



Project No.: 036715

Project acronym: SET-Routes

Project title: A pan-European women ambassadors programme bringing role models into schools and universities to stimulate and mobilise girls and young women for studies and careers in SET

Instrument: Specific Support Action

Thematic Priority: Women in Science—mobilising women for engineering and technology

SET-Routes Publishable Final Activity Report

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Project coordinator organization: European Molecular Biology Laboratory

Revision [1]

1. PROJECT EXECUTION

The low profile of women in science is exacerbated by the lack and invisibility of successful women scientists to act as inspirational role models for young women and young men in scientific professions. SET-Routes' aim was to mobilize successful women in science, engineering and technology (SET) to go into schools and universities throughout Europe and beyond. These SET-Routes ambassadors were to provide inspirational role models to rekindle young peoples' (especially girls) enthusiasm for science, encourage young women science graduates to pursue further studies and careers in SET, and help change the perceptions of "women in science" in future generations of Europeans.

By coming together to form a unique Consortium, three of the most renowned intergovernmental science organizations in Europe: The European Molecular Biology Laboratory (EMBL), the European Molecular Biology Organization (EMBO) and the European Organization for Particle Physics (CERN), provided European school children with direct access to an incomparable pool of Europe's best female scientists. Girls and boys alike have had the opportunity to talk to female role models coming from all walks of science: astronomy, ecology, medicine, molecular biology, particle physics, space science and satellite engineering.

The Objectives

SET-Routes' objectives were to set-up and launch a pan-European science engineering and technology (SET) women ambassadors programme of highly successful scientists to reach young people in schools and universities, and in so doing:

- Provide inspirational role models of women scientists and engineers to rekindle students' excitement for science;
- Challenge young peoples' assumptions about scientists, engineers and technologists and raise the awareness of SET career options;
- Encourage young women science graduates to pursue careers in SET by informing them about career opportunities and the rewards;
- Inform stakeholders in education (in school education who are furthest away from the job market, i.e. students, teachers, parents and governors) about routes to SET and particular growth sectors within science;
- Provide a platform for academics, industrial scientists, businesses and policymakers to promote women in SET throughout Europe.

Thereby:

- Easing the education to employment transition;
- Catalysing similar national activities in European Member States and beyond;
- Raising the profile of SET careers for women;
- Raising the general awareness of gender imbalance in SET.

SET-Routes has strived to support young women at critical stages in their education in choosing a career in SET. This was achieved through the launch of a pan-European SET women ambassadors programme consisting of four tightly coordinated initiatives:

- The International Women in Science Conference— *The Way Forward*—in May 2007
- The School Ambassador Programme from September 2007— April 2009
- The University Ambassador Programme from September 2007 — April 2009
- The Insight Lecture series hosted at EMBL and CERN

The International Women in Science Conference— *The Way forward*—hosted by EMBO in May 2007 re-examined the state of affairs of women in science, re-defined hurdles and signposted ways forward, thus preparing the ambassadors for the schools and universities initiatives. The concise proceedings emerging from the conference — *The Way Forward Women in Science*, published by EMBO— which collates the outcomes of discussion during

the conference was valued by participants at events implemented during the University Ambassador Programme and has become a useful document for universities looking to initiating change in gender balance.

The School Ambassador Programme provided school children and teachers throughout Europe with insight into the routes and job perspectives in the growth areas of European SET through the eyes of young, practicing female scientists.

It is clear from the statistics that the time between receiving a tertiary education and completing the first or second grade contract is *the* most critical phase in the career of female research scientists. It is during this time that women scientists start move out of the competition stakes, making way for their male counterparts. The SET-Routes University Ambassador Programme was directly aimed at this cohort of female scientists. SET-Routes University Ambassadors talked to young scientists who were on the verge of establishing their careers, on how they progressed up the research/management ladder, giving examples of negative and positive experiences and skills that have supported them in their career development.

The Insight Lectures presented by 10 top women scientists aimed to dispel the stereotypes of women in science on a wider scale and produce innovative teaching material for European classrooms.

