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ADVANCE

ADVANCED TRAINING FOR WOMEN IN SCIENTIFIC RESEARCH

Specific Support Action, SA S6

Thematic Priority: Science and Society

Publishable final activity report

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Project coordinator organisation name:	Donau-Universität Krems, Universität für Weiterbildung Krems

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Publishable Executive Summary combining report 1 and 2

There are significant differences in the career paths of male and female scientists. The road towards faculty positions not only takes longer for women, but there is also a significant portion of female candidates who drop out before reaching their goal, a phenomenon appropriately referred to as 'leaky pipeline'[1]. This syndrome feeds on itself, since the paucity of females in leading positions, both in academia and industry, results in few role models for ambitious graduate students to emulate.
The ADVANCE project (http://www.advance-project.eu) addresses the issue of gender equality in science and research and intends to make a contribution towards '*plugging the leaky pipeline'*.
The objective of the ADVANCE program was to *promote the participation of women* in science and research by supporting female scientists in acquiring research and career management skills and other tools which help them build up their careers. The project is coordinated by the Danube University Krems in cooperation with five European universities from Austria, Bulgaria, Finland, the Netherlands and Poland. The project duration was 2 years starting from September 2006.

The goals were to be realized through career training and mentoring and coaching activities. In addition, enhancing and encouraging networking has been an important part of the program. The program targeted female researchers in pre-doctoral and postdoctoral career phase in natural sciences and technology.

The program consisted of two main parts which were closely interlinked: a Summer School (track 1), and a Mentoring and Coaching Program (track 2).

- an **International Summer School Program (track 1)** for training in career management skills, essential in an academic or industrial scientific/R&D environment at the Danube University Krems

- a **Mentoring and Coaching Program (track 2)** focusing on building up mentoring relationships related to professional and personal growth established at all partner organisations

The recommendations to transfer the ADVANCE program concern both the contents and topics of the program and the practical realization and implementation: pedagogy and didactics, roles of and requirements for different participants, contextual conditions, information and evaluation. They are based on extensive evaluation of the program in which all ADVANCE consortium partners actively took part.

- Main output are the so-called **transfer models and recommendations for implementing the ADVANCE program** in other European universities and research organisations

[1] European Commission Directorate-General for Research, 2005. Women and Science; Excellence and Innovation - Gender Equality in Science. Available at: http://ec.europa.eu/research/science-society/pdf/documents_women_sec_en.pdf [Oktober 2, 2008].
European Commission Directorate-General for Research, Women and Science; Statistics and Indicators, She Figures 2006. Available at: http://ec.europa.eu/research/science-society/pdf/she_figures_2006_en.pdf [Oktober 2, 2008].
European Commission Directorate-General for Research, Women in Industrial Research: A Wake up Call for European Industry. Available at: http://ec.europa.eu/research/science-society/women/wir/pdf/wir_final.pdf [Oktober 2, 2008].

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Section 1 – Project execution

The ADVANCE project (http://www.advance-project.eu) addresses the issue of gender equality in science and research and intends to contribute to plugging the leaky pipeline by supporting female scientists in acquiring research and career management skills as well as tools that help them build up their careers. The objective of the ADVANCE program was to *promote the participation of women* in science and research by supporting female scientists in acquiring research and career management skills and other tools which help them build up their careers.

The project is coordinated by the Danube University Krems in cooperation with five European universities:

The ADVANCE Consortium
Universität für Weiterbildung Krems (Danube University Krems), Austria
Spoleczna Wyzszy szkola przedsiebiorcszszi i zarzadzania, (Academy of Management), Lodz, Poland
Helsinki Collegium for Advanced Studies, University of Helsinki, Finland
IFZ-Interuniversitäres Forschungszentrum für Technik, Arbeit und Kultur, Universität Klagenfurt, Austria
GGeP-The Graduate Gender Programme, University of Utrecht, the Netherlands
South-West University "Neofit Rilski", Blagoevgrad, Bulgaria

The project duration was 2 years starting from September 2006.

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The program consisted of two main parts which were closely interlinked: a Summer School (track 1), and a Mentoring and Coaching Program (track 2).

- an **International Summer School Program (track 1)** for training in career management skills, essential in an academic or industrial scientific/R&D environment at the Danube University Krems

- a **Mentoring and Coaching Program (track 2)** focusing on building up mentoring relationships related to professional and personal growth established at all partner organisations

In order to reach the goals the ADVANCE approach combined personal, structural and contextual aspects and intended to support the participants in transferring theoretical inputs into their own working context. At its core, the Mentoring and Coaching Program sought to enlighten participants about the channels of communication in both academia and industry in relationship to career development and advancement.

Following the focus on (hidden) structures causing social exclusion of women in academia and industry the core issues of the ADVANCE Summer School Program were to empower

female scientists, to offer them broad access to a better understanding of gender-related structures within the scientific community, and to give them the possibility to find new options of acting and succeeding in scientific careers. Thus, the innovative aspect of the ADVANCE project was to provide a gender-sensitive training concept in focusing on evoking sustainable learning experiences by applying a broad variety of didactic methods.

The topics and didactic approaches of the ADVANCE project are based on studies carried out earlier that have highlighted difficulties and have pointed out areas in which additional training is needed, in particular in research management. These studies have focused particularly on young researchers who were at the beginning of their independent scientific careers and were based on the American career structures. Based on a literature review and an 'expert workshop' which was organized in order to evaluate and supplement the predefined topics with respect to a European perspective, both the Mentoring concept and Summer School Program were revised and adapted to European needs.[2]

International Summer School

The Summer School was the core part of the ADVANCE project. It targeted especially scientists in natural sciences and technology, both in academia and in industrial research and was advertised widely through the network of the participating organisations and took place at the Danube University Krems, Austria, in English language.

The frame of the Summer School was developed within the first 8 months of the project involving all partner institutions as well as related networks and the Advance Advisory Board[3] on the basis of the outcomes of the Preparatory workshop.
This Preparatory Workshop[4] held at Krems, involving 15 experts from the EU, gave essential hints in terms of the Summer School topics (selection, duration and timing), didactics and the Advance Mentoring and Coaching Approach.
After setting up the frame of the program, its intention and organisation, the application phase for the participants of both programs started at November, 1st 2006 and ended with January, 30th, 2007. The application form was presented online at the Advance Website; interested applicants were requested to fill in their CV, a motivation letter and short description of the career stage & plans.
Through the effectiveness of email networks provided by all partners the target group could have been reached successfully, which can be seen on the high number of submitted application forms (190 sheets from all over the world).
In order to set up visible and comprehensible application process DUK developed specific recruitment criteria for Summer School Participants and Mentees.
The final decision about the positive application along these criteria had been drawn within the meeting of the Curriculum and Mentoring Committee at Graz (February, 1st-2nd, 2007).

According to the Preparatory Workshop`s outcomes it was decided to split the Summer School into two modules in order to evoke sustainable learning experiences and especially to

[2] e.g. Howard Hughes Medical Institute, 2004; Gindl, Hefler, 2006; Dalhoff, 2006, Granovetter, 1995, Hey, Wieser, 2003, Lind, 2003, Zuckermann, 2001; for details see: Zauchner, Gindl, 2007; for details see: Gindl, Zauchner, Bammer, 2007
[3] Prof. Margo Brouns (NL), Dr. Aino-Maija Evers (FI), Dr. Andrea Höltl (AT), Mag.aMonika Kircher-Kohl (AT), Prof. Anna Lipniacka (FI), Univ. Prof. Vice Rector Ada Pellert (AT), Dr. Birgit Reipert (AT), DI Inge Schrattenecker (AT), Prof. Elena Shoikova (BG).
[4] Outcomes published at: Zauchner, S. & Gindl, M., 2006. Documentation of the Preparatory Workshop. Available at: http://www.advance-project.eu/the-summer-school/the-summer-school-content/ [Zugegriffen Oktober 2, 2008].

guarantee an integration of the career perspectives. The first module was the core part and lasted 12 days, the follow-up module took place one month later on and lasted 3 days.

Module 1: 23.07.2007 - 03.08.2007
Module 2: 07.09.2007 - 09.09.2007

33 female researchers from both established and new EU member states (13 nationalities; Participants came from both Eastern (13) and Western countries (20)[5]) participated in the summer school, including the 18 researchers also participating as mentees in the mentoring and coaching program at the six ADVANCE partner universities. The summer school participants came from a wide variety of disciplines (25) in natural sciences and technology, ranging from physics, mathematics, computer sciences and engineering to biosciences and physics. The age of the participants ranged from early twenties to mid-fifties, while the participants themselves were at varying stages of their own careers; including predoctoral students right through to post-docs[6].

The Summer School was organised by Danube-University Krems and took place at the Campus of Krems, participation was free but the participants had to pay for their own travel and accommodation costs, although they could apply for stipends to cover part of those costs. The team from Danube-University Krems supported the participants in finding rooms during the high tourist season of Krems, they also pre-booked rooms at the "Kolpingheim" nearby.

Table 1 shows the final list of participants (anonymous), detailing the nationality, study, career position and occupational position:

Nationality	Study	Career Position	Occupational Position
Austria	Image Science	PhD	Course Director and Researcher at the Danube University Krems
Austria	Medical and pharmaceutical Biotechnology	PhD	Research Assistant at the Danube University Krems
Austria	Spatial Planning	pre doc	Researcher at the Danube University Krems
Austria	Technical Chemistry	post doc	Head of Research Department Ecological Product Policy
Austria	Technical Protection of the Environment	post doc	Researcher of the IFZ
Austria	Zoology	pre doc	Scientific Staff Member of the IFZ
Austria	Economics and Environmental Systems Sciences	post doc	Senior Researcher at the Sustainable Europe Research Institute and Lecturer at University of Graz and at University for Natural Resources and Applied Life Sciences, Vienna
Belgium	Biomedical Science	PhD	PhD Student, Institute of Tropical Medicine, Antwerp

[5] The higher number of participants from Western countries is related to the fact that there are more consortium partners from Western Europe than Eastern Europe, who were sending their mentees to the Summer School.

[6] pre-doctoral (7), post doctoral (14), and PhD students (12)

Belgium	Microbiology	PhD	Research Assistant at the Institute for Tropical Medicine in Antwerpen
Bulgaria	Chemistry	pre doc	Senior Assist. Professor, University of Blagoevgrad
Bulgaria	Mathematics	post doc	Assist. Professor, University of Blagoevgrad
Bulgaria	Industrial Management and Economics	pre doc	Assist. Professor, Technical University of Sofia
Bulgaria	Economy, Management	pre doc	Assist. Professor at the Department of Economy, Industrial Engineering and Management, Technical University Sofia
Bulgaria	Physics	pre doc	Assist. Professor, University of Blagoevgrad
Finland	Biology	post doc	Lecturer in Algal Systematics, Post-doctoral Researcher, Academy of Finland, University of Helsinki
Finland	Biotechnology	post doc	Lecturer at the University of Helsinki
Finland	Semiconductor Technology	post doc	Project Leader, Helsinki Institute of Physics
Germany	Electrical Engineering	pre doc	Scientific Assistant University Lüneburg, Representative of Women and Equal Opportunities
Germany	Physics	PhD	Senior Specialist Process Harmonization at Infineon Technologies AG, Austria
Hungary	Biotechnology	PhD	PhD Student, Department of Biotechnology, University of Szeged, Hungary
Ireland	Physics	post doc	Manufacturing and Operations Department University of Limerick
Netherlands	Molecular Cell Biology	PhD	PhD Project in UMC Utrecht
Netherlands	Plant Biology	PhD	PhD Researcher, Department of Plant Biology, Utrecht University
Netherlands	Plant Ecology	post doc	post doc Utrecht University (Plant Ecology / National Herbarium of the Netherlands)
Poland	Biotechnology and food Sciences	PhD	PhD Student, Faculty of Biotechnology and Food Sciences, Technical University of Lodz
Poland	Mathematics	PhD	PhD Student, Institute of Automatic Control, Technical University of Lodz; Lecturer, Academy of Management in Lodz.
Poland	Technical Physics, Computer Science and Applied Mathematics	PhD	PhD Student, Faculty of EEIiA, Technical University of Lodz
Romania	Chemical Engineer	post doc	Scientific Researcher Degree III, Chief of the Chemistry Laboratory from the Forest Research Station Campulung Moldovenesc
Romania	Cybernetics and Economic Forecasting	post doc	Teaching Assistant and Member of the Excellence Research Group CERV-ISI, Academy of Economic Studies, Bucharest
Romania	Mathematics and Computer Sciences	PhD	Head Lecturer (Numerical Analyses), Faculty of Mathematics and Computer Science, Ovidius University of Constanta

Romania	Physics	post doc	Researcher at the Department of Molecular Genetics and Radiobiology, V. Babes National Institute, Bucharest
Scotland	Biotechnology	post doc	Post Doctoral Research Associate at the University of Glasgow
Spain	Chemistry	post doc	Full time Researcher, Physic Department, University of Oviedo

Table 1: List of Participants at the Summer School (anonymous)

Figure 1: Participants of the Summer School at the Campus Krems

The curriculum covered topics of great relevance to those engaged in academic and industrial-based research, including personal career development, visibility and management skills, topics which have brought real benefits to students. While these topics illustrate the overall rigour of the course, the ADVANCE project developed also a more innovative style of teaching than that which students may be used to.

Topics

Within this scenario, a number of relevant topics that affect the careers of female researchers in academia and industry are focussed upon. The topics encompassed the following themes:

1) Research Structures and Gender in Academia and Industry
2) Professional Networking
3) International Funding Mechanisms
4) Flop Management

The presentation formats had been developed in close cooperation with the lecturers, with the aim of assuring a broad variety of approaches, ranging from lectures, group work, to round table discussions, and practice.

Skills Building

In contrast to the topics type, skill building entails training and practice of personal and management skills. The aim was on the one hand to address the topic of the working and leading teams and, on the other hand, to enhance communication skills with the goal of 'getting a face' in the scientific community.

The following issues were identified as essential:

1) Leadership skills and working in teams
2) Negotiating and conflict management
3) Communication skills
4) Increasing visibility and self marketing

Career Strategy

This category aimed at developing a strategic career plan which involves short-, mid- and long-term perspectives. The development of an individual strategic career plan was regarded as a core activity within the ADVANCE Summer School. Therefore, this category continued throughout the entire Summer School.

The following tables 2 and 3 give an overview about the program of the two modules, representing the key lectures and topics, as defined within Workpackage 2.[7]

[7] For the detailed program, including CV`s of lecturers, and content of the lectures please refer to D5, Detailed Summer School Program, which was delivered at May, 31st, 2007.

