	1	0	1 (b')	0	0	0
TOTAL	466	69	535	91	16	107	48	11	59

(a) EU host countries in Letters of Intent

LTF: Austria 8, Belgium 6, Croatia 1, Denmark 5, Estonia 1, Finland 3, Ireland 1, The Netherlands 16, Portugal 3, Spain 15, Sweden 16

CDF: Austria 1, The Netherlands 1, Portugal 1, Spain 2

(b) EU host countries in Full Proposals

LTF: Austria 2, Belgium 2, Croatia 1, The Netherlands 3, Portugal 1, Spain 2, Sweden 2

CDF: Austria 1

(c) EU host countries of Awardees

LTF: Austria 1, Belgium 2, Portugal 1

CDF: Austria 1

(a') Other host countries in Letters of Intent

LTF: Brazil 1, China 1, United Arab Emirates 3

(b') Other host countries in Full Proposals

LTF: United Arab Emirates 1

Fig. 5: Fellowship applications 1993-2024 and 2014-2024 (upper panel) and Fellowship awardees 1990-2024 and 2014-2024 (lower panel) per host country

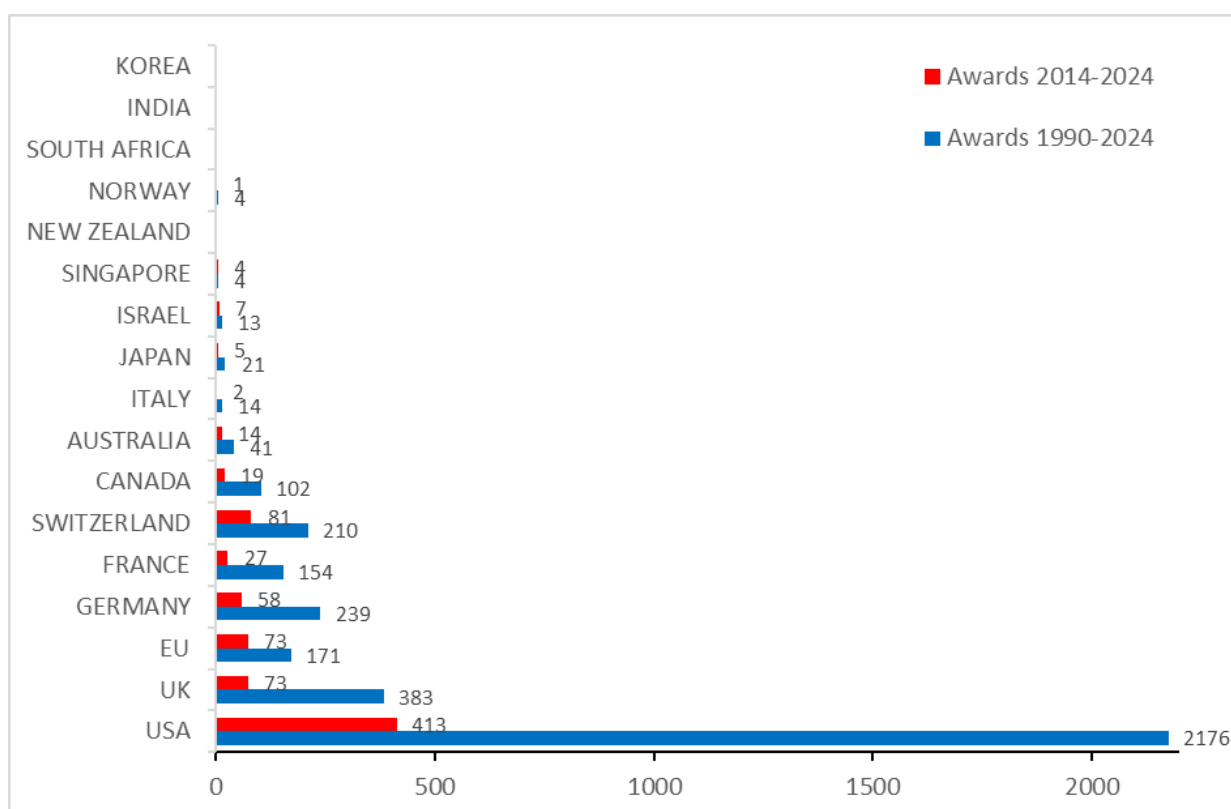
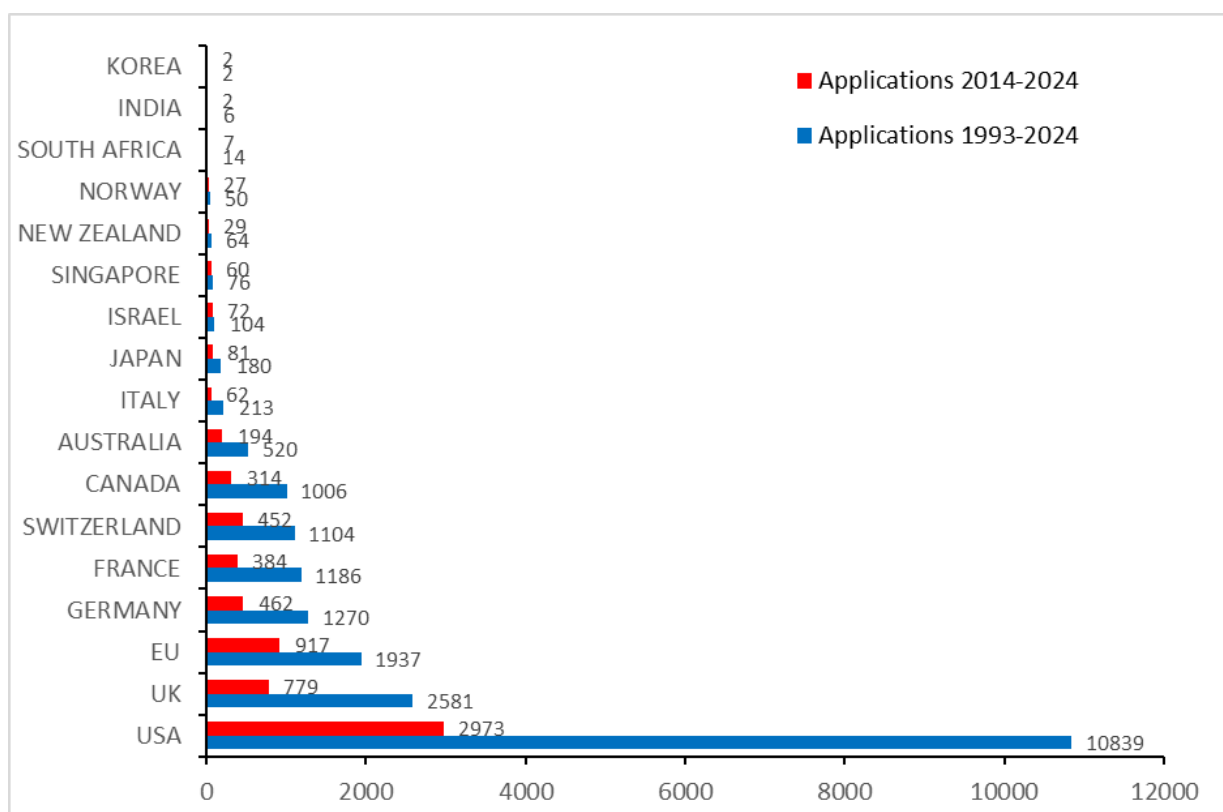


Fig. 6: Fellowship applications 1993-2024 and 2014-2024 (upper panel) and Fellowship awardees 1990-2024 and 2014-2024 (lower panel) per host country in Europe