The Partner Organizations and Participants

The Consortium's strength lay in the complementarity of the partners' expertise and experience in scientific research and education, and its links to numerous existing projects. CERN is one of the World's most prestigious research centres and has been a major figure in raising the profile of fundamental physics through its extensive education and communication activities. Over half the world's particle physicists use CERN's facilities. EMBL's and EMBO's expertise lie in the life sciences. The new challenges of "systems biology" demand the skills and know-how of chemists, physicists, biotechnologists and engineers. And the hybrid field of bioinformatics is opening doors to a workforce of biologists, chemists, mathematicians, software engineers, web designers and database managers. For young people the job perspectives in molecular biology research and industrial biotechnology are good and these disciplines present a gateway to exciting and challenging careers in science. The life sciences and health-care sector harbour the largest numbers of women in SET which is also reflected in career perspectives and outcome (She-Figures 2006). Thus women science ambassadors from these disciplines provide positive and appropriate roles models for encouraging and inspiring girls and young women to pursue careers in science. The pan-European nature of the Consortium has meant that a large pool of resources and competencies has been mobilized to reach a wider international audience.

EMBL Alumni Association as sub-contractor

The EMBL Alumni Association e.V. is a charitable organization, established as a legal entity separate from the EMBL, and as a sub-contractor to the project via the Laboratory provided access to a valuable and incomparable network of human resources for the SET-Routes ambassadors programmes. There are currently over 3,600 former staff and researchers of EMBL who qualify for alumni status, having spent at least 6 months working at one of the laboratories. The goals of the Association are to establish ties between EMBL and laboratories throughout Europe (and beyond), and ultimately to help promote scientific exchange in the field of the life sciences. The Association is thus in an ideal position to help promote young scientists echoing the ultimate aims of the proposed project to mobilise more women for studies and careers in science, engineering and technology (SET), and promote women to move up the career ladder to occupy decision-making and policy-shaping positions.

EMBL alumni include a large pool of experienced women scientists, many of whom are exceedingly well placed to contribute to this programme. They can be found in academia, industry, science-related and governmental positions throughout Europe and beyond. Many are researchers who have returned home to their native countries after a period of research abroad and who hold high-ranking positions.

Local chapters of the Association are currently active in Austria, France, Germany, Greece, Italy, Spain/Portugal, Scandinavia, Switzerland, the UK and the USA, and have played a key role in providing an effective support network for the recruitment of local ambassadors and in the implementation of the ambassadors programmes in local schools and universities. Through local chapters close bonds have been forged with national Education Authorities and SET-Routes has catalysed the initiation of smaller indigenous programmes linked to EMBL AA chapters.

Approaches and Methodologies

SET-Routes was planned in 3 main phases: **recruitment, execution, evaluation** and **dissemination**.

Recruitment Campaign

The first phase of SET-Routes constituted the **Recruitment Phase**. Recruitment of ambassadors was initiated before the start date of the project. Three SET-Routes University Ambassadors, Lucie Linssen, CERN; Liliana Minichiello, EMBL; Renée Schröder, EMBO Fellow, were recruited as early as May 2006 to join the discussion forum at Re-searching Women in Science and Technology hosted by the EU in Vienna 2006.

A full-blooded recruitment campaign was launched to attract ambassadors to the project from the three partner organizations. Tasks involved advertising the initiative via various



networking channels of the partners: in in-house newsletters, at in-house events, through external publications and at external events. As a subcontractor to the project, the EMBL Alumni Association provided open access to the EMBL Alumni members via their database and through a targeted e-mail publicity campaign.

This diverse networking led to the recruitment of 75 SAs and 66 UAs from amongst the staff, associated members, and alumni of the partner institutes. The SET-Routes Ambassadors come from all walks of science: academia, industry and science-related jobs so reflecting, as broadly as possible, the scope of employment in science in Europe. Profiles of the ambassadors are posted on the SET-Routes website.

Training programme and ambassadors guidelines

Very few European countries have implemented ambassador programmes, an exception being the UK. The UK initiative SETNET, supported by several UK governmental bodies, leads the way in developing school schemes and their model is seen as a benchmark.

In collaboration with SETNET, UK, the UK Resource Centre for Women in Science Engineering and Technology, ambassadors from the EU-funded Pallas Athene project, experienced science teachers and communication experts, the School Ambassador WG developed a 1-day preparation training for the SET-Routes SAs.

The programme was structured to present the SAs with testimonials from active ambassadors, and to provide soft-skills training in communication and cultural awareness. As part of the ambassadors pack, the SAs were presented with a 12-page SET-Routes School Ambassadors Guide which is an adaptation of the good practices guide "Taking a Leading Role" published by the Royal Society (2004) with advice supplied by SETNET UK.