Date	Schedule	Program	Scenario Type
Mo. 23.07.	11:00-12:30	Opening Lecture: The Situation of Women in Science in Europe	Key Note
Mo. 23.07.	14:00-18:00	Getting Ready	Moderated Groups
Tue. 24.07.	09:00-18:00	Research Structures and Gender in Academia and Industry	Topics
Tue. 24.07.	18:30-20:00	Successful Scientists being Interviewed	Expert Talk
We. 25.07.	09:00-10:30	Reflections	Moderated Groups
We. 25.07.	11:00-18:00	Management and Personal Skills	Skills Building
Thu. 26.07.	09:00-16:00	Management and Personal Skills	Skills Building
Thu. 26.07.	16:30-18:00	Reflections	Moderated Groups
Fr. 27.07.	09:00-18:00	Strategic Career Planning - Part I	Career Strategy
Sat. 28.07.	09:00-16:00	Professional Networking	Topics
Sat. 28.07.	16:30-18:00	Reflections	Moderated Groups
Mo. 30.07.	09:00-18:00	International Funding Mechanisms	Topics
Mo. 30.07.	18:30-20:00	Reviewing a Proposal – The Evaluators' View	Expert Talk
Thu. 31.07.	09:00-16:00	Flop Management	Topics
Thu. 31.07.	16:30-18:00	Reflections	Moderated Groups
We. 01.08.	09:00-18:00	Getting a Face – Part I	Skills Building
Thu. 02.08.	09:00-18:00	Getting a Face – Part II	Skills Building
Fr. 03.08.	09:00-12:30	Reflections	Moderated Groups

Table 2: Summer School, Module 1

Date	Schedule	Program	Scenario Type
Fr. 07.09.	10:00-10:30	Welcome and Overview	
Fr. 07.09.	10:30-12:30	Moderated Groups	Moderated Groups
Fr. 07.09.	14:00-18:00	Strategic Career Planning - Part II	Career Planning
Fr. 07.09.	18:30-20:30	Dinner Talk	Expert Talk
Sat. 08.09.	09:00-18:00	Strategic Career Planning - Part II	Career Planning
Sat. 08.09.	18:30-19:30	Advance Mentees: Reflection Groups	
Su. 09.09.	09:15-09:45	Lecture: Advance Mentoring and Coaching Program	Career Planning
Su. 09.09.	09:45-10:30	Lecture: Sexism, Support and Survival in Academia	Career Planning
Su. 09.09.	10:30-11:00	Lecture: Gender and Excellence in Technological Research	Career Planning
Su. 09.09.	11:15-12:30	Moderated Discussions	Moderated Groups
Su. 09.09.	14:00-15:00	Closing Lecture 1: Women and Performance Participation in Education and Science – The Glass Ceiling Phenomenon. Identifying the Problems and Suggestions for Solutions	Key Note
Su. 09.09.	15:00-16:00	Closing Lecture 2: Women in Science: Status and Remedies	Key Note
Su. 09.09.	17:15-18:30	Summer School Closing Certificate Ceremony	

Table 3: Summer School, Module 2

Innovative Aspects

The innovative aspects of the ADVANCE-Project referred to a multiple gender-sensitive training concept regarding these relevant topics for women in an academic and industrial context as well as didactic methods which allowed individual, pedagogic valuable learning atmospheres. This approach combined personal, structural and contextual aspects and satisfies the requirements of multidimensional gender-programs.

On top of this, the ADVANCE project invited in sum 31 lecturers, moderators and experts to contribute to the Advance Summer School and give the participants an insight into what it takes to be successful. They talked about their own career paths, life experiences, and the knowledge they had gained from their time in academia and industry so as to highlight good

practice and provide the students with positive role models, something that is recognized as being a crucial step in encouraging students to pursue their personal goals.

Lecturers at the Advance Summer School			
First Name	Name	Lecture	Country
Opening Lectures			
Jütte	Wolfgang	Department for Continuing Education Research and Educational Management, Danube University Krems	Austria
Herlitschka	Sabine	Head of European and International Programs, Austrian Research Promotion Agency	Austria
Siebenhandl	Karin	Department for Knowledge and Communication Management, Danube University Krems	Austria
Zauchner	Sabine	Department for Interactive Media and Information Technology, Danube University Krems	Austria
Bammer	Doris	Coordination Office for Promotion of Women and Gender Studies, Danube University Krems	Austria
Hermann	Claudine	Honorary Professor of Physics at Ecole Polytechnique	France
Lecturers			
Kienzl	Katja	Infineon Technologies	Austria
Wächter	Christine	Faculty for Interdisciplinary Studies, University of Klagenfurt	Austria
Kogoj	Traude	derort	Austria
Hubrath	Margarete	Uni-Support, Institut für Hochschulberatung	Germany
Beuter	Isabel	CEWS - Center of Excellence Women and Science	Germany
Tzatzanis	Michalis	FFG - Austrian Research Promotion Agency	Austria
Dragosits	Susanne	FFG - Austrian Research Promotion Agency	Austria
Hefler	Günter	Department of Continuing Education and Educational Management, Danube University Krems; 3s Consulting	Austria
Thaler	Anita	Faculty for Interdisciplinary Studies, University of Klagenfurt	Austria
Wagenhofer	Konstanze	Multimedia-Projectmanager, Journalist and Communication Expert	Austria
Zorn	Isabel	Institute for Advanced Studies on Sciences, Technology and Society	Austria
Willoughby	Lynette	Leeds Metropolitan University	United Kingdom
Fisher	Wendy	Open University	United Kingdom
Expert Talks			
Reipert	Birgit	Baxter AG	Austria
Ergma	Ene	Estonian Academy of Sciences, Estonian Parliament	Estonia
Schinzel	Britta	University of Freiburg	Germany
Findlay	John	University of Leeds	United Kingdom
Miksch	Silvia	Danube University	Austria
Pellert	Ada	Vice rector, Danube University Krems	Austria
Reisenbichler	Tina	T-Systems Austria	Austria

Closing Lecturers			
Zauchner	Sabine	Department for Interactive Media and Information Technology, Danube University Krems	Austria
Husu	Liisa	University of Helsinki	Finland
Kouzmanova	Iordanka	Agricultural University	Bulgaria
Fuchs	Stefan	IAB Regional Research Network, Institute for Employment Research	Germany
Moderators			
Carter	Ruth	British Open University	United Kingdom
Zorn	Isabel	Institute for Advanced Studies on Sciences, Technology and Society	Austria
Willoughby	Lynette	Leeds Metropolitan University	United Kingdom

Table 4: List of Lecturers at the Summer School

The didactic approach was based on a constructivist concept focusing on learners as experts with individual learning strategies. Didactic methods like case studies, role games and group interactions should encourage the participants to handle successfully problems on an individual, group and organizational level.

Moderated Groups

The core elements that individually accompany the participants' learning processes consisted of 3 moderated groups. Each group was accompanied by a professional moderator. The aim of the moderated groups was to reflect on given issues and to share opinions on topics that were presented within the Summer School.

Key Notes/Expert Talks

Based on the concept of role modelling, participants of the ADVANCE Summer School become acquainted with women and men, who have succeeded in their scientific careers. Experts from academia and industry, both from Eastern as from Western countries, were invited to share experiences and to provide insights into (hidden) mechanisms and strategies for mastery. As for the lecture formats, podium discussions, dinner talks, and semi structured interviews were held.

Social Events

Getting into contact with each other, learning from each other and are part of the informal learning processes. Social events, either optional or as part of the Summer School offerings support this venue for learning.

Figure 2: Advance Participants and Advance Team at the Closing Ceremony, Dürnstein, Austria, September 2007

Figure 3: Expert Talk during the Summer School: Guests: Britta Schinzel (Germany), Birgit Reipert (Austria) and Ene Ergma (Estonia), Moderator: Sabine Zauchner (Austria)

Figure 4: Lively Discussions at the Summer School, Module 1

Figure 5: different didactic methods were applied at the Summer School

The Mentoring and Coaching Program

Second, a Mentoring and Coaching Program (Track 2) was developed within the frame of ADVANCE. The Advance Mentoring and Coaching Track started with April 2007 and ran until November 2007 (observation period 9 months)[8].

Definition of Mentoring and Coaching

Within the ADVANCE project, the notions mentoring and coaching are understood in the following way, based on experiences in relevant programs which focus on the enhancement women's careers, as well in academia and in other male-dominated contexts:

- Mentoring is a long term relationship that has both, a personal and a professional dimension.
- It is established between two persons, a mentor and a mentee (one-to-one mentoring).
- It aims at the promotion of the mentee in terms of career development, networking, organisational know-how, etc. within the academic and industrial research context.

In distinction to the definition of Mentoring

- Coaching is perceived as a short term relationship.
- It provides a special focus on certain professional or personal issues.
- Coaching can take place both bilaterally (individual coaching) and in small groups (group coaching). It aims at a quick and focused collaboration between the coach and the coachee, the former supporting the latter in developing her own skills.

The ADVANCE Mentoring and Coaching Program was implemented at all organisations involved. Following the intended sustainability each partner institution nominated one person responsible for running the program the so-called "catalyst".

- Cecilia Asberg: GGeP-The Graduate Gender Programme, University of Utrecht
- Liisa Husu: Helsinki Collegium for Advanced Studies, University of Helsinki
- Christine Wächter/ Anita Thaler: IFZ-Inter-University Research Centre for Technology, Work and Culture, University Klagenfurt
- Joanna Szecsinska: Academy of Management, Lodz
- Georgi Apostolov: South-West University 'Neofit Rilski', Blagoevgrad
- Doris Bammer (replacing Michaela Gindl, maternity leave): Danube University Krems

The implementation of the ADVANCE Mentoring and Coaching Program started with the recruitment of the three mentees and three corresponding mentors in February 2007 and ended in November 2008.

[8] For details refer to: Gindl, M., Zauchner, S. & Bammer, D., 2007. Mentoring and Coaching Program including Implementation Plan. Available at: http://www.advance-project.eu/mentoring-and-coaching-program/the-mentoring-and-coaching-program-the-intention/ [Zugegriffen Oktober 2, 2008].

Recruitment

The recruitment criteria for mentors and mentees were jointly developed by the consortium, thus underlining peoples desire to actively participate when involved in programs of this kind.

Recruitment of mentees was based on jointly developed criteria, which were:

- Female
- Motivation to participate
- Study in engineering, science, or technology completed
- Career stage: Pre- or post-doc
- Interested in or pursuing a scientific career in academia or industry
- Awareness concerning respectively experiences with impediments (age, nationality, disability, etc.)
- Willingness to plan and reflect the personal career
- Willingness to work in heterogeneous groups (women from different countries with diverse backgrounds and expectations)
- Willingness to get involved with interdisciplinary approaches
- Willingness to get in contact with various didactic methods (lecture, group work, role play)
- Willingness to reflect oneself, the individual situation in the home-institution, the strategies chosen, the personal perspectives and expectations, etc.
- Willingness to deal with gender issues (reflection of being a woman in academia/research, on the characteristics of a 'gendered organisation', etc.)
- Member of an ADVANCE partner institution
- Willingness show responsibility for maintaining the mentor-mentee relation (arrange personal and telephone contact, exchange email messages regularly over a 8-month period)
- Commitment to participate the Summer School

By professional position the mentors were rectors, directors, research directors, top managers, deans, professors, senior lecturers and recruitment was as well based on jointly developed criteria:

- Female or male
- Expert in engineering, science, or technology (Professor, top manager, top researcher from Industry or Academia)
- Excellent national and international contacts and networks
- Similar working field as the mentee
- Willingness to learn from the mentee
- Willingness to reflect oneself, the individual situation in the home-institution, the strategies chosen, the personal perspectives and expectations, etc.
- Willingness for and/or experience in the promotion of female scientists
- Willingness to deal with gender issues (reflection of being a woman in academia/research, on the characteristics of a 'gendered organisation', etc.)
- Ability to discuss gender issues
- Willingness to mentor a pre- or postdoc via personal contact, telephone and e-mail
- Willingness to stay in regular contact with the mentee via personal contact, telephone and e-mail over an 9-month period

18 mentor-mentee tandems participated in the program: three in Danube University Krems, three in the Academy of Management in Lodz, three in the University of Helsinki, three in IFZ/University of Klagenfurt, three in the South-West University "Neofit Rilski", and three in the University of Utrecht. By professional position the mentors were rectors, directors, research directors, top managers, deans, professors, senior lecturers, both women and men.

As shown in figure 2 below, at the beginning of the mentoring program, a kick-off meeting was organised to reach a common understanding on the mentoring & coaching content and process. In the course of this kick-off meeting, mentors and mentees signed a 'commitment', in which they agreed on the mutual roles, tasks and mode of collaboration. The commitment regulated in detail the frequency of contacts, the forms and instruments of contact, the expectations of both, mentors and mentees, and the milestones in order to meet those expectations.
During the program the mentor-mentees-tandems met regularly face-to-face at each ADVANCE-institution (at least once a month). The so-called "Reflection groups" met at least three times during the Program and were moderated by the catalysts. They supported the individual mentoring tracks in profound ways along the program. This kind of work method along the individual mentoring processes received very positive evaluations from both mentees and catalysts throughout.

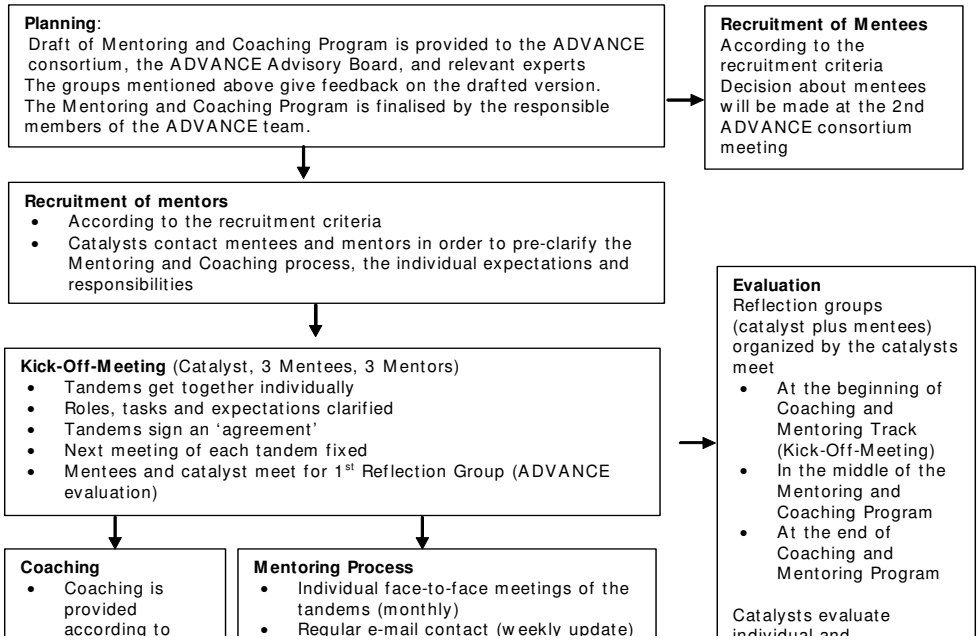

Figure 6: Implementation of the ADVANCE Mentoring and Coaching Program, source: Gindl, Zauchner, Bammer, 2007.

Coaching was included in the Mentoring Program supporting interest among the mentees and additional topics apart from the summer school content. This targeted short-term training was organised on either an individual or group basis so as to complement the mentoring process on topics of particular importance to mentees. The topics of coaching realised within ADVANCE program included obtaining funding, personal development, self-confidence, and management skills including time management, leadership skills, team management and project management.

Figure 7: Reflection groups used different techniques for group works

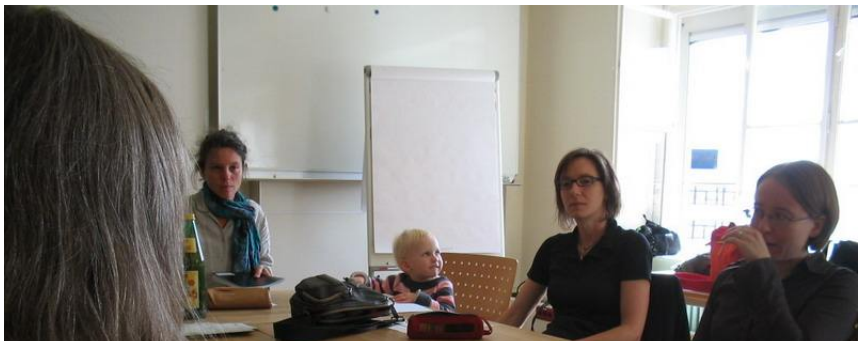

Figure 8: Meeting of the reflection group during the Summer School

Evaluation Strategy and Results

The evaluation of the program was based on systematically collected feedback from key participants of the program in different stages of the program: catalysts, mentees, mentors, Summer School participants and Summer School group moderators. Feedback was collected by standardized evaluation forms developed for the purpose by the consortium. Rich evaluation material was collected and analysed and the results were used to develop the Summer School and mentoring concept further and to formulate a transfer model and recommendations. [9]

Material collected on the Summer School included standardised feedback evaluation sheets with both fixed-answer and open questions concerning the Summer School overall, summaries of group discussions by Summer School reflection group moderators, and feedback forms from participants concerning individual lecturers. The individual Summer School feedback forms were filled and returned by 31 out of the 33 participants in the Summer School. Material collected on the Mentoring and Coaching Program in each participating institution included summaries of three sessions of reflection groups with the mentees, feedback from all catalysts using a form, feedback from altogether 16 mentors, also using a standard form, and feedback on coaching from some organisations.