The guide provides the sections on: Why SET-Routes?, Why role models?, SET-Routes objectives, School ambassadors activities, Key points to remember, Evaluation, Teacher's feedback and Training day presentations.

The International Conference—Women in Science: The Way Forward

The Set-Routes Conference “Women in Science: The Way Forward” brought together scientists, politicians and other decision-makers, with the aim to inspire participants to take action that will help attract women into science and keep them there. The conference provided participants with ideas and tools to improve their own working environment. Presentations took a constructive look at the current situation—evaluating progress, identifying good practice and showcasing initiatives that are having a positive impact on the working environment of women scientists.

The conference comprised of four sessions:

- * Successful initiatives in the spotlight
- * Committees as gatekeepers
- * What can politics do?
- * Changing institutional culture.

The conference provided an exhibition forum for initiatives that support and encourage women in SET. The exhibition was intended to serve as a Bazaar for the exchange of good practice and ideas. The Bazaar was open throughout the meeting, acting as an ideal location for coffee breaks and dinner promoting discussion and networking. 24 exhibitors from Europe and the USA showcased their initiatives. Discussion panels debated the roles of committees as the gatekeepers of science and the role and extent of actions on the political level necessary in support of women.

The conference welcomed a total of 250 registered participants. Of these, 64 SET-Routes ambassadors were present.

Proceedings from the start up conference

The aim was to produce proceedings that would reach and be read by as large an audience as possible. It was felt that the facts and issues raised at the conference would be valid and relevant in the years to come. Therefore, the proceedings would have to be reasonably short but comprehensive, reflecting the views expressed at the conference, but not be strongly dated and thereby seeming to be outdated too soon.

The proceedings consist of a 4-page brochure summarizing the views expressed at the conference, a 2-DVD set and short clips of the key talks from the conference on the SET-Routes website. The mini-abstracts from selected talks will be/are available as Vodcasts – video podcasts on the SET-Routes website: www.set-routes.org/conference.

The material was used in an effort to raise the awareness of the situation of women in science at institutional workshops, as career advice and as training material for committees, ambassadors and science leaders. Thus the materials were distributed at every subsequent University Ambassador event held during the project.

The brochure was initially sent out to over 3200 addresses and will be distributed at future major European conferences until resources are exhausted. The DVDs have been distributed to conference participants and on demand.

School Ambassador Programme

The primary objectives of the School Ambassador (SA) Programme were to link the recruited SAs to target schools, where possible in the SAs home countries. This also involved supporting the SAs in the planning and organization of their school visits. The SA Programme was launched in October 2007, at the beginning of the academic year 2007/2008. School



events were organized up until the end of April 2009.

In the original allocation of resources to the SA Programme it was planned to run 50 school events, presented by 50 SAs. With the limited resources available it was agreed that the SA Programme would be implemented in key target countries, based on various criteria, including an analysis of EU statistics (EU She Figures 2006; International Standard Classification of Education ISCED 5 and 6). Countries were ranked according to two indicators: proportion of female engineers and scientists in the total labour force, female students by broad field of study. Cluster of events were run in all the countries represented in the SA pool. Later on, when it became clear that the SA programme was less costly than anticipated the school visits were extended to more countries represented in the SA pool. In addition, even more interested SAs were recruited throughout the project and were encouraged to plan and organize their own school visits.

University Ambassador Programme

It was originally envisaged to support 30 University Ambassador (UA) events throughout Europe over the academic year 2007/2008. We anticipated that it would be more difficult to recruit UAs, owing to the demands placed on top female scientists in higher-ranking academic or managerial positions. However, the interest in the project by top female scientists meant that we recruited a pool of 66 UAs, double the number originally anticipated. To accommodate the larger pool of UAs, the UA programme was run as a series of panel events, with up to 4 UAs in a panel, rather than as individual ambassador talks. Involving additional speakers from research and similar initiatives proved to be a very successful concept. Very often the university events were organised in collaboration with local gender equality boards. An integral element of the events was the final reception where speakers and conference attendees got the chance to exchange ideas and experiences, and to network on a more informal basis.

The events are published in the SET-Routes Events Calendar (www.set-routes.org/university/calendar) which can be found in the UA section on the SET-Routes website www.set-routes.org.

Publicity of the UA Programme was achieved through local publicity campaigns implemented by the host institute (newsletters, website announcements), supported by SET-Routes publicity material (posters, flyers).

The described events represent only one format of the UA interventions. In addition to these exclusive SET-Routes events, some UAs presented their scientific careers and the aims of the SET-Routes programme at workshops during other conferences.

The Insight Lectures

In total, 6 Insight Lectures (ILs) took place at the EMBL in Heidelberg and 4 ILs at CERN in Geneva. The target audiences were school students aged 16-19 years old and their teachers, from international schools in the Heidelberg and Geneva regions. Typically, there were about 150-200 students attending the lectures. In total the live lectures reached around 1000 students.

The final Insight Lecture portal on the SET-Routes website has been designed and the recorded ILs archived to allow the dissemination of the IL videos via the website.

The lectures are also available as a DVD set (5000 copies) with an additional booklet featuring the individual speakers. For initial distribution of these DVD packages the EIROforum-funded *Science in School* journal will deliver 3000 copies to teachers and stakeholders in science education across Europe. This distribution will take place at the beginning of the school year 2009/2010. This will enhance the usage of this valuable teaching tool in European schools starting from the next school term.

Major Achievements

Recruitment of SET-Routes Ambassadors

Recruitment of the SAs and UAs from the staff, contracted staff, members, fellows and alumni of the three partners was key to the success of the whole ambassador programme. In-house campaigning was done by each of the consortium partners to attract potential ambassadors to the project. Ambassadors were presented with customized briefing documents and provided with training during the start-up conference before embarking on their visits.

Recruitment was originally planned to last 8 months. In fact, in-house recruitment of ambassadors started as early as May 2006 and expanded into a full recruitment campaign after the start of the project in November 2006, continuing throughout the duration of project. By the end of the project the pool of ambassadors had grown to 70 SET-Routes SAs and 65 UAs, with interest growing amongst the new intake of PhD students.

From an early stage in the project it became clear that because of the very nature of the science enterprise, recruitment was going to be an ongoing activity throughout the project. Science is not planned, it happens. And as new results appear in the literature, scientists are challenged to respond with further research. Young scientists need to remain flexible to follow-up with further experiments, writing, reading or attending conferences. The same applies to more established scientists who have even more demands placed on their time through teaching or administration responsibilities.

The International Women in Science Conference – The Way Forward

Providing a backdrop and launch pad for the pan-European ambassador programme, the International Conference *Women in science—The Way Forward*, hosted by EMBO at EMBL Heidelberg on 9-11 May 2007, examined the current status quo of women in science: evaluating progress made, presenting and discussing new systems to promote women in science, defining barriers and ways forward, and providing a platform for the induction of the SET-Routes School Ambassadors. The conference signposted the way forward, providing the 243 participants with ideas and tools to improve their own working environment with sessions presented by 24 speakers on:

- Successful initiatives in the spotlight
- Committees as gatekeepers
- What can politics do?
- Changing institutional culture.

www.set-routes.org/conference

During the conference, there was an exhibition forum for initiatives that support and encourage women in SET. The exhibition served as a Bazaar for the exchange of good practice and ideas.

www.set-routes.org/conference/exhibitors.html

Conference participants and SET-Routes ambassadors were presented with a compilation of abstracts from the conference lectures in a 108-page booklet. The abstracts can also be found on the SET-Routes website.

A summary of the ideas expressed at the conference has been put together in a concise 4-page leaflet, “Women in Science—*The way Forward*”, which touches on the following themes:

- Off balance—Women are under-represented
- Are there differences? Men and women are largely similar
- Pervasive negative gender stereotypes—The self-fulfilling prophecy
- Breaking the stereotype barrier
- The way forward—What can be done to improve the careers prospects of women in science—Ways that work

The leaflet was distributed to over 5500 scientists in Europe via mail, and is available for download from the conference website at:

www.set-routes.org/conference



A DVD-set featuring the key talks from the conference has been produced and distributed to the conference participants. Free copies can be ordered via the website. Furthermore, short clips of these talks can be viewed directly on the site.

Ambassador induction

Training can help young inexperienced ambassadors pitch their school event at the right level for different age groups. Role models need to be sensitive to working with young people from a range of ethnic backgrounds and not assume that everyone has the same experiences or values as themselves. And they need a basic understanding of education systems and school curricula, and what can and cannot be done in schools. Before going into schools, SET-Routes SAs received a 1-day training programme on the third day of the conference as a parallel session.