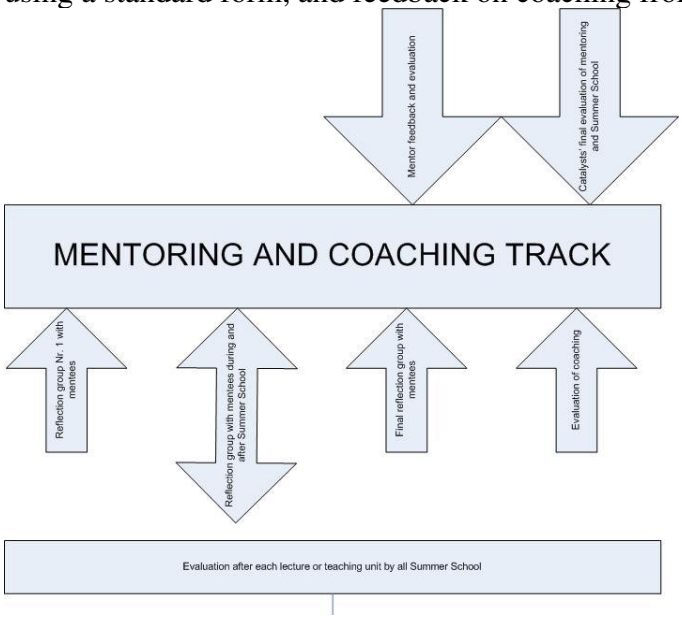

Figure 9: Advance Evaluation Design, source: Husu, 2008.

[9] For details refer to: Husu, L., Program Evaluation Report, Deliverable 8, Advance Project. Available at: http://www.advance-project.eu/plonearticlemultipage.2008-06-19.9916186110/intention [Zugegriffen Oktober 20, 2008].

Evaluation results[10]

Overall, the participant feedback both on the Summer School and the Mentoring and Coaching Program was very positive and indicated that the program had reached its key goals by supporting participants in acquiring research and career management skills and other tools which help them build up their careers.
The Program reached well its intended target group, apart from industrial research sector. 33 female researchers from old and new EU member states participated in the Summer School, including the 18 researchers who were also participating as mentees in the Mentoring and Coaching Program in the six ADVANCE partner universities. An overwhelming majority of the Summer School participants was employed in academia, and only one in industry, a few were employed in governmental research organisations, and a few in mixed sector settings. Even if industrial researchers belonged to the target group, there was little interest among them to apply for the Summer School.

Over half of the participants assessed the relevance of the Summer School for research career as high, and around half of the participants saw the relevance was good thinking their own career. They mentioned that participation in the Summer School had increased self-esteem, assertiveness and self-knowledge, generally empowered and given energy to pursue their career and tackle problems, that they had gained confidence and new skills, or learned to organise and manage better their professional life. One indication of relevance is also that a clear majority of the participants said they would recommend the Summer School to their colleagues. However, a clear majority said they would not participate if a fee was charged and no stipends were available. Rather than lack of interest this may indicate the economical constraints of European researchers in general and poor availability of funding for this kind of training in most research sites.

Highlights of the Summer School according to the participant feedback were career planning modules, moderated groups, and opportunity to meet role models, networking, and funding advice. As mentioned before these were also core parts of the Summer School Program. The key elements of the Summer School pedagogy, moderated reflection groups which met several times during the Summer School and were professionally moderated, were rated very positively by the participants. Success in networking among participants was also rated as fairly good.

Participants and moderators were also asked how to improve the program. More training was suggested on scientific writing skills and publishing (CVs, applications, articles), on management skills, including conflict management and dealing with difficult situations, information on alternative career paths, industry relevant issues, teamwork, gender issues and even on how to dress. More deep-going training was suggested on career management, career possibilities, dealing with problem situations, and personal development. The moderators suggested to add training on group dynamics in international research groups, international research mobility including contact details of mobility programs, training on international working teams, gender discrimination, assertiveness training, and using electronic technologies in research" (i.e. Web 2.0). Feedback on the pedagogy and practical set-up

[10] Husu, Liisa, 2008: Program Evaluation Report, Deliverable 8, Advance Project, available at: www.advance-project.eu [October 2, 2008]

included wishes to differentiate the contents at least to some extent by career phase and make the program more flexible, and need for more individual feedback and coaching.

Overall it can be concluded that the mentoring processes had been empowering. Most mentees were satisfied with the program, and some of them very satisfied. Most were satisfied with their mentors, some very satisfied, but there were also mentor-mentee tandems where the fit could have been better. The short time frame was a challenge as well in terms of developing the relationship between mentor and mentee.

The career phases of the mentees and their expectations towards the program varied and so the gains they expected and received were thus also necessarily varied and multiple. Many younger pre-doctoral mentees expected more concrete career guidance and advice on specific issues such as publishing and teaching, whereas several post-doctoral mentees expected to reflect more deeply the issues covered and their career development.
Reflection group as a work method along the individual mentoring processes received very positive evaluations from both mentees and catalysts throughout. The groups met 3-5 times during the program for one and half to two hours at a time and were moderated by the catalysts. It was obvious that the reflection groups brought a lot of added value to individual mentoring processes. They supported the individual mentoring tracks in profound ways along the program. They allowed and encouraged the mentees to compare and comment each other's experiences, to exchange and reflect ideas on how to solve problems that might arise or to prepare together which issues could be taken up with the mentors and how. For some mentees, the reflection group played even a more important or nearly an equally important role than meetings with their mentor. Mentees and catalysts reported mentees had received support, stimulation and encouragement, gained self-confidence, confidence in their skills and self-knowledge, better understanding of career development and options, and obtained lots of useful information and guidance on several key issues in academic careers such as career management, publishing and teaching.

Recruiting mentors was considered easy in three of the participating organisation, whereas in three others this was considered difficult or fairly difficult. It was a common and expected observation that the potential mentors were extremely busy professionals, and demands on their time heavy. It is a major challenge for catalysts of this kind of programs how to convince busy professionals who are potential mentors on the importance and expected rewards of being a mentor. In some cases it was problematic to find mentors who had a good fit with mentee's disciplinary background. Commitment of participating mentees was assessed to be high by the catalysts, and commitment of mentors high or satisfactory. Time constraints played a major role here.

Thus, not only mentees gained from the program. The feedback on the program from the mentors was overall positive. They were happy to be able to help and promote young women in scientific careers in this way. Many mentors mentioned also how they were not only at the giving end but had learned valuable insights themselves. They had learned about problems young and mid-career women encounter and which they had not been aware of, gained insights into postdoctoral careers of today. Participation in the program was a learning experience since it had made them to reflect their own career as well and opened new perspectives. All but one mentor said they would participate again in a program of this kind. Time constraints hindering stronger commitment were complained about by a few mentors. Greater variation was found in the assessment of support from mentor's own organisation: around half of the mentors had enjoyed strong support, half satisfactory support, and two

rated the support as scarce. Mentoring is obviously not recognized as valuable professional activity in all participating organisations.

As critical issues for the success of the Mentoring and Coaching track the following issues were identified: how to identify and recruit motivated high quality mentors; how to secure a good mentor-mentee fit; giving each participant, both mentor and mentee, clear guidance on mentoring as a work form in the beginning of the program; careful time management both at the program level and in individual mentoring processes; and the length of the mentoring relationship.

Transfer Models and Recommendations

The impact of the developed Training and Mentoring Program was amplified by supporting other organisations on a European level to build up similar training programs in their institutions. For this purpose, "Transfer Models and Recommendations"[11] based on experience from the Summer School and the Mentoring and Coaching Program as well as from the evaluation of the two tracks were developed by the Advance Consortium.

In order to advertise the outcomes of the Advance project the final conference 'Supporting Women in scientific careers' was held in Brussels on June 26th and 27th, 2008. Coordinators of the EU-projects 'Encouragement to Advance – Training Seminars for Women Scientists', led by the Center of Excellence Women in Science, and 'Advanced Training for Women in Scientific Research', led by Danube University Krems decided to host the final conference of their projects jointly, because both projects compass similar objectives.
The aims of the conference were to facilitate straightforward information and exchange on good-practice examples from the two projects. The conference highlighted the current and future impact of training activities for encouraging women scientists, such as the Transfer Models and Recommendations. The conference put the context of the scientific community and the scientific culture in Europe itself up for discussion, by reflecting the policy making process and social aspects of science.

For this purpose the conference addressed responsible persons from HR field from universities and research organisations, who would like to gain information on instruments and supportive modules like training seminars, mentoring and summer schools for women scientists. Furthermore, the conference addressed post-graduates, doctoral students, post-doc researchers, and senior level researchers who are interested in career development as well as commissioners for equal opportunities.[12]

The recommendations to transfer the ADVANCE program concern both the contents and topics of the program and the practical realization and implementation: pedagogy and didactics, roles of and requirements for different participants, contextual conditions, information and evaluation. They are based on extensive evaluation of the program in which all ADVANCE consortium partners actively took part.

[11] All resources are available free of charge for interested organisations at the Advance web-platform.

[12] The Conference was attended by more than 50 representatives of (European) organisations and universities from 21 countries. For two days the conference became a market-place of networking, lively discussions and presentations. The Conference report is available at the Advance Webplattform, D13: Dissemination conference Report, 17/09/08.

The main target group of the ADVANCE transfer models are European universities and other academic and research organisations interested in making a concentrated effort to advance gender equality by providing systematic support for women in research careers. The ADVANCE program can be realised nationally, regionally or internationally, by one University or in a co-operation of several universities from one country or several countries. Another important target group are individuals (academic staff, management and HR staff) and networks within these organisations interested in advancing women's research careers.

- The first recommendation of the ADVANCE Program is to combine a Mentoring Program for women scientists with organising a Summer School and to offer additionally some career coaching according to the needs of the participants.

- The Program needs a named co-ordinator who is responsible for managing, running and developing the Program inside the organisation.

Transferring the Summer School

- Explain clearly the goals and vision behind the Summer School in advertising and recruitment.

- Use application procedure for recruiting the participants to Summer School to secure motivation of participants.

- Organise the Summer School in two parts, with enough reflection and application time in-between.

- Recruit high level experts as trainers. In international Summer School arrangements, secure good cultural competence and knowledge of international research contexts, as well as language skills.

- Multiple didactic methods in training are recommended, including moderated discussions in the same small groups throughout the Program.

- Support the training by making available relevant reference lists, recommended reading lists and web links.

- To provide continuity and overview, one of the Summer School organisers should be present in all training events.

- The Summer School should be free of charge to participants. Additional funding should be provided if necessary to cover costs otherwise not covered (travel, subsistence).

- Define carefully and communicate clearly what are the responsibilities of the participants and the organisers.

- In international Summer Schools the organisers should monitor and be sensitive to intercultural problems which could occur.

Transferring the Mentoring and Coaching Program

- Select only mentees who are motivated and committed. Underline that mentees are expected to take an active role in the Program.

- Dedicate considerable time and effort for identifying and recruiting good mentors. Use multiple methods to identify good candidates and contact them personally.

- Secure enough distance in the professional spheres of the mentor and mentee to avoid ethical problems later.

- Fix dates for the Program meetings and for individual mentor-mentee tandem meetings in the beginning for whole duration of the Program.

- Mark and celebrate the start and end of the Program by special events for all involved.

- Organise mid-way meetings as well for all persons involved, and meetings for the mentors only.

- Mentees should be encouraged to take an active role in the mentoring process and to document the lessons learned for later use.

- Organise reflection groups for mentees throughout the Program to provide additional peer support and sounding board.

- Collect and analyse systematic feedback to evaluate and improve the Program.

Short term impact, implementation differences between east and west

The six higher education and research institutions participating in the ADVANCE Program represent five EU countries: Austria, Bulgaria, Finland, Holland and Poland, and have somewhat different profiles.[13] The size and focus of the organisations varies, creating different contexts and conditions in which the program was implemented. Three of the participating organisations are from public multi-faculty universities, one is a university specialized in further education, one is a private university focusing on management, and one an interdisciplinary research centre of a university.

In general participation in the program has inspired several participating organisations or individuals to plan, establish or widen mentoring programs in their organisations. Mentors said they would be interested in recommending a mentoring program to their organisations, and some of them worked in organisations which already run such programs. Whereas in detail the national contexts the program was implemented varied. Since mentoring as a concept is familiar in Austria, Finland and the Netherlands, it is new in Bulgaria and Poland in the academic and research contexts.

In IFZ/University of Klagenfurt (Austria), an institution wide peer mentoring program was started as a result of participating in ADVANCE. This program supports the four ADVANCE mentees and all other interested female colleagues, including also the two catalysts. The main objectives of the peer mentoring are networking and exchanging on career planning, work-life balance and how to increase and maintain job satisfaction and motivation. In addition, one mentee continues her mentoring process, now mentored by one of the catalysts. In Danube University Krems (Austria), all mentor-mentee tandems would like to continue their mentoring relationship. In University of Utrecht (Netherlands), no official continuation has been decided but the mentors were open to further co-operation.

In the University of Helsinki (Finland), participation in ADVANCE has speeded up the plans to establish a mentoring program for women researchers in the university, and this kind of mentoring program has been chosen as one key gender equality action by the Equality Committee of the University for the coming years. Two of the mentors from Helsinki also reported on plans to start a mentoring program in their own institutes. A mentoring program has been suggested for Biocentrum Helsinki where one of the Helsinki mentors came from. Biocentrum is an umbrella organization within the University of Helsinki including 28 top research groups in molecular biology and molecular medicine. The mentees would be senior postdocs, both women and men, who plan an academic career. Another mentor, a research professor from the Finnish Meteorological Institute, a large sector research institute, has initiated planning of a similar program to run in her institute. The mentees have continued to meet in their reflection group also after the formal ending of the mentoring program.

In Bulgaria the mentoring culture is a novelty. Even though some kinds of support to young researchers from their senior colleagues exist it has never been systematic, purposeful and long term activity but only incidental and in most cases quite formal. This especially concerns the support to the young female scientists and university professors. Thus the ADVANCE

[13] For details refer to: Husu, Liisa, 2008: Program Evaluation Report, Deliverable 8, Advance Project, available at: www.advance-project.eu [October 2, 2008]; Husu, L. & Siebenhandl, K., Transfer Models: Recommendations for implementing a Summer School and Mentoring and Coaching Program for Women Scientists. Available at: http://www.advance-project.eu/plonearticlemultipage.2008-06-19.9916186110/intention [Zugegriffen Oktober 2, 2008].

project had strong impact on introducing mentoring as a new approach towards career development in one of the largest Bulgarian higher education institutions – the South-West University "Neofit Rilski" in Blagoevgrad, Bulgaria.

Conclusions

The ADVANCE Summer School and Mentoring and Coaching Program have succeeded in providing multiple, gender-sensitive and career-relevant support and training for female scientists in different career stages. The program has had an empowering impact on the participants. The participants have gained more motivation and self-confidence, learned various professional and management skills, networking skills, and became more conscious of different aspects and demands in scientific careers, including specific challenges women scientists encounter. One of the factors behind the success was the combination of multiple didactic methods: lectures, group discussions, developing individual mentoring relationships, and possibility for individual and/or group coaching. The program has also enhanced networking among participating researchers.