Visiting experts primed the ambassadors on following selected themes:

- Working with schools
- Being an ambassador
- Talking to teachers
- Science in school
- Gender awareness in schools
- How to get your message across—basic communication skills.

As part of the ambassador pack, the SAs were presented with the *SET-Routes School Ambassadors Guide* which is an adaptation of the good practices guide “*Taking a leading Role*” published by the Royal Society (2004) with advice supplied by SETNET UK.

School Ambassador Programme

The objective of the SA Programme was to organize a programme of visits of SET-Routes SA visits to schools throughout Europe. As a rule, ambassadors were encouraged to go back to their old schools in their home countries. This had the advantage that they were familiar with the ambience, the teachers and the cultural of their target audience, and of course mastered the local language, which was an invaluable asset.

The aim of the programme was to provide role models of young women scientists and engineers to rekindle students’ excitement for science. And at the same time, SET-Routes SAs presented pupils with positive, young role models that challenged the young peoples’ assumptions about scientists, engineers and technologists, and raised the awareness of SET career options. As an indirect outcome of the schools programme, SET-Routes school events provided an opportunity to inform stakeholders in education (who are furthest away from the job market, i.e. students, teachers, parents and governors) about routes into SET and particular growth sectors within science. The programme was targeted at key countries where, according to EU statistics (*EU She Figures 2006*; International Standard Classification of Education *ISCED 5 and 6*) the proportion of female engineers and scientists in the total labour force is low and where there are a lower proportion of females studying SET at university. In total, 59 school visits were run presenting 75 SAs during the project.

The message from the 75 SET-Routes SAs was that science is exciting, challenging and rewarding. In order to make the activities of the SAs more visible, SET-Routes produced the brochure *SET-Routes School Ambassadors – Twelve young women scientists talk about their careers and science* — designed by EMBL, that gives an overview of the lives and careers of 12 of the SET-Routes SAs. They talk about themselves and their careers with the hope of inspiring younger students to become scientists, too. The brochure can either be downloaded from the SET-Routes website (www.setroutes.org/school/brochure.html) or a print copy can be obtained directly from EMBL. Print copies have been widely distributed by the SAs during their visits, during the SET-Routes Insight Lectures, and more than 2600 copies have been sent out to educators and other stakeholders in science education via the *Science in School* journal network. The brochure has greatly enhanced the visibility of the programme and the

image promotion of young women as dynamic, enthusiastic and dedicated scientists.

On 23 and 24 April 2009, SET-Routes organized a 1.5 day Final Ambassadors Event at CERN. Around 20 young women who had taken part in the SET-Routes programme over the 2 years as ambassadors – visiting schools and universities in their own countries to share their passion for science with students – rounded-off the project by coming to CERN to talk about their experience and share their ideas. The outcomes of this meeting were important to draw conclusions from the programme and to set the scene for potential follow-up activities.

University Ambassador Programme

In the special April 2009 issue of *research eu – Women in Science: The March Toward equality*, Baroness Susan Greenfield described the dilemma of many young women scientists in a nutshell:

If you are a young women researcher in the lower echelons of research, you've every chance of staying there, either because you bid farewell to your ambitions or—if you decide to stick in there regardless—because you are at a disadvantage in the advancement stakes compared with your male colleagues.

Addressing this very problem, SET-Routes encouraged prominent women scientists to become role models, showing budding women scientists at university that they *can* reach the top echelons of SET through commitment, thus inspiring them to follow similar career paths to occupy decision-making positions. The programme was designed to provide a broader perspective of the opportunities in SET, the synergies between different disciplines, and cross-discipline mobility. When planning a universities programme venue, it was ensured that some participant ambassadors came from a different country than the host country. This had abstract advantages. In a society where different cultural experiences are seen as a part of continuing professional development, young women scientists often want or need to take placements in other countries to promote their careers. In doing so, they are often confronted with the dilemma of organizing family commitments within a new socio-economic infrastructure. Pre-knowledge of childcare, healthcare and education in different European settings allows them take a more constructive and practical attitude to mobility, i.e. they can be loyal to their family commitments and at the same time have room to be creative at work. To increase awareness of women in science issues at the institutional level, SET-Routes university events were inclusive, welcoming both female and male students. By networking closely with gender groups at research institutes, universities and within organizations, the UA Programme aimed to make lead players in higher-education and research institutes aware of, quote: *the insidious quasi-institutionalized sexism in science..... where there is an unspoken tendency to under-value women's responsibilities in science.* (Baroness Susan Greenfield). The interest in the programme has been enormous, from interest in becoming an ambassador to participating in the events. Above all expectation, SET-Routes recruited 65 University Ambassadors. This is remarkable considering the numerous commitments and responsibilities that fall on scientists in higher positions. In order to take advantage of this unprecedented pool of ambassadors, the UA Programme was redesigned as a series of panel events throughout the university academic year. This model, which allowed for comprehensive events and networking, has found particular resonance among the UAs as illustrated by the success of the university events that have been organized throughout the active phase of the programme. The events are listed in the SET-Routes events calendar at www.setroutes.org/university/calendar

SET-Routes Insight Lectures

The IL webcasts are a series of 10 multimedia events where top women scientists who have contributed ground-breaking discoveries to European science describe their work to audiences of young students. They openly talk about why they love science, enthuse about what they do and encourage the young audience to ask questions about science and potential careers in their discipline.

The 10 lectures by top European scientists from industry and research take a look at some of the hottest themes in science:



Climate change – What space can tell us about planet Earth, Dr. Maggie Aderin-Pocock, Astrium Ltd. in Portsmouth, UK

Haemochromatosis – The most common hereditary disease in the Western world, Professor Martina Muckenthaler, Centre for Paediatrics, University Hospital Heidelberg, Germany

Stem Cells and Regeneration, Professor Nadia Rosenthal, Head of the European Molecular Biology Laboratory, Monterotondo, Italy

Let's go to a comet – Mission Rosetta, Dr Elsa Montagnon, European Space Agency - European Space Operations Centre (ESA-ESOC), Germany

Chasing the Malaria Parasite, Dr Maria Mota, Instituto de Medicina Molecular, University of Lisbon, Portugal

Human Genetics - Diagnostics, indications and ethical issues, Dr Sabine Hentze, Genetics Counsellor, Mannheim, Germany

Archaeology of the Universe – The mystery of matter, space and time, Professor Felicitas Pauss, Head of the Institute for Particle Physics at ETH Zurich, Switzerland

The Dark Side of the Universe, Professor Licia Verde, Instituto de Ciencias de l'Espacio (ICE), Barcelona, Spain

Rôle de la physique dans la radiothérapie oncologique moderne, Dr Maria Rosaria Fiore, Italy

Architecture et énergie solaire: une maison solaire passive dans la région du Léman, Maria Cristina Munari Probst, Switzerland

As a by-product of this action the IL series are being produced as a DVD pack, which will be distributed to schools throughout Europe via the EIROforum Journal *Science in School* – highlighting the best in science teaching and research: www.scienceinschool.org. Publication of the DVD was advertised in the Spring Issue and the DVD pack consisting of 4 DVDs, including an accompanying booklet with profiles of the speakers, will be distributed in Autumn 2009 at the start of the 2009/2010 academic year. A special article—*Getting a grip on genetic disease*—on one of the lectures will also appear in the issue. The lecture graphics, chapters and question times were filmed and edited for specific use in schools. Lectures presented in German/French have English subtitling. It is anticipated that teachers will be able to use the lectures directly in the classroom as a teaching resource to complement their lessons.

To link to the professionally edited webcasts please visit www.set-routes.org/lectures .

Evaluation

The objectives of the evaluation were to assess the success and impact of the 4 SET-Routes initiatives on:

- Enhancing the attractiveness of SET to girls;
- The engagement in SET studies areas, in particular in what drives girls' choices;
- Easing the education-to-employment transition in SET in Europe, in particular in what influences girls and women SET career pathways;
- Stimulating young women scientists to become more active in decision and policy making.

Tools were designed to assess the success and impact of the four SET-Routes support actions.

EMBO designed a 2-page conference questionnaire to get feedback on the individual sessions and feedback on the usefulness and novelty of information for the individual participants. The questionnaire was distributed to all, 243, conference participants.

A 1-page questionnaire to assess the effectiveness of the SA training session and the *SET-Routes Ambassador Guide* was designed by EMBL and handed out to the participant SAs. The *SET-Routes Ambassador Guide* contained two questionnaires targeted at recipient students and teachers of the School Ambassador Programme. The guide and questionnaires are freely accessible via the SET-Routes website for use by other school ambassador initiatives.