The program had also organisational impact in the participating universities and through senior researchers who participated as mentors. Through the program, participating organisations and mentors have become more aware of problems women scientists encounter on the one hand and on the other hand of the need to organise systematic career support structures in both pre- and postdoctoral career phase. As a result, several participating organisations are going to start related programs in the near future, which was also one aim of the project.

Figure 10: The Advance Team at the Final Conference, Brussels, June 2008
From left to right, first raw: Georgi Apostolov (SWU), Sabine Zauchner, Karin Siebenhandl (both DUK), Christine Wächter (IFZ), Doris Bammer (DUK)
Second raw: Liisa Husu (UHHCAS), Anita Thaler (IFZ), Joanna Szeszinska (SWSPIZ), Edyta Just (UU)

References

Bammer, Doris 2007: Detailed Summer School Program, Deliverable 5, Advance Project, available at: www.advance-project.eu [October 2, 2008]

Dalhoff, Jutta, 2006: Anstoß zum Aufstieg – Karrieretraining für Wissenschaftlerinnen auf dem Prüfstand. Bielefeld: Kleine Verlag.

European Commission Directorate-General for Research, 2005: Women and Science; Excellence and Innovation - Gender Equality in Science.
Available at: http://ec.europa.eu/research/science-society/pdf/documents_women_sec_en.pdf [Oktober 2, 2008].

European Commission Directorate-General for Research, Women and Science, 2006: Statistics and Indicators, She Figures 2006.
Available at: http://ec.europa.eu/research/science-society/pdf/she_figures_2006_en.pdf [Oktober 2, 2008].

European Commission Directorate-General for Research, Women in Industrial Research, 2006: A Wake up Call for European Industry.
Available at: http://ec.europa.eu/research/science-society/women/wir/pdf/wir_final.pdf [Oktober 2, 2008].

Gindl, Michaela, Hefler, Günter, 2006: Gendersensible Didaktik in universitärer Lehre und Weiterbildung für Erwachsene. In: Anita Mörth, Barbara Hey, Koordinationststelle für Geschlechterstudien, Frauenforschung und Frauenförderung der Universität Graz (Eds.), geschlecht + didaktik. [online]. Available at: http://www.uni-graz.at/kffwww/geschlecht_didaktik/#top, [October 2, 2008].

Gindl, Michaela, Zauchner, Sabine, Bammer, Doris 2007: Mentoring and Coaching Program including Implementation Plan, Deliverable 4 and 6, Advance Project, available at: www.advance-project.eu [October 2, 2008]

Granovetter, Mark, 1995: Getting a job – a study of contacts and careers. Chicago: Univ. of Chicago Press.

Hey, Barbara, Wieser, Ilse, 2003: Potenziale, Barrieren und Chancen. Frauen an der Universität. Projekt-Endbericht, Graz.

Howard Hughes Medical Institute, 2004: Making the Right Moves: A Practical Guide to Scientific Management for Postdocs and New Faculty. Maryland: Howard Hughes Medical Institute.

Husu, Liisa, Siebenhandl, Karin, 2008: Transfer Models: Recommendations for implementing a Summer School and Mentoring and Coaching program for Women Scientists, Deliverable 9 Advance Project, available at: www.advance-project.eu [October 2, 2008]

Husu, Liisa, 2008: Program Evaluation Report, Deliverable 8 Advance Project, available at: www.advance-project.eu [October 2, 2008]

Lind, Inken, 2004: Aufstieg oder Ausstieg? Karrierewege von Wissenschaftlerinnen - Ein Forschungsüberblick. Bielefeld: Kleine Verlag.

Zauchner, Sabine, Gindl, Michaela, 2006: Documentation of Preparatory Workshop, Deliverable 2, Advance Project, available at: www.advance-project.eu [October 2, 2008]

Zauchner, Sabine, Gindl, Michaela, 2007: Summer School Curriculum, Deliverable 3, Advance Project, available at: www.advance-project.eu [October 2, 2008]

Zuckerman, Harriet, 2001: The Careers of Men and Women Scientists: Gender Differences in Career Attaiments. In: Mary Wyer, et al. (Ed.), Women, Science and Technology: A Reader in Feminist Science Studies (pp. 302-311). New York: Routledge.

Section 2 – Dissemination and use

Exploitable knowledge and its Use

Based on the evaluation report and feedback from the Advisory Board of the ADVANCE consortium, the experiences and outcomes of Summer School and the Mentoring and Coaching Program were refined to so-called "Transfer Models". Essential prerequisites that allow for sustainable implementation of coaching and mentoring as parts of regular personnel development within the single institutions were defined.
All resources are available free of charge for interested organisations as well as for the consortium itself. It is not planned to make commercial use of the projects outcomes.

Table 5: Exploitable knowledge and its Use: Overview table

Exploitable Knowledge (description)	**Exploitable product(s) or measure(s)**	**Sector(s)** of application	Timetable for commercial use	Patents or other IPR protection	**Owner** & Other Partner(s) involved
Prerequisites and Organisation, Curriculum of Summer School, lecturers networks	Curriculum of Summer School	Universities, industrial research field	No commercial use planned		All consortium members
Implementation, Organisation and running of Coaching and Mentoring Programs	Coaching and Mentoring Program	Universities, industrial research field	No commercial use planned		All consortium members
Recommendations concerning both the contents and topics of the program and the practical realization and implementation: pedagogy and didactics, roles of and requirements for different participants, contextual conditions, information and evaluation.	Recommendations for Transfer Models	Universities, industrial research field	No commercial use planned		All consortium members

Dissemination of knowledge

Table 6: Dissemination of knowledge: Overview table

Planned/actual Dates	Type	Title	Type of audience/medium	Countries addressed	Partner responsible /involved
Sep.07	Press Article	Advance: Die Karriere von Wissenschaftlerinnen fördern	CliniCum, Das Magazin für Führungskräfte im Krankenhaus, 09/2007/ 1050 Wien	Austria, Germany	DUK
Mar.08	Press Release	Supporting Women in Scientific Careers		europewide	DUK
Apr.08	Press Release	Supporting Women in Scientific Careers		europewide	DUK
Jun.08	Newsletter	Advance Final Conference Announcement		Austria, Germany	UNIKLU/IFZ
Jun.08	Newsletter	Advance Final Conference Announcement		Austria, Germany	UNIKLU/IFZ
Jun.08	Press Article	Advanced training for women in scientific research	eStrategies / Projects	europewide	DUK
Jun.08	Press Article	Advertisement about the 'Information day'	Gazeta Wyborcza	Poland	SWSPIZ
Aug.08	Email	Advance Projects and its outcomes		europewide	UU
Aug.08	Press Article	Zdominowana przez mężczyzn dziedzina badań naukowych w Europie oznacza, że potencjał kobiet-naukowców nie jest wykorzystywany.	http://www.sprawynauki.edu.pl/?section=article&art_id=2888	Poland	SWSPIZ
Aug.08	Press Article	ADVANCE Zaawansowane szkolenia w dziedzinie badań naukowych dla kobiet	http://www.bruksela.lodzkie.pl/pl/projekty/0865.html	Poland	SWSPIZ
Sep.08	Press Article	Zaawansowane szkolenia w dziedzinie badań naukowych dla kobiet ADVANCE	www.edu.info.pl/strona.php?4677	Poland	SWSPIZ
Oct.08	Press Article	Advance Report	Unisono, Journal of the University of Klagenfurt	Austria, Germany	UNIKLU/IFZ
Oct.08	Press Article	Advance Report	Soziale Technik, Zeitschrift für umwelt- und sozialverträgliche Technikgestaltung	Austria, Germany	UNIKLU/IFZ
Oct.08	Press Release	Frauenförderprogramm „Advance“ ausgezeichnet ; Donau-Universität Krems erhält eGovAward-Sonderpreis für Niederösterreich	http://www.donau-uni.ac.at/de/aktuell/presse/index.php?URL=/de/aktuell/presse/pressemitteilungen	Austria, Germany	DUK

In the first phase of the project the main aim of dissemination activities was to inform effectively about the project to the key target group – potential mentees and potential summer school participants – to secure a large and relevant application pool.
Whereas in the second phase of the project the main disseminating activities where to introduce the outcomes, experiences of the Advance Mentoring and Coaching Program as well as the Summer School. Especially the Recommendations and Transfer Models had been disseminated at various media in order to support other organisations on a European level to build up similar training programs in their institutions. The Dissemination Conference organised together with the ENCOUWOMSCI-Project was disseminated europewide via various channels: Email-Lists, Newsletters, websites and Press Releases. Partners contributed to this activity by providing their national networks with this information. As a response to these activities a number of interviews and articles could be established in order to raise attention for the program.

In October 2008 the Advance Project won the special-price for "Gender equality within IT" for the Region of Lower Austria. This prize was awarded by the Austrian Minister of Female Affairs and Regional Development.

The Advance project was during the whole project duration presented within 16 scientific conferences in order to disseminate the "Transfer Models" and the outcomes of the Coaching and Mentoring Program and the Summer School.

Title of the Conference	Startdate	Enddate	Venue	Title of Paper Submitted	Form of Participation	Presentation Title	Leading Partner	Website
Workshop of Finnish women and science EU projects		20.08.2007	Helsinki, Finland		Presentation	ADVANCE	UHHCAS, L.Husu	
5th European Conference on Gender Equality in Higher Education	28.08.2007	31.08.2007	Berlin, Germany	ADVanced TrAining for WomeN in ScientifiC Research (ADVANCE)	Poster	ADVanced TrAining for WomeN in ScientifiC Research (ADVANCE)	DUK, K.Siebenhandl	http://www2.hu-berlin.de/eq-berlin2007/index.htm
WISER Festival – Women in Science, Research and Education	04.10.2007	05.10.2007	Maastricht, Netherlands	General Information regarding ADVANCE Project	Poster	General Information regarding ADVANCE Project	UU, Edyta Just	http://www.wiserineurope.eu/

Women in Engineering and Technology research; PROMETEA International Conference	26.10.2007	27.10.2007	Paris, France	ADVANCE – Advanced Training for Women in Scientific Research: Reviews on an Innovative Concept	Presentation and Paper	ADVANCE – Advanced Training for Women in Scientific Research: Reviews on an Innovative Concept	DUK (M. Gindl, S.Zauchner, D. Bammer)	http://www.prometea.info/conference2007/
EU-MENT-NET – Building a European Network of Mentoring Programmes for Women in Academy and Research"		03.12.2007	Blagoevgrad, Bulgaria		Presentation	MENTORING FOR WOMEN SCIENTISTS: Positive and Negative Previous Experience in Bulgaria; the ADVANCE Project	SWU, G.Apostolov	
Gender Equality Seminar of the University of Helsinki		03.03.2008	Helsinki, Finland		Presentation	Helsinki Mentoring as support in women's research careers	UHHCAS, L.Husu and S.Timonen	
"Start-up of New Mentoring Initiative for the Balkan Region and Strengthening the Visibility of Women Scientists as Role Models for Early Career Women Academics and Researchers (an international conference organised by EUMENT-NET)	16.05.2008	16.05.2008	Sofia, Bulgaria		Presentation	"The Pilot Mentoring Scheme within ADVANCE Project: Mentees' Experience" (Ilinka Dimitrova, Darinka Kaisheva, Petranka Petrova) and "Expectations of a Potential Eument-net mentee"	SWU, Rositsa Nakova	
"Young Women in Science" – a conference organized by the "Young Scientists" Club	02.06.2008	02.06.2008	Sofia, Bulgaria			"Advanced Training for Women in Scientific Research"	SWU, Georgi Apostolov	http://www.cys.bg

EPWS Annual conference "Women Shaping Science"	05.06.2008	07.06.2008	Vilnius, Lithuania	ADVanced TrAining for WomeN in ScientifiC Research (ADVANCE)	Poster	ADVanced TrAining for WomeN in ScientifiC Research (ADVANCE)	DUK, K.Siebenhandl	www.epws.org
EPWS Annual conference "Women Shaping Science"	05.06.2008	07.06.2008	Vilnius, Lithuania	The Advance Mentoring and Coaching Programme	Presentation	The Advance Mentoring and Coaching Programme	DUK, K.Siebenhandl	www.epws.org
EPWS Annual conference "Women Shaping Science"	05.06.2008	07.06.2008	Vilnius, Lithuania	The Advance Mentoring and Coaching Programme	Presentation and Conclusion from Session	The Advance Mentoring and Coaching Programme	UHHCAS, L. Husu	www.epws.org
Dissemination Conference "Supporting Women in Scientific Careers"	26.06.2008	27.06.2008	Brussels, Belgium		Key Note Presentation	Women in scientific careers: Current challenges and visions for the future	UHHCAS, L. Husu	www.advance-project.eu
Dissemination Conference "Supporting Women in Scientific Careers"	26.06.2008	27.06.2008	Brussels, Belgium		Key Note Presentation	ADVANCE-the project: Results and Impact	DUK, K.Siebenhandl	www.advance-project.eu
Dissemination Conference "Supporting Women in Scientific Careers"	26.06.2008	27.06.2008	Brussels, Belgium		Moderation and Key impact for Round table discussion	“What can we learn from participants’ experiences?”	SWU, Georgi Apostolov, Ilinka Dimitrova	www.advance-project.eu
Dissemination Conference "Supporting Women in Scientific Careers"	26.06.2008	27.06.2008	Brussels, Belgium		Moderation and Key impact for Round table discussion	"How to successfully set up a support program"	DUK, K.Siebenhandl, S. Zauchner, D. Bammer	www.advance-project.eu
Dissemination Conference "Supporting Women in Scientific Careers"	26.06.2008	27.06.2008	Brussels, Belgium		Moderation and Rapporteur at Round table discussion	Training, Mentoring, Summer School - what can/shoul trainers and mentors offer	UNIKLU, Christine Wächter	www.advance-project.eu

ICWES14	15.07.2008	18.07.2008	Lille, France	Women`s careers in industrial technology research	Paper	no presentation	UNIKLU, Anita Thaler	http://www.icwes14.org
ICWES14	15.07.2008	18.07.2008	Lille, France	Careers of Women Engineers in Academic Technology Research	Presentation and Paper	Careers of Women Engineers in Academic Technology Research	UNIKLU, Christine Wächter	http://www.icwes14.org
ICWES14	15.07.2008	18.07.2008	Lille, France	Advance: Promoting female scientists	Poster	Advance: Promoting female scientists	DUK, K.Siebenhandl	http://www.icwes14.org

Table 7: Scientific Conferences

Highlights

At the Conference of ***"Women in Engineering and Technology research; PROMETEA International Conference"***, held in October, 2007 at Paris, France a scientific paper "ADVANCE – Advanced Training for Women in Scientific Research; Reviews on an Innovative Concept" was presented by Doris Bammer (DUK).

Advance participation at the EPWS Annual conference "Women Shaping Science", Vilnius, Lithuania, June 2008
The Advance team suggested to organise a session on mentoring, which had the objective to highlight the opportunities of different mentoring programmes implemented across Europe. This session reflected European co-operation in this area by presenting and discussing results and sharing experiences of three EU-funded projects aiming to empower women researchers and enhance and support their careers. The projects were Advance, Eument-Net and Encouwomsci. The session provided an opportunity to network and to explore possibilities and partnerships for future co-operation in this area.

Advance final conference 'Supporting Women in Scientific Careers', Brussels on June 26th and 27th, 2008.
Coordinators of the EU-projects 'Encouragement to Advance – Training Seminars for Women Scientists', led by the Center of Excellence Women in Science, and 'Advanced Training for Women in Scientific Research', led by Danube University Krems decided to host the final conference of their projects jointly, because both projects compass similar objectives. The conference aroused great interest, more than 50 representatives of (European) organisations and universities from 21 countries participated in the conference. For two days the conference became a market-place of networking for new opportunities, lively discussions about Gender and Science and presentations of the two entitled projects.