A written questionnaire was developed to collect teachers' feedback after SAs visits. An English version served as a template for translation by host schools. After an event, ambassador diaries describing the ambassador's experience were posted on the SET-Routes website, plus any external press coverage. These can be viewed at www.set-routes.org/school/diaries .

Host institutes of university events often provided their own questionnaires which had, in many cases, been designed by women in science groups in the host country. This had the advantage that results could be incorporate in national evaluation statistics. The above evaluation tools were used to assess the SA activities and UA Programme from October 2007 to April 2009. Two separate questionnaires were designed to evaluate the impact of the ILs on the audiences' potential career choice. These were handed out before and after the first six Insight Lectures.

Other media were also considered in the evaluation, for example, ambassadors' dairies and correspondence with ambassadors. There was a collective interest amongst the SAs to continue school visits on a national level after the end of the project. To support this interest in sustaining the SA model, a final SET-Routes Ambassadors Event was held at CERN on 23-



24 April 2009, bringing together 20 active ambassadors to gather feedback and fresh perspectives on running ambassadors programmes in Europe. The topics addressed ranged from cultural differences towards the interest and acceptance of science by girls and boys, the urgent need for the inclusion of minority groups, a co-ed approach, approaching private and public schooling systems, and the modality of events.

Overview Table

Planned /actual Dates	Type	Type of audience	Countries addressed	Size of audience	Partner responsible /involved
March 2007/ October 2006	SET-Routes flyer	Lower and higher Science education communities	EU target countries	1000 flyers printed in RP1, all distributed	1, 2, 3
December 2006	SET-Routes website www.set-routes.org	Worldwide	Worldwide	Number of hits not known	1
December 2006	Conference poster		EMBO, EMBL, CERN member states	2300	2
December 2006 February 2007	<i>Nature</i> Conference advertisements	Conference participants	International	280	2
March 2007	Conference adverts in <i>The EMBO Journal</i> , <i>EMBO reports</i> and <i>Molecular Systems Biology</i>		International	Readership of <i>Nature</i> not known	1,2
April 2007	Conference abstracts	Conference participants	International	280	1,2
May 2007 July 2007 July 2007 July/August 2007	Articles in the mass media: <i>FAZ</i> <i>Focus Campus</i> <i>FTD</i> <i>Laborjournal</i> http://www.set-routes.org/pressreview.html	General Public	Germany speaking	Readership of <i>FAZ</i> <i>Focus Campus</i> <i>FTD</i> <i>Laborjournal</i> not known Unlimited access to archived web versions	1,2,3
May 2007	Ambassadors Guidelines http://www.set-routes.org/school/guide.html	SET-Routes school ambassadors Ambassador project coordinators	13 School ambassador target countries	70 school ambassadors plus other interested ambassador programmes: CERN, grids for kids, Pallas Athene	1
October 2006 April 2007 June 2007	<i>EMBL&cetera</i> 'Not just a job for the boys', 'A way forward for women in science', 'Barbies for girls, microscopes for boys?'	EMBL staff and Alumni	Worldwide	4000	1 2 1
March 2007	<i>Bulletin CERN</i> 'Places aux femmes', 'SET for life'	CERN Staff and Contract Staff	Worldwide	CERN Community	2
From September 2007 on	School Ambassadors Events posters	Local school/town community	Specifically targeted	Up to 1200 per event	1,3