Section 3 - Publishable results

Bammer, D., 2007. Detailed Summer School Program. Available at: http://www.advance-project.eu/the-summer-school/the-summer-school-content/ [Zugegriffen Oktober 2, 2008].

Gindl, M., Zauchner, S. & Bammer, D., 2007. Mentoring and Coaching Program including Implementation Plan. Available at: http://www.advance-project.eu/mentoring-and-coaching-program/the-mentoring-and-coaching-program-the-intention/ [Zugegriffen Oktober 2, 2008].

Husu, L., Program Evaluation Report, Deliverable 8, Advance Project. Available at: http://www.advance-project.eu/plonearticlemultipage.2008-06-19.9916186110/intention [Zugegriffen Oktober 20, 2008].

Husu, L. & Siebenhandl, K., Transfer Models: Recommendations for implementing a Summer School and Mentoring and Coaching Program for Women Scientists. Available at: http://www.advance-project.eu/plonearticlemultipage.2008-06-19.9916186110/intention [Zugegriffen Oktober 2, 2008].

Zauchner, S. & Gindl, M., 2006. Documentation of the Preparatory Workshop. Available at: http://www.advance-project.eu/the-summer-school/the-summer-school-content/ [Zugegriffen Oktober 2, 2008].

Zauchner, S. & Gindl, M., 2007. The Advance Summer School Curriculum. Available at: http://www.advance-project.eu/the-summer-school/the-summer-school-content/ [Zugegriffen Oktober 2, 2008].

Project no. 036712 (SAS6)

ADVANCE

ADVANCED TRAINING FOR WOMEN IN SCIENTIFIC RESEARCH

Specific Support Action, SA S6

Thematic Priority: Science and Society

Publishable final activity report

Period covered:	from 01/09/06 to 31/08/08
Date of preparation:	27/10/08
Start date of project: 01/09/06	Duration: 31/08/08
Project Coordinator Name:	Dr. Karin Siebenhandl
Project coordinator organisation name:	Donau-Universität Krems, Universität für Weiterbildung Krems

Revision: Draft

Publishable Executive Summary combining report 1 and 2

There are significant differences in the career paths of male and female scientists. The road towards faculty positions not only takes longer for women, but there is also a significant portion of female candidates who drop out before reaching their goal, a phenomenon appropriately referred to as 'leaky pipeline'[1]. This syndrome feeds on itself, since the paucity of females in leading positions, both in academia and industry, results in few role models for ambitious graduate students to emulate.
The ADVANCE project (http://www.advance-project.eu) addresses the issue of gender equality in science and research and intends to make a contribution towards '*plugging the leaky pipeline'*.
The objective of the ADVANCE program was to *promote the participation of women* in science and research by supporting female scientists in acquiring research and career management skills and other tools which help them build up their careers. The project is coordinated by the Danube University Krems in cooperation with five European universities from Austria, Bulgaria, Finland, the Netherlands and Poland. The project duration was 2 years starting from September 2006.

The goals were to be realized through career training and mentoring and coaching activities. In addition, enhancing and encouraging networking has been an important part of the program. The program targeted female researchers in pre-doctoral and postdoctoral career phase in natural sciences and technology.

The program consisted of two main parts which were closely interlinked: a Summer School (track 1), and a Mentoring and Coaching Program (track 2).

- an **International Summer School Program (track 1)** for training in career management skills, essential in an academic or industrial scientific/R&D environment at the Danube University Krems

- a **Mentoring and Coaching Program (track 2)** focusing on building up mentoring relationships related to professional and personal growth established at all partner organisations

The recommendations to transfer the ADVANCE program concern both the contents and topics of the program and the practical realization and implementation: pedagogy and didactics, roles of and requirements for different participants, contextual conditions, information and evaluation. They are based on extensive evaluation of the program in which all ADVANCE consortium partners actively took part.

- Main output are the so-called **transfer models and recommendations for implementing the ADVANCE program** in other European universities and research organisations

[1] European Commission Directorate-General for Research, 2005. Women and Science; Excellence and Innovation - Gender Equality in Science. Available at: http://ec.europa.eu/research/science-society/pdf/documents_women_sec_en.pdf [Oktober 2, 2008].
European Commission Directorate-General for Research, Women and Science; Statistics and Indicators, She Figures 2006. Available at: http://ec.europa.eu/research/science-society/pdf/she_figures_2006_en.pdf [Oktober 2, 2008].
European Commission Directorate-General for Research, Women in Industrial Research: A Wake up Call for European Industry. Available at: http://ec.europa.eu/research/science-society/women/wir/pdf/wir_final.pdf [Oktober 2, 2008].

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Section 1 – Project execution

The ADVANCE project (http://www.advance-project.eu) addresses the issue of gender equality in science and research and intends to contribute to plugging the leaky pipeline by supporting female scientists in acquiring research and career management skills as well as tools that help them build up their careers. The objective of the ADVANCE program was to *promote the participation of women* in science and research by supporting female scientists in acquiring research and career management skills and other tools which help them build up their careers.

The project is coordinated by the Danube University Krems in cooperation with five European universities:

The ADVANCE Consortium
Universität für Weiterbildung Krems (Danube University Krems), Austria
Spoleczna Wyzszy szkola przedsiebiorcszszi i zarzadzania, (Academy of Management), Lodz, Poland
Helsinki Collegium for Advanced Studies, University of Helsinki, Finland
IFZ-Interuniversitäres Forschungszentrum für Technik, Arbeit und Kultur, Universität Klagenfurt, Austria
GGeP-The Graduate Gender Programme, University of Utrecht, the Netherlands
South-West University "Neofit Rilski", Blagoevgrad, Bulgaria

The project duration was 2 years starting from September 2006.

The Advance goals were to be realized through career training and mentoring and coaching activities. In addition, enhancing and encouraging networking has been an important part of the project. The program targeted female researchers in pre-doctoral and postdoctoral career phase in natural sciences and technology.

The program consisted of two main parts which were closely interlinked: a Summer School (track 1), and a Mentoring and Coaching Program (track 2).

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- a **Mentoring and Coaching Program (track 2)** focusing on building up mentoring relationships related to professional and personal growth established at all partner organisations

In order to reach the goals the ADVANCE approach combined personal, structural and contextual aspects and intended to support the participants in transferring theoretical inputs into their own working context. At its core, the Mentoring and Coaching Program sought to enlighten participants about the channels of communication in both academia and industry in relationship to career development and advancement.

Following the focus on (hidden) structures causing social exclusion of women in academia and industry the core issues of the ADVANCE Summer School Program were to empower

female scientists, to offer them broad access to a better understanding of gender-related structures within the scientific community, and to give them the possibility to find new options of acting and succeeding in scientific careers. Thus, the innovative aspect of the ADVANCE project was to provide a gender-sensitive training concept in focusing on evoking sustainable learning experiences by applying a broad variety of didactic methods.

The topics and didactic approaches of the ADVANCE project are based on studies carried out earlier that have highlighted difficulties and have pointed out areas in which additional training is needed, in particular in research management. These studies have focused particularly on young researchers who were at the beginning of their independent scientific careers and were based on the American career structures. Based on a literature review and an 'expert workshop' which was organized in order to evaluate and supplement the predefined topics with respect to a European perspective, both the Mentoring concept and Summer School Program were revised and adapted to European needs.[2]

International Summer School

The Summer School was the core part of the ADVANCE project. It targeted especially scientists in natural sciences and technology, both in academia and in industrial research and was advertised widely through the network of the participating organisations and took place at the Danube University Krems, Austria, in English language.

The frame of the Summer School was developed within the first 8 months of the project involving all partner institutions as well as related networks and the Advance Advisory Board[3] on the basis of the outcomes of the Preparatory workshop.
This Preparatory Workshop[4] held at Krems, involving 15 experts from the EU, gave essential hints in terms of the Summer School topics (selection, duration and timing), didactics and the Advance Mentoring and Coaching Approach.
After setting up the frame of the program, its intention and organisation, the application phase for the participants of both programs started at November, 1st 2006 and ended with January, 30th, 2007. The application form was presented online at the Advance Website; interested applicants were requested to fill in their CV, a motivation letter and short description of the career stage & plans.
Through the effectiveness of email networks provided by all partners the target group could have been reached successfully, which can be seen on the high number of submitted application forms (190 sheets from all over the world).
In order to set up visible and comprehensible application process DUK developed specific recruitment criteria for Summer School Participants and Mentees.
The final decision about the positive application along these criteria had been drawn within the meeting of the Curriculum and Mentoring Committee at Graz (February, 1st-2nd, 2007).

According to the Preparatory Workshop`s outcomes it was decided to split the Summer School into two modules in order to evoke sustainable learning experiences and especially to

[2] e.g. Howard Hughes Medical Institute, 2004; Gindl, Hefler, 2006; Dalhoff, 2006, Granovetter, 1995, Hey, Wieser, 2003, Lind, 2003, Zuckermann, 2001; for details see: Zauchner, Gindl, 2007; for details see: Gindl, Zauchner, Bammer, 2007
[3] Prof. Margo Brouns (NL), Dr. Aino-Maija Evers (FI), Dr. Andrea Höltl (AT), Mag.aMonika Kircher-Kohl (AT), Prof. Anna Lipniacka (FI), Univ. Prof. Vice Rector Ada Pellert (AT), Dr. Birgit Reipert (AT), DI Inge Schrattenecker (AT), Prof. Elena Shoikova (BG).
[4] Outcomes published at: Zauchner, S. & Gindl, M., 2006. Documentation of the Preparatory Workshop. Available at: http://www.advance-project.eu/the-summer-school/the-summer-school-content/ [Zugegriffen Oktober 2, 2008].

guarantee an integration of the career perspectives. The first module was the core part and lasted 12 days, the follow-up module took place one month later on and lasted 3 days.

Module 1: 23.07.2007 - 03.08.2007
Module 2: 07.09.2007 - 09.09.2007

33 female researchers from both established and new EU member states (13 nationalities; Participants came from both Eastern (13) and Western countries (20)[5]) participated in the summer school, including the 18 researchers also participating as mentees in the mentoring and coaching program at the six ADVANCE partner universities. The summer school participants came from a wide variety of disciplines (25) in natural sciences and technology, ranging from physics, mathematics, computer sciences and engineering to biosciences and physics. The age of the participants ranged from early twenties to mid-fifties, while the participants themselves were at varying stages of their own careers; including predoctoral students right through to post-docs[6].

The Summer School was organised by Danube-University Krems and took place at the Campus of Krems, participation was free but the participants had to pay for their own travel and accommodation costs, although they could apply for stipends to cover part of those costs. The team from Danube-University Krems supported the participants in finding rooms during the high tourist season of Krems, they also pre-booked rooms at the "Kolpingheim" nearby.

Table 1 shows the final list of participants (anonymous), detailing the nationality, study, career position and occupational position:

Nationality	Study	Career Position	Occupational Position
Austria	Image Science	PhD	Course Director and Researcher at the Danube University Krems
Austria	Medical and pharmaceutical Biotechnology	PhD	Research Assistant at the Danube University Krems
Austria	Spatial Planning	pre doc	Researcher at the Danube University Krems
Austria	Technical Chemistry	post doc	Head of Research Department Ecological Product Policy
Austria	Technical Protection of the Environment	post doc	Researcher of the IFZ
Austria	Zoology	pre doc	Scientific Staff Member of the IFZ
Austria	Economics and Environmental Systems Sciences	post doc	Senior Researcher at the Sustainable Europe Research Institute and Lecturer at University of Graz and at University for Natural Resources and Applied Life Sciences, Vienna
Belgium	Biomedical Science	PhD	PhD Student, Institute of Tropical Medicine, Antwerp

[5] The higher number of participants from Western countries is related to the fact that there are more consortium partners from Western Europe than Eastern Europe, who were sending their mentees to the Summer School.

[6] pre-doctoral (7), post doctoral (14), and PhD students (12)

Belgium	Microbiology	PhD	Research Assistant at the Institute for Tropical Medicine in Antwerpen
Bulgaria	Chemistry	pre doc	Senior Assist. Professor, University of Blagoevgrad
Bulgaria	Mathematics	post doc	Assist. Professor, University of Blagoevgrad
Bulgaria	Industrial Management and Economics	pre doc	Assist. Professor, Technical University of Sofia
Bulgaria	Economy, Management	pre doc	Assist. Professor at the Department of Economy, Industrial Engineering and Management, Technical University Sofia
Bulgaria	Physics	pre doc	Assist. Professor, University of Blagoevgrad
Finland	Biology	post doc	Lecturer in Algal Systematics, Post-doctoral Researcher, Academy of Finland, University of Helsinki
Finland	Biotechnology	post doc	Lecturer at the University of Helsinki
Finland	Semiconductor Technology	post doc	Project Leader, Helsinki Institute of Physics
Germany	Electrical Engineering	pre doc	Scientific Assistant University Lüneburg, Representative of Women and Equal Opportunities
Germany	Physics	PhD	Senior Specialist Process Harmonization at Infineon Technologies AG, Austria
Hungary	Biotechnology	PhD	PhD Student, Department of Biotechnology, University of Szeged, Hungary
Ireland	Physics	post doc	Manufacturing and Operations Department University of Limerick
Netherlands	Molecular Cell Biology	PhD	PhD Project in UMC Utrecht
Netherlands	Plant Biology	PhD	PhD Researcher, Department of Plant Biology, Utrecht University
Netherlands	Plant Ecology	post doc	post doc Utrecht University (Plant Ecology / National Herbarium of the Netherlands)
Poland	Biotechnology and food Sciences	PhD	PhD Student, Faculty of Biotechnology and Food Sciences, Technical University of Lodz
Poland	Mathematics	PhD	PhD Student, Institute of Automatic Control, Technical University of Lodz; Lecturer, Academy of Management in Lodz.
Poland	Technical Physics, Computer Science and Applied Mathematics	PhD	PhD Student, Faculty of EEIiA, Technical University of Lodz
Romania	Chemical Engineer	post doc	Scientific Researcher Degree III, Chief of the Chemistry Laboratory from the Forest Research Station Campulung Moldovenesc
Romania	Cybernetics and Economic Forecasting	post doc	Teaching Assistant and Member of the Excellence Research Group CERV-ISI, Academy of Economic Studies, Bucharest
Romania	Mathematics and Computer Sciences	PhD	Head Lecturer (Numerical Analyses), Faculty of Mathematics and Computer Science, Ovidius University of Constanta

Romania	Physics	post doc	Researcher at the Department of Molecular Genetics and Radiobiology, V. Babes National Institute, Bucharest
Scotland	Biotechnology	post doc	Post Doctoral Research Associate at the University of Glasgow
Spain	Chemistry	post doc	Full time Researcher, Physic Department, University of Oviedo

Table 1: List of Participants at the Summer School (anonymous)

Figure 1: Participants of the Summer School at the Campus Krems

The curriculum covered topics of great relevance to those engaged in academic and industrial-based research, including personal career development, visibility and management skills, topics which have brought real benefits to students. While these topics illustrate the overall rigour of the course, the ADVANCE project developed also a more innovative style of teaching than that which students may be used to.

Topics

Within this scenario, a number of relevant topics that affect the careers of female researchers in academia and industry are focussed upon. The topics encompassed the following themes:

1) Research Structures and Gender in Academia and Industry
2) Professional Networking
3) International Funding Mechanisms
4) Flop Management

The presentation formats had been developed in close cooperation with the lecturers, with the aim of assuring a broad variety of approaches, ranging from lectures, group work, to round table discussions, and practice.

Skills Building

In contrast to the topics type, skill building entails training and practice of personal and management skills. The aim was on the one hand to address the topic of the working and leading teams and, on the other hand, to enhance communication skills with the goal of 'getting a face' in the scientific community.

The following issues were identified as essential:

1) Leadership skills and working in teams
2) Negotiating and conflict management
3) Communication skills
4) Increasing visibility and self marketing

Career Strategy

This category aimed at developing a strategic career plan which involves short-, mid- and long-term perspectives. The development of an individual strategic career plan was regarded as a core activity within the ADVANCE Summer School. Therefore, this category continued throughout the entire Summer School.

The following tables 2 and 3 give an overview about the program of the two modules, representing the key lectures and topics, as defined within Workpackage 2.[7]

[7] For the detailed program, including CV`s of lecturers, and content of the lectures please refer to D5, Detailed Summer School Program, which was delivered at May, 31st, 2007.

Date	Schedule	Program	Scenario Type
Mo. 23.07.	11:00-12:30	Opening Lecture: The Situation of Women in Science in Europe	Key Note
Mo. 23.07.	14:00-18:00	Getting Ready	Moderated Groups
Tue. 24.07.	09:00-18:00	Research Structures and Gender in Academia and Industry	Topics
Tue. 24.07.	18:30-20:00	Successful Scientists being Interviewed	Expert Talk
We. 25.07.	09:00-10:30	Reflections	Moderated Groups
We. 25.07.	11:00-18:00	Management and Personal Skills	Skills Building
Thu. 26.07.	09:00-16:00	Management and Personal Skills	Skills Building
Thu. 26.07.	16:30-18:00	Reflections	Moderated Groups
Fr. 27.07.	09:00-18:00	Strategic Career Planning - Part I	Career Strategy
Sat. 28.07.	09:00-16:00	Professional Networking	Topics
Sat. 28.07.	16:30-18:00	Reflections	Moderated Groups
Mo. 30.07.	09:00-18:00	International Funding Mechanisms	Topics
Mo. 30.07.	18:30-20:00	Reviewing a Proposal – The Evaluators' View	Expert Talk
Thu. 31.07.	09:00-16:00	Flop Management	Topics
Thu. 31.07.	16:30-18:00	Reflections	Moderated Groups
We. 01.08.	09:00-18:00	Getting a Face – Part I	Skills Building
Thu. 02.08.	09:00-18:00	Getting a Face – Part II	Skills Building
Fr. 03.08.	09:00-12:30	Reflections	Moderated Groups

Table 2: Summer School, Module 1

Date	Schedule	Program	Scenario Type
Fr. 07.09.	10:00-10:30	Welcome and Overview	
Fr. 07.09.	10:30-12:30	Moderated Groups	Moderated Groups
Fr. 07.09.	14:00-18:00	Strategic Career Planning - Part II	Career Planning
Fr. 07.09.	18:30-20:30	Dinner Talk	Expert Talk
Sat. 08.09.	09:00-18:00	Strategic Career Planning - Part II	Career Planning
Sat. 08.09.	18:30-19:30	Advance Mentees: Reflection Groups	
Su. 09.09.	09:15-09:45	Lecture: Advance Mentoring and Coaching Program	Career Planning
Su. 09.09.	09:45-10:30	Lecture: Sexism, Support and Survival in Academia	Career Planning
Su. 09.09.	10:30-11:00	Lecture: Gender and Excellence in Technological Research	Career Planning
Su. 09.09.	11:15-12:30	Moderated Discussions	Moderated Groups
Su. 09.09.	14:00-15:00	Closing Lecture 1: Women and Performance Participation in Education and Science – The Glass Ceiling Phenomenon. Identifying the Problems and Suggestions for Solutions	Key Note
Su. 09.09.	15:00-16:00	Closing Lecture 2: Women in Science: Status and Remedies	Key Note
Su. 09.09.	17:15-18:30	Summer School Closing Certificate Ceremony	

Table 3: Summer School, Module 2

Innovative Aspects

The innovative aspects of the ADVANCE-Project referred to a multiple gender-sensitive training concept regarding these relevant topics for women in an academic and industrial context as well as didactic methods which allowed individual, pedagogic valuable learning atmospheres. This approach combined personal, structural and contextual aspects and satisfies the requirements of multidimensional gender-programs.

On top of this, the ADVANCE project invited in sum 31 lecturers, moderators and experts to contribute to the Advance Summer School and give the participants an insight into what it takes to be successful. They talked about their own career paths, life experiences, and the knowledge they had gained from their time in academia and industry so as to highlight good

practice and provide the students with positive role models, something that is recognized as being a crucial step in encouraging students to pursue their personal goals.

Lecturers at the Advance Summer School			
First Name	Name	Lecture	Country
Opening Lectures			
Jütte	Wolfgang	Department for Continuing Education Research and Educational Management, Danube University Krems	Austria
Herlitschka	Sabine	Head of European and International Programs, Austrian Research Promotion Agency	Austria
Siebenhandl	Karin	Department for Knowledge and Communication Management, Danube University Krems	Austria
Zauchner	Sabine	Department for Interactive Media and Information Technology, Danube University Krems	Austria
Bammer	Doris	Coordination Office for Promotion of Women and Gender Studies, Danube University Krems	Austria
Hermann	Claudine	Honorary Professor of Physics at Ecole Polytechnique	France
Lecturers			
Kienzl	Katja	Infineon Technologies	Austria
Wächter	Christine	Faculty for Interdisciplinary Studies, University of Klagenfurt	Austria
Kogoj	Traude	derort	Austria
Hubrath	Margarete	Uni-Support, Institut für Hochschulberatung	Germany
Beuter	Isabel	CEWS - Center of Excellence Women and Science	Germany
Tzatzanis	Michalis	FFG - Austrian Research Promotion Agency	Austria
Dragosits	Susanne	FFG - Austrian Research Promotion Agency	Austria
Hefler	Günter	Department of Continuing Education and Educational Management, Danube University Krems; 3s Consulting	Austria
Thaler	Anita	Faculty for Interdisciplinary Studies, University of Klagenfurt	Austria
Wagenhofer	Konstanze	Multimedia-Projectmanager, Journalist and Communication Expert	Austria
Zorn	Isabel	Institute for Advanced Studies on Sciences, Technology and Society	Austria
Willoughby	Lynette	Leeds Metropolitan University	United Kingdom
Fisher	Wendy	Open University	United Kingdom
Expert Talks			
Reipert	Birgit	Baxter AG	Austria
Ergma	Ene	Estonian Academy of Sciences, Estonian Parliament	Estonia
Schinzel	Britta	University of Freiburg	Germany
Findlay	John	University of Leeds	United Kingdom
Miksch	Silvia	Danube University	Austria
Pellert	Ada	Vice rector, Danube University Krems	Austria
Reisenbichler	Tina	T-Systems Austria	Austria

Closing Lecturers			
Zauchner	Sabine	Department for Interactive Media and Information Technology, Danube University Krems	Austria
Husu	Liisa	University of Helsinki	Finland
Kouzmanova	Iordanka	Agricultural University	Bulgaria
Fuchs	Stefan	IAB Regional Research Network, Institute for Employment Research	Germany
Moderators			
Carter	Ruth	British Open University	United Kingdom
Zorn	Isabel	Institute for Advanced Studies on Sciences, Technology and Society	Austria
Willoughby	Lynette	Leeds Metropolitan University	United Kingdom

Table 4: List of Lecturers at the Summer School

The didactic approach was based on a constructivist concept focusing on learners as experts with individual learning strategies. Didactic methods like case studies, role games and group interactions should encourage the participants to handle successfully problems on an individual, group and organizational level.

Moderated Groups

The core elements that individually accompany the participants' learning processes consisted of 3 moderated groups. Each group was accompanied by a professional moderator. The aim of the moderated groups was to reflect on given issues and to share opinions on topics that were presented within the Summer School.

Key Notes/Expert Talks

Based on the concept of role modelling, participants of the ADVANCE Summer School become acquainted with women and men, who have succeeded in their scientific careers. Experts from academia and industry, both from Eastern as from Western countries, were invited to share experiences and to provide insights into (hidden) mechanisms and strategies for mastery. As for the lecture formats, podium discussions, dinner talks, and semi structured interviews were held.

Social Events

Getting into contact with each other, learning from each other and are part of the informal learning processes. Social events, either optional or as part of the Summer School offerings support this venue for learning.

Figure 2: Advance Participants and Advance Team at the Closing Ceremony, Dürnstein, Austria, September 2007

Figure 3: Expert Talk during the Summer School: Guests: Britta Schinzel (Germany), Birgit Reipert (Austria) and Ene Ergma (Estonia), Moderator: Sabine Zauchner (Austria)

Figure 4: Lively Discussions at the Summer School, Module 1

Figure 5: different didactic methods were applied at the Summer School

The Mentoring and Coaching Program

Second, a Mentoring and Coaching Program (Track 2) was developed within the frame of ADVANCE. The Advance Mentoring and Coaching Track started with April 2007 and ran until November 2007 (observation period 9 months)[8].

Definition of Mentoring and Coaching

Within the ADVANCE project, the notions mentoring and coaching are understood in the following way, based on experiences in relevant programs which focus on the enhancement women's careers, as well in academia and in other male-dominated contexts:

- Mentoring is a long term relationship that has both, a personal and a professional dimension.
- It is established between two persons, a mentor and a mentee (one-to-one mentoring).
- It aims at the promotion of the mentee in terms of career development, networking, organisational know-how, etc. within the academic and industrial research context.

In distinction to the definition of Mentoring

- Coaching is perceived as a short term relationship.
- It provides a special focus on certain professional or personal issues.
- Coaching can take place both bilaterally (individual coaching) and in small groups (group coaching). It aims at a quick and focused collaboration between the coach and the coachee, the former supporting the latter in developing her own skills.

The ADVANCE Mentoring and Coaching Program was implemented at all organisations involved. Following the intended sustainability each partner institution nominated one person responsible for running the program the so-called "catalyst".

- Cecilia Asberg: GGeP-The Graduate Gender Programme, University of Utrecht
- Liisa Husu: Helsinki Collegium for Advanced Studies, University of Helsinki
- Christine Wächter/ Anita Thaler: IFZ-Inter-University Research Centre for Technology, Work and Culture, University Klagenfurt
- Joanna Szecsinska: Academy of Management, Lodz
- Georgi Apostolov: South-West University 'Neofit Rilski', Blagoevgrad
- Doris Bammer (replacing Michaela Gindl, maternity leave): Danube University Krems

The implementation of the ADVANCE Mentoring and Coaching Program started with the recruitment of the three mentees and three corresponding mentors in February 2007 and ended in November 2008.

[8] For details refer to: Gindl, M., Zauchner, S. & Bammer, D., 2007. Mentoring and Coaching Program including Implementation Plan. Available at: http://www.advance-project.eu/mentoring-and-coaching-program/the-mentoring-and-coaching-program-the-intention/ [Zugegriffen Oktober 2, 2008].

Recruitment

The recruitment criteria for mentors and mentees were jointly developed by the consortium, thus underlining peoples desire to actively participate when involved in programs of this kind.

Recruitment of mentees was based on jointly developed criteria, which were:

- Female
- Motivation to participate
- Study in engineering, science, or technology completed
- Career stage: Pre- or post-doc
- Interested in or pursuing a scientific career in academia or industry
- Awareness concerning respectively experiences with impediments (age, nationality, disability, etc.)
- Willingness to plan and reflect the personal career
- Willingness to work in heterogeneous groups (women from different countries with diverse backgrounds and expectations)
- Willingness to get involved with interdisciplinary approaches
- Willingness to get in contact with various didactic methods (lecture, group work, role play)
- Willingness to reflect oneself, the individual situation in the home-institution, the strategies chosen, the personal perspectives and expectations, etc.
- Willingness to deal with gender issues (reflection of being a woman in academia/research, on the characteristics of a 'gendered organisation', etc.)
- Member of an ADVANCE partner institution
- Willingness show responsibility for maintaining the mentor-mentee relation (arrange personal and telephone contact, exchange email messages regularly over a 8-month period)
- Commitment to participate the Summer School

By professional position the mentors were rectors, directors, research directors, top managers, deans, professors, senior lecturers and recruitment was as well based on jointly developed criteria:

- Female or male
- Expert in engineering, science, or technology (Professor, top manager, top researcher from Industry or Academia)
- Excellent national and international contacts and networks
- Similar working field as the mentee
- Willingness to learn from the mentee
- Willingness to reflect oneself, the individual situation in the home-institution, the strategies chosen, the personal perspectives and expectations, etc.
- Willingness for and/or experience in the promotion of female scientists
- Willingness to deal with gender issues (reflection of being a woman in academia/research, on the characteristics of a 'gendered organisation', etc.)
- Ability to discuss gender issues
- Willingness to mentor a pre- or postdoc via personal contact, telephone and e-mail
- Willingness to stay in regular contact with the mentee via personal contact, telephone and e-mail over an 9-month period

18 mentor-mentee tandems participated in the program: three in Danube University Krems, three in the Academy of Management in Lodz, three in the University of Helsinki, three in IFZ/University of Klagenfurt, three in the South-West University "Neofit Rilski", and three in the University of Utrecht. By professional position the mentors were rectors, directors, research directors, top managers, deans, professors, senior lecturers, both women and men.

As shown in figure 2 below, at the beginning of the mentoring program, a kick-off meeting was organised to reach a common understanding on the mentoring & coaching content and process. In the course of this kick-off meeting, mentors and mentees signed a 'commitment', in which they agreed on the mutual roles, tasks and mode of collaboration. The commitment regulated in detail the frequency of contacts, the forms and instruments of contact, the expectations of both, mentors and mentees, and the milestones in order to meet those expectations.
During the program the mentor-mentees-tandems met regularly face-to-face at each ADVANCE-institution (at least once a month). The so-called "Reflection groups" met at least three times during the Program and were moderated by the catalysts. They supported the individual mentoring tracks in profound ways along the program. This kind of work method along the individual mentoring processes received very positive evaluations from both mentees and catalysts throughout.

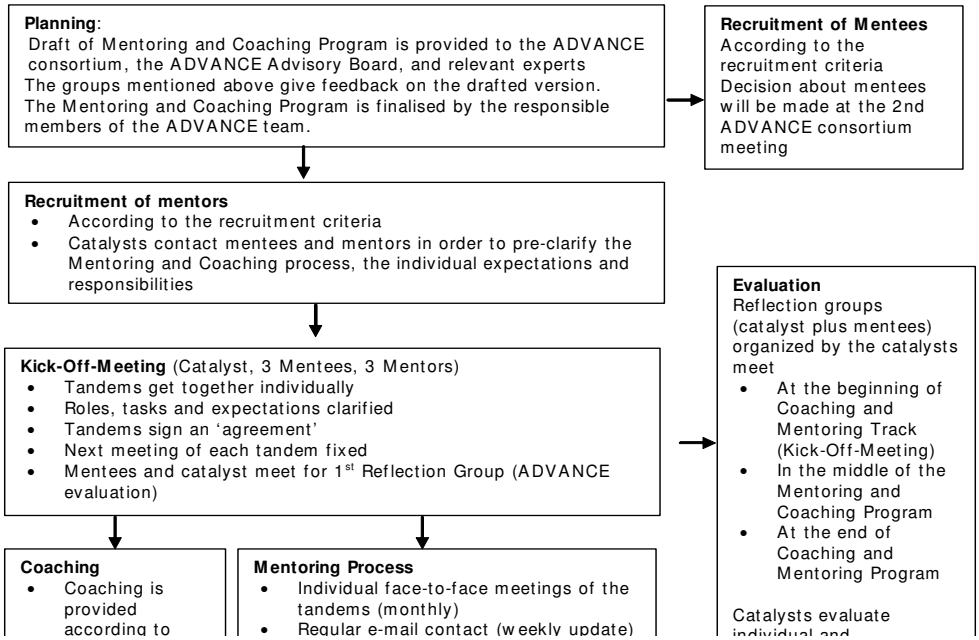

Figure 6: Implementation of the ADVANCE Mentoring and Coaching Program, source: Gindl, Zauchner, Bammer, 2007.