From October 2007 on	University Ambassadors Events posters	University/institutional scientific community	Specifically targeted	Up to 200 per event	1
November 2007	Universität Salzburg, Newsletter der Gender Studies Studierenden	University students, women in science stakeholders	Salzburg, Austria	Readership not known	1
December 2007	<i>EMBL&cetera</i> 'First port-of-call for SET-Routes ambassadors'	EMBL staff and Alumni	Worldwide	4000	1
December 2007	duz Magazin 'Ihr Kinderlein kommet'	Science education communities, university professors	Germany	Readership not known	1,3
	Direct e-mailing to EMBO fellows, EMBL Alumni			5000	1,2
December 2007	Conference proceedings	Conference participants plus women in science stakeholders	International	4000 produced	2
December 2007	Conference DVDs	Conference participants/stakeholders in women in science Selection Committees	International	1000 produced	2
January 2008	Conference Video clips	Conference participants/stakeholders in women in science Selection Committees	Worldwide	Unlimited access	1,2
January 2008	School Ambassadors brochure	High-school students and teachers	EU target countries	7200 printed, unlimited access via website	1,3
From May 2008	Insight Lectures posters	High-school communities	International	500	1,3
From May 2008	Insight Lectures Info-Packs for students/teachers	Participating high-school communities	International	Up to 2000	1,3
May 2008	Newspaper articles about the first Insight Lectures 'Kein von Männern dominiertes Gebiet mehr' 'Den Klimawandel per Satellit messen'	General Public	German speaking	Readership of Bergsträßer Anzeiger, Unlimited access to archived web versions	1
May 2008	WiSET Manchester website 'Culture change and gender balance in decision-making'	University students, women in science stakeholders	Manchester, UK Worldwide	Readership not known	1
May 2008	Annual report of the Academic Opportunities Committee, IC London, AOC-IC website 'Culture change and gender balance in decision-making'	University students, women in science stakeholders	London, UK Worldwide	Readership not known	1
June 2008	<i>EMBL&cetera</i> 'Top women space scientists prove it's no longer a man's world'	EMBL staff and Alumni	Worldwide	4000	1
October 2008	'Second round of Insight Lectures tackles genetics'				
October 2008	ITQB Website announcement for UA event 'Women Involved in the Science of the Future'	Worldwide	Worldwide	Not known	1
October	Medical School Hannover,	University students,	Hannover,	Readership	1

2008	Newsletter des Gleichstellungsbüros	women in science stakeholders	Germany	not known	
October 2008	Newspaper article about SA visit, AKG Bensheim 'Für die Naturwissenschaften begeistern'	General Public	German speaking	Readership of Bergsträßer Anzeiger, Unlimited access to archived web versions	1
November 2008	Cagliari FestivalScienza Website announcement for UA event 'La donna nella ricerca'	Worldwide	Worldwide	Not known	1
November 2008	Conference proceedings	Conference participants plus women in science stakeholders	International	Reprint 2000	2
December 2008	<i>EMBL&cetera</i> 'A life aquatic'	EMBL staff and Alumni	Worldwide	4000	1
January 2009	LOG Bruchköbel School Newsletter 'Insight Lecture and Careers Panel with Nadia Rosenthal'	High-school students, Worldwide	Worldwide	Number of hits not known	1
February 2009	Bertha-von-Suttner Schule School Newsletter 'Insight Lecture with Maria Mota'	High-school students, Worldwide	Worldwide	Number of hits not known	1
February 2009	<i>EMBL&cetera</i> 'Nadia's wow factor'	EMBL staff and Alumni	Worldwide	4000	1
February 2009	<i>EMBL&cetera</i> 'Greetings from Martinique'	EMBL staff and Alumni	Worldwide	4000	1
March 2009	VADEMEKUM – Informationen des Ministeriums der Deutschsprachigen Gemeinschaft Belgiens	German speaking in Belgium	Belgium	Readership not known	1
April 2009	International Science Grid This Week (ISGTW) 'From Martinique to Marseilles to Medaka: profile of bioinformatician Mirana Ramialison'	Worldwide	Worldwide	Readership not known	1
April 2009	Website article about SA visit to AKG Traunstein 'Forscherin vom EMBL am AKG'	High-school students, Worldwide	Worldwide	Number of hits not known	1
April 2009	Medical UOA Newsletter	Scientific stakeholders	Greek speaking	Readership not known	1
April 2009	CERN Bulletin, 'The path to science is steeper for women', article about SET-Routes Final Ambassador Event	CERN Staff and Contract Staff	Worldwide	CERN Community	2
April 2009	IRB <i>in vivo</i> newsletter 'One step further towards gender balance'	IRB staff	Worldwide	Not known	1
April 2009	research*eu special issue 'The march towards equality'	Worldwide	Worldwide	Number of hits not known	2
April 2009	Insight Lectures booklet	High-school students and teachers	International	5000	1,3
April 2009	Insight Lectures webcasts	High-school students and teachers	Worldwide	Streamed from CERN website —	3

				unlimited access	
April 2009	Insight Lectures DVD	High-school students and teachers	International	5000 copies	1,3
May 2009	Amina – Le magazine de la femme (Afrique et Caraïbes) 'Mirana Ramialison – ingénieur en biotechnologies'	Women	International	Readership not known	1
June 2009	<i>EMBL&cetera</i> 'A weekend in Greece'	EMBL staff and Alumni	Worldwide	4000	1
October 2009	Science in School article 'Getting a grip on genetic diseases'	Worldwide	Worldwide	30000 print copies, available online	1