Coaching was included in the Mentoring Program supporting interest among the mentees and additional topics apart from the summer school content. This targeted short-term training was organised on either an individual or group basis so as to complement the mentoring process on topics of particular importance to mentees. The topics of coaching realised within ADVANCE program included obtaining funding, personal development, self-confidence, and management skills including time management, leadership skills, team management and project management.

Figure 7: Reflection groups used different techniques for group works

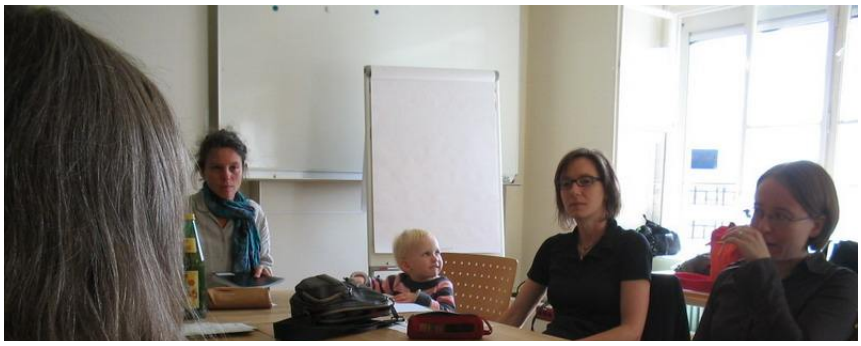

Figure 8: Meeting of the reflection group during the Summer School

Evaluation Strategy and Results

The evaluation of the program was based on systematically collected feedback from key participants of the program in different stages of the program: catalysts, mentees, mentors, Summer School participants and Summer School group moderators. Feedback was collected by standardized evaluation forms developed for the purpose by the consortium. Rich evaluation material was collected and analysed and the results were used to develop the Summer School and mentoring concept further and to formulate a transfer model and recommendations. [9]

Material collected on the Summer School included standardised feedback evaluation sheets with both fixed-answer and open questions concerning the Summer School overall, summaries of group discussions by Summer School reflection group moderators, and feedback forms from participants concerning individual lecturers. The individual Summer School feedback forms were filled and returned by 31 out of the 33 participants in the Summer School. Material collected on the Mentoring and Coaching Program in each participating institution included summaries of three sessions of reflection groups with the mentees, feedback from all catalysts using a form, feedback from altogether 16 mentors, also using a standard form, and feedback on coaching from some organisations.

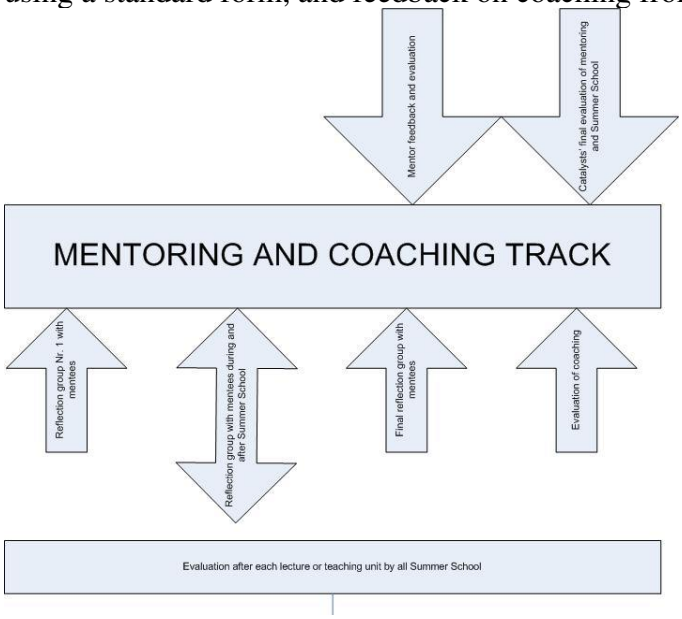

Figure 9: Advance Evaluation Design, source: Husu, 2008.

[9] For details refer to: Husu, L., Program Evaluation Report, Deliverable 8, Advance Project. Available at: http://www.advance-project.eu/plonearticlemultipage.2008-06-19.9916186110/intention [Zugegriffen Oktober 20, 2008].

Evaluation results[10]

Overall, the participant feedback both on the Summer School and the Mentoring and Coaching Program was very positive and indicated that the program had reached its key goals by supporting participants in acquiring research and career management skills and other tools which help them build up their careers.
The Program reached well its intended target group, apart from industrial research sector. 33 female researchers from old and new EU member states participated in the Summer School, including the 18 researchers who were also participating as mentees in the Mentoring and Coaching Program in the six ADVANCE partner universities. An overwhelming majority of the Summer School participants was employed in academia, and only one in industry, a few were employed in governmental research organisations, and a few in mixed sector settings. Even if industrial researchers belonged to the target group, there was little interest among them to apply for the Summer School.

Over half of the participants assessed the relevance of the Summer School for research career as high, and around half of the participants saw the relevance was good thinking their own career. They mentioned that participation in the Summer School had increased self-esteem, assertiveness and self-knowledge, generally empowered and given energy to pursue their career and tackle problems, that they had gained confidence and new skills, or learned to organise and manage better their professional life. One indication of relevance is also that a clear majority of the participants said they would recommend the Summer School to their colleagues. However, a clear majority said they would not participate if a fee was charged and no stipends were available. Rather than lack of interest this may indicate the economical constraints of European researchers in general and poor availability of funding for this kind of training in most research sites.

Highlights of the Summer School according to the participant feedback were career planning modules, moderated groups, and opportunity to meet role models, networking, and funding advice. As mentioned before these were also core parts of the Summer School Program. The key elements of the Summer School pedagogy, moderated reflection groups which met several times during the Summer School and were professionally moderated, were rated very positively by the participants. Success in networking among participants was also rated as fairly good.

Participants and moderators were also asked how to improve the program. More training was suggested on scientific writing skills and publishing (CVs, applications, articles), on management skills, including conflict management and dealing with difficult situations, information on alternative career paths, industry relevant issues, teamwork, gender issues and even on how to dress. More deep-going training was suggested on career management, career possibilities, dealing with problem situations, and personal development. The moderators suggested to add training on group dynamics in international research groups, international research mobility including contact details of mobility programs, training on international working teams, gender discrimination, assertiveness training, and using electronic technologies in research" (i.e. Web 2.0). Feedback on the pedagogy and practical set-up

[10] Husu, Liisa, 2008: Program Evaluation Report, Deliverable 8, Advance Project, available at: www.advance-project.eu [October 2, 2008]

included wishes to differentiate the contents at least to some extent by career phase and make the program more flexible, and need for more individual feedback and coaching.

Overall it can be concluded that the mentoring processes had been empowering. Most mentees were satisfied with the program, and some of them very satisfied. Most were satisfied with their mentors, some very satisfied, but there were also mentor-mentee tandems where the fit could have been better. The short time frame was a challenge as well in terms of developing the relationship between mentor and mentee.

The career phases of the mentees and their expectations towards the program varied and so the gains they expected and received were thus also necessarily varied and multiple. Many younger pre-doctoral mentees expected more concrete career guidance and advice on specific issues such as publishing and teaching, whereas several post-doctoral mentees expected to reflect more deeply the issues covered and their career development.
Reflection group as a work method along the individual mentoring processes received very positive evaluations from both mentees and catalysts throughout. The groups met 3-5 times during the program for one and half to two hours at a time and were moderated by the catalysts. It was obvious that the reflection groups brought a lot of added value to individual mentoring processes. They supported the individual mentoring tracks in profound ways along the program. They allowed and encouraged the mentees to compare and comment each other's experiences, to exchange and reflect ideas on how to solve problems that might arise or to prepare together which issues could be taken up with the mentors and how. For some mentees, the reflection group played even a more important or nearly an equally important role than meetings with their mentor. Mentees and catalysts reported mentees had received support, stimulation and encouragement, gained self-confidence, confidence in their skills and self-knowledge, better understanding of career development and options, and obtained lots of useful information and guidance on several key issues in academic careers such as career management, publishing and teaching.

Recruiting mentors was considered easy in three of the participating organisation, whereas in three others this was considered difficult or fairly difficult. It was a common and expected observation that the potential mentors were extremely busy professionals, and demands on their time heavy. It is a major challenge for catalysts of this kind of programs how to convince busy professionals who are potential mentors on the importance and expected rewards of being a mentor. In some cases it was problematic to find mentors who had a good fit with mentee's disciplinary background. Commitment of participating mentees was assessed to be high by the catalysts, and commitment of mentors high or satisfactory. Time constraints played a major role here.

Thus, not only mentees gained from the program. The feedback on the program from the mentors was overall positive. They were happy to be able to help and promote young women in scientific careers in this way. Many mentors mentioned also how they were not only at the giving end but had learned valuable insights themselves. They had learned about problems young and mid-career women encounter and which they had not been aware of, gained insights into postdoctoral careers of today. Participation in the program was a learning experience since it had made them to reflect their own career as well and opened new perspectives. All but one mentor said they would participate again in a program of this kind. Time constraints hindering stronger commitment were complained about by a few mentors. Greater variation was found in the assessment of support from mentor's own organisation: around half of the mentors had enjoyed strong support, half satisfactory support, and two

rated the support as scarce. Mentoring is obviously not recognized as valuable professional activity in all participating organisations.

As critical issues for the success of the Mentoring and Coaching track the following issues were identified: how to identify and recruit motivated high quality mentors; how to secure a good mentor-mentee fit; giving each participant, both mentor and mentee, clear guidance on mentoring as a work form in the beginning of the program; careful time management both at the program level and in individual mentoring processes; and the length of the mentoring relationship.

Transfer Models and Recommendations

The impact of the developed Training and Mentoring Program was amplified by supporting other organisations on a European level to build up similar training programs in their institutions. For this purpose, "Transfer Models and Recommendations"[11] based on experience from the Summer School and the Mentoring and Coaching Program as well as from the evaluation of the two tracks were developed by the Advance Consortium.

In order to advertise the outcomes of the Advance project the final conference 'Supporting Women in scientific careers' was held in Brussels on June 26th and 27th, 2008. Coordinators of the EU-projects 'Encouragement to Advance – Training Seminars for Women Scientists', led by the Center of Excellence Women in Science, and 'Advanced Training for Women in Scientific Research', led by Danube University Krems decided to host the final conference of their projects jointly, because both projects compass similar objectives.
The aims of the conference were to facilitate straightforward information and exchange on good-practice examples from the two projects. The conference highlighted the current and future impact of training activities for encouraging women scientists, such as the Transfer Models and Recommendations. The conference put the context of the scientific community and the scientific culture in Europe itself up for discussion, by reflecting the policy making process and social aspects of science.

For this purpose the conference addressed responsible persons from HR field from universities and research organisations, who would like to gain information on instruments and supportive modules like training seminars, mentoring and summer schools for women scientists. Furthermore, the conference addressed post-graduates, doctoral students, post-doc researchers, and senior level researchers who are interested in career development as well as commissioners for equal opportunities.[12]

The recommendations to transfer the ADVANCE program concern both the contents and topics of the program and the practical realization and implementation: pedagogy and didactics, roles of and requirements for different participants, contextual conditions, information and evaluation. They are based on extensive evaluation of the program in which all ADVANCE consortium partners actively took part.

[11] All resources are available free of charge for interested organisations at the Advance web-platform.

[12] The Conference was attended by more than 50 representatives of (European) organisations and universities from 21 countries. For two days the conference became a market-place of networking, lively discussions and presentations. The Conference report is available at the Advance Webplattform, D13: Dissemination conference Report, 17/09/08.

The main target group of the ADVANCE transfer models are European universities and other academic and research organisations interested in making a concentrated effort to advance gender equality by providing systematic support for women in research careers. The ADVANCE program can be realised nationally, regionally or internationally, by one University or in a co-operation of several universities from one country or several countries. Another important target group are individuals (academic staff, management and HR staff) and networks within these organisations interested in advancing women's research careers.

- The first recommendation of the ADVANCE Program is to combine a Mentoring Program for women scientists with organising a Summer School and to offer additionally some career coaching according to the needs of the participants.

- The Program needs a named co-ordinator who is responsible for managing, running and developing the Program inside the organisation.

Transferring the Summer School

- Explain clearly the goals and vision behind the Summer School in advertising and recruitment.

- Use application procedure for recruiting the participants to Summer School to secure motivation of participants.

- Organise the Summer School in two parts, with enough reflection and application time in-between.

- Recruit high level experts as trainers. In international Summer School arrangements, secure good cultural competence and knowledge of international research contexts, as well as language skills.

- Multiple didactic methods in training are recommended, including moderated discussions in the same small groups throughout the Program.

- Support the training by making available relevant reference lists, recommended reading lists and web links.

- To provide continuity and overview, one of the Summer School organisers should be present in all training events.

- The Summer School should be free of charge to participants. Additional funding should be provided if necessary to cover costs otherwise not covered (travel, subsistence).

- Define carefully and communicate clearly what are the responsibilities of the participants and the organisers.

- In international Summer Schools the organisers should monitor and be sensitive to intercultural problems which could occur.

Transferring the Mentoring and Coaching Program

- Select only mentees who are motivated and committed. Underline that mentees are expected to take an active role in the Program.

- Dedicate considerable time and effort for identifying and recruiting good mentors. Use multiple methods to identify good candidates and contact them personally.

- Secure enough distance in the professional spheres of the mentor and mentee to avoid ethical problems later.

- Fix dates for the Program meetings and for individual mentor-mentee tandem meetings in the beginning for whole duration of the Program.

- Mark and celebrate the start and end of the Program by special events for all involved.

- Organise mid-way meetings as well for all persons involved, and meetings for the mentors only.

- Mentees should be encouraged to take an active role in the mentoring process and to document the lessons learned for later use.

- Organise reflection groups for mentees throughout the Program to provide additional peer support and sounding board.

- Collect and analyse systematic feedback to evaluate and improve the Program.

Short term impact, implementation differences between east and west

The six higher education and research institutions participating in the ADVANCE Program represent five EU countries: Austria, Bulgaria, Finland, Holland and Poland, and have somewhat different profiles.[13] The size and focus of the organisations varies, creating different contexts and conditions in which the program was implemented. Three of the participating organisations are from public multi-faculty universities, one is a university specialized in further education, one is a private university focusing on management, and one an interdisciplinary research centre of a university.

In general participation in the program has inspired several participating organisations or individuals to plan, establish or widen mentoring programs in their organisations. Mentors said they would be interested in recommending a mentoring program to their organisations, and some of them worked in organisations which already run such programs. Whereas in detail the national contexts the program was implemented varied. Since mentoring as a concept is familiar in Austria, Finland and the Netherlands, it is new in Bulgaria and Poland in the academic and research contexts.

In IFZ/University of Klagenfurt (Austria), an institution wide peer mentoring program was started as a result of participating in ADVANCE. This program supports the four ADVANCE mentees and all other interested female colleagues, including also the two catalysts. The main objectives of the peer mentoring are networking and exchanging on career planning, work-life balance and how to increase and maintain job satisfaction and motivation. In addition, one mentee continues her mentoring process, now mentored by one of the catalysts. In Danube University Krems (Austria), all mentor-mentee tandems would like to continue their mentoring relationship. In University of Utrecht (Netherlands), no official continuation has been decided but the mentors were open to further co-operation.

In the University of Helsinki (Finland), participation in ADVANCE has speeded up the plans to establish a mentoring program for women researchers in the university, and this kind of mentoring program has been chosen as one key gender equality action by the Equality Committee of the University for the coming years. Two of the mentors from Helsinki also reported on plans to start a mentoring program in their own institutes. A mentoring program has been suggested for Biocentrum Helsinki where one of the Helsinki mentors came from. Biocentrum is an umbrella organization within the University of Helsinki including 28 top research groups in molecular biology and molecular medicine. The mentees would be senior postdocs, both women and men, who plan an academic career. Another mentor, a research professor from the Finnish Meteorological Institute, a large sector research institute, has initiated planning of a similar program to run in her institute. The mentees have continued to meet in their reflection group also after the formal ending of the mentoring program.

In Bulgaria the mentoring culture is a novelty. Even though some kinds of support to young researchers from their senior colleagues exist it has never been systematic, purposeful and long term activity but only incidental and in most cases quite formal. This especially concerns the support to the young female scientists and university professors. Thus the ADVANCE

[13] For details refer to: Husu, Liisa, 2008: Program Evaluation Report, Deliverable 8, Advance Project, available at: www.advance-project.eu [October 2, 2008]; Husu, L. & Siebenhandl, K., Transfer Models: Recommendations for implementing a Summer School and Mentoring and Coaching Program for Women Scientists. Available at: http://www.advance-project.eu/plonearticlemultipage.2008-06-19.9916186110/intention [Zugegriffen Oktober 2, 2008].

project had strong impact on introducing mentoring as a new approach towards career development in one of the largest Bulgarian higher education institutions – the South-West University "Neofit Rilski" in Blagoevgrad, Bulgaria.

Conclusions

The ADVANCE Summer School and Mentoring and Coaching Program have succeeded in providing multiple, gender-sensitive and career-relevant support and training for female scientists in different career stages. The program has had an empowering impact on the participants. The participants have gained more motivation and self-confidence, learned various professional and management skills, networking skills, and became more conscious of different aspects and demands in scientific careers, including specific challenges women scientists encounter. One of the factors behind the success was the combination of multiple didactic methods: lectures, group discussions, developing individual mentoring relationships, and possibility for individual and/or group coaching. The program has also enhanced networking among participating researchers.

The program had also organisational impact in the participating universities and through senior researchers who participated as mentors. Through the program, participating organisations and mentors have become more aware of problems women scientists encounter on the one hand and on the other hand of the need to organise systematic career support structures in both pre- and postdoctoral career phase. As a result, several participating organisations are going to start related programs in the near future, which was also one aim of the project.

Figure 10: The Advance Team at the Final Conference, Brussels, June 2008
From left to right, first raw: Georgi Apostolov (SWU), Sabine Zauchner, Karin Siebenhandl (both DUK), Christine Wächter (IFZ), Doris Bammer (DUK)
Second raw: Liisa Husu (UHHCAS), Anita Thaler (IFZ), Joanna Szeszinska (SWSPIZ), Edyta Just (UU)

References

Bammer, Doris 2007: Detailed Summer School Program, Deliverable 5, Advance Project, available at: www.advance-project.eu [October 2, 2008]

Dalhoff, Jutta, 2006: Anstoß zum Aufstieg – Karrieretraining für Wissenschaftlerinnen auf dem Prüfstand. Bielefeld: Kleine Verlag.

European Commission Directorate-General for Research, 2005: Women and Science; Excellence and Innovation - Gender Equality in Science.
Available at: http://ec.europa.eu/research/science-society/pdf/documents_women_sec_en.pdf [Oktober 2, 2008].

European Commission Directorate-General for Research, Women and Science, 2006: Statistics and Indicators, She Figures 2006.
Available at: http://ec.europa.eu/research/science-society/pdf/she_figures_2006_en.pdf [Oktober 2, 2008].

European Commission Directorate-General for Research, Women in Industrial Research, 2006: A Wake up Call for European Industry.
Available at: http://ec.europa.eu/research/science-society/women/wir/pdf/wir_final.pdf [Oktober 2, 2008].

Gindl, Michaela, Hefler, Günter, 2006: Gendersensible Didaktik in universitärer Lehre und Weiterbildung für Erwachsene. In: Anita Mörth, Barbara Hey, Koordinationststelle für Geschlechterstudien, Frauenforschung und Frauenförderung der Universität Graz (Eds.), geschlecht + didaktik. [online]. Available at: http://www.uni-graz.at/kffwww/geschlecht_didaktik/#top, [October 2, 2008].

Gindl, Michaela, Zauchner, Sabine, Bammer, Doris 2007: Mentoring and Coaching Program including Implementation Plan, Deliverable 4 and 6, Advance Project, available at: www.advance-project.eu [October 2, 2008]

Granovetter, Mark, 1995: Getting a job – a study of contacts and careers. Chicago: Univ. of Chicago Press.

Hey, Barbara, Wieser, Ilse, 2003: Potenziale, Barrieren und Chancen. Frauen an der Universität. Projekt-Endbericht, Graz.

Howard Hughes Medical Institute, 2004: Making the Right Moves: A Practical Guide to Scientific Management for Postdocs and New Faculty. Maryland: Howard Hughes Medical Institute.

Husu, Liisa, Siebenhandl, Karin, 2008: Transfer Models: Recommendations for implementing a Summer School and Mentoring and Coaching program for Women Scientists, Deliverable 9 Advance Project, available at: www.advance-project.eu [October 2, 2008]

Husu, Liisa, 2008: Program Evaluation Report, Deliverable 8 Advance Project, available at: www.advance-project.eu [October 2, 2008]

Lind, Inken, 2004: Aufstieg oder Ausstieg? Karrierewege von Wissenschaftlerinnen - Ein Forschungsüberblick. Bielefeld: Kleine Verlag.

Zauchner, Sabine, Gindl, Michaela, 2006: Documentation of Preparatory Workshop, Deliverable 2, Advance Project, available at: www.advance-project.eu [October 2, 2008]

Zauchner, Sabine, Gindl, Michaela, 2007: Summer School Curriculum, Deliverable 3, Advance Project, available at: www.advance-project.eu [October 2, 2008]

Zuckerman, Harriet, 2001: The Careers of Men and Women Scientists: Gender Differences in Career Attaiments. In: Mary Wyer, et al. (Ed.), Women, Science and Technology: A Reader in Feminist Science Studies (pp. 302-311). New York: Routledge.

Section 2 – Dissemination and use

Exploitable knowledge and its Use

Based on the evaluation report and feedback from the Advisory Board of the ADVANCE consortium, the experiences and outcomes of Summer School and the Mentoring and Coaching Program were refined to so-called "Transfer Models". Essential prerequisites that allow for sustainable implementation of coaching and mentoring as parts of regular personnel development within the single institutions were defined.
All resources are available free of charge for interested organisations as well as for the consortium itself. It is not planned to make commercial use of the projects outcomes.

Table 5: Exploitable knowledge and its Use: Overview table

Exploitable Knowledge (description)	**Exploitable product(s) or measure(s)**	**Sector(s)** of application	Timetable for commercial use	Patents or other IPR protection	**Owner** & Other Partner(s) involved
Prerequisites and Organisation, Curriculum of Summer School, lecturers networks	Curriculum of Summer School	Universities, industrial research field	No commercial use planned		All consortium members
Implementation, Organisation and running of Coaching and Mentoring Programs	Coaching and Mentoring Program	Universities, industrial research field	No commercial use planned		All consortium members
Recommendations concerning both the contents and topics of the program and the practical realization and implementation: pedagogy and didactics, roles of and requirements for different participants, contextual conditions, information and evaluation.	Recommendations for Transfer Models	Universities, industrial research field	No commercial use planned		All consortium members

Dissemination of knowledge

Table 6: Dissemination of knowledge: Overview table

Planned/actual Dates	Type	Title	Type of audience/medium	Countries addressed	Partner responsible /involved
Sep.07	Press Article	Advance: Die Karriere von Wissenschaftlerinnen fördern	CliniCum, Das Magazin für Führungskräfte im Krankenhaus, 09/2007/ 1050 Wien	Austria, Germany	DUK
Mar.08	Press Release	Supporting Women in Scientific Careers		europewide	DUK
Apr.08	Press Release	Supporting Women in Scientific Careers		europewide	DUK
Jun.08	Newsletter	Advance Final Conference Announcement		Austria, Germany	UNIKLU/IFZ
Jun.08	Newsletter	Advance Final Conference Announcement		Austria, Germany	UNIKLU/IFZ
Jun.08	Press Article	Advanced training for women in scientific research	eStrategies / Projects	europewide	DUK
Jun.08	Press Article	Advertisement about the 'Information day'	Gazeta Wyborcza	Poland	SWSPIZ
Aug.08	Email	Advance Projects and its outcomes		europewide	UU
Aug.08	Press Article	Zdominowana przez mężczyzn dziedzina badań naukowych w Europie oznacza, że potencjał kobiet-naukowców nie jest wykorzystywany.	http://www.sprawynauki.edu.pl/?section=article&art_id=2888	Poland	SWSPIZ
Aug.08	Press Article	ADVANCE Zaawansowane szkolenia w dziedzinie badań naukowych dla kobiet	http://www.bruksela.lodzkie.pl/pl/projekty/0865.html	Poland	SWSPIZ
Sep.08	Press Article	Zaawansowane szkolenia w dziedzinie badań naukowych dla kobiet ADVANCE	www.edu.info.pl/strona.php?4677	Poland	SWSPIZ
Oct.08	Press Article	Advance Report	Unisono, Journal of the University of Klagenfurt	Austria, Germany	UNIKLU/IFZ
Oct.08	Press Article	Advance Report	Soziale Technik, Zeitschrift für umwelt- und sozialverträgliche Technikgestaltung	Austria, Germany	UNIKLU/IFZ
Oct.08	Press Release	Frauenförderprogramm „Advance“ ausgezeichnet ; Donau-Universität Krems erhält eGovAward-Sonderpreis für Niederösterreich	http://www.donau-uni.ac.at/de/aktuell/presse/index.php?URL=/de/aktuell/presse/pressemitteilungen	Austria, Germany	DUK

In the first phase of the project the main aim of dissemination activities was to inform effectively about the project to the key target group – potential mentees and potential summer school participants – to secure a large and relevant application pool.
Whereas in the second phase of the project the main disseminating activities where to introduce the outcomes, experiences of the Advance Mentoring and Coaching Program as well as the Summer School. Especially the Recommendations and Transfer Models had been disseminated at various media in order to support other organisations on a European level to build up similar training programs in their institutions. The Dissemination Conference organised together with the ENCOUWOMSCI-Project was disseminated europewide via various channels: Email-Lists, Newsletters, websites and Press Releases. Partners contributed to this activity by providing their national networks with this information. As a response to these activities a number of interviews and articles could be established in order to raise attention for the program.

In October 2008 the Advance Project won the special-price for "Gender equality within IT" for the Region of Lower Austria. This prize was awarded by the Austrian Minister of Female Affairs and Regional Development.

The Advance project was during the whole project duration presented within 16 scientific conferences in order to disseminate the "Transfer Models" and the outcomes of the Coaching and Mentoring Program and the Summer School.

Title of the Conference	Startdate	Enddate	Venue	Title of Paper Submitted	Form of Participation	Presentation Title	Leading Partner	Website
Workshop of Finnish women and science EU projects		20.08.2007	Helsinki, Finland		Presentation	ADVANCE	UHHCAS, L.Husu	
5th European Conference on Gender Equality in Higher Education	28.08.2007	31.08.2007	Berlin, Germany	ADVanced TrAining for WomeN in ScientifiC Research (ADVANCE)	Poster	ADVanced TrAining for WomeN in ScientifiC Research (ADVANCE)	DUK, K.Siebenhandl	http://www2.hu-berlin.de/eq-berlin2007/index.htm
WISER Festival – Women in Science, Research and Education	04.10.2007	05.10.2007	Maastricht, Netherlands	General Information regarding ADVANCE Project	Poster	General Information regarding ADVANCE Project	UU, Edyta Just	http://www.wiserineurope.eu/

Women in Engineering and Technology research; PROMETEA International Conference	26.10.2007	27.10.2007	Paris, France	ADVANCE – Advanced Training for Women in Scientific Research: Reviews on an Innovative Concept	Presentation and Paper	ADVANCE – Advanced Training for Women in Scientific Research: Reviews on an Innovative Concept	DUK (M. Gindl, S.Zauchner, D. Bammer)	http://www.prometea.info/conference2007/
EU-MENT-NET – Building a European Network of Mentoring Programmes for Women in Academy and Research"		03.12.2007	Blagoevgrad, Bulgaria		Presentation	MENTORING FOR WOMEN SCIENTISTS: Positive and Negative Previous Experience in Bulgaria; the ADVANCE Project	SWU, G.Apostolov	
Gender Equality Seminar of the University of Helsinki		03.03.2008	Helsinki, Finland		Presentation	Helsinki Mentoring as support in women's research careers	UHHCAS, L.Husu and S.Timonen	
"Start-up of New Mentoring Initiative for the Balkan Region and Strengthening the Visibility of Women Scientists as Role Models for Early Career Women Academics and Researchers (an international conference organised by EUMENT-NET)	16.05.2008	16.05.2008	Sofia, Bulgaria		Presentation	"The Pilot Mentoring Scheme within ADVANCE Project: Mentees' Experience" (Ilinka Dimitrova, Darinka Kaisheva, Petranka Petrova) and "Expectations of a Potential Eument-net mentee"	SWU, Rositsa Nakova	
"Young Women in Science" – a conference organized by the "Young Scientists" Club	02.06.2008	02.06.2008	Sofia, Bulgaria			"Advanced Training for Women in Scientific Research"	SWU, Georgi Apostolov	http://www.cys.bg

EPWS Annual conference "Women Shaping Science"	05.06.2008	07.06.2008	Vilnius, Lithuania	ADVanced TrAining for WomeN in ScientifiC Research (ADVANCE)	Poster	ADVanced TrAining for WomeN in ScientifiC Research (ADVANCE)	DUK, K.Siebenhandl	www.epws.org
EPWS Annual conference "Women Shaping Science"	05.06.2008	07.06.2008	Vilnius, Lithuania	The Advance Mentoring and Coaching Programme	Presentation	The Advance Mentoring and Coaching Programme	DUK, K.Siebenhandl	www.epws.org
EPWS Annual conference "Women Shaping Science"	05.06.2008	07.06.2008	Vilnius, Lithuania	The Advance Mentoring and Coaching Programme	Presentation and Conclusion from Session	The Advance Mentoring and Coaching Programme	UHHCAS, L. Husu	www.epws.org
Dissemination Conference "Supporting Women in Scientific Careers"	26.06.2008	27.06.2008	Brussels, Belgium		Key Note Presentation	Women in scientific careers: Current challenges and visions for the future	UHHCAS, L. Husu	www.advance-project.eu
Dissemination Conference "Supporting Women in Scientific Careers"	26.06.2008	27.06.2008	Brussels, Belgium		Key Note Presentation	ADVANCE-the project: Results and Impact	DUK, K.Siebenhandl	www.advance-project.eu
Dissemination Conference "Supporting Women in Scientific Careers"	26.06.2008	27.06.2008	Brussels, Belgium		Moderation and Key impact for Round table discussion	“What can we learn from participants’ experiences?”	SWU, Georgi Apostolov, Ilinka Dimitrova	www.advance-project.eu
Dissemination Conference "Supporting Women in Scientific Careers"	26.06.2008	27.06.2008	Brussels, Belgium		Moderation and Key impact for Round table discussion	"How to successfully set up a support program"	DUK, K.Siebenhandl, S. Zauchner, D. Bammer	www.advance-project.eu
Dissemination Conference "Supporting Women in Scientific Careers"	26.06.2008	27.06.2008	Brussels, Belgium		Moderation and Rapporteur at Round table discussion	Training, Mentoring, Summer School - what can/shoul trainers and mentors offer	UNIKLU, Christine Wächter	www.advance-project.eu

ICWES14	15.07.2008	18.07.2008	Lille, France	Women`s careers in industrial technology research	Paper	no presentation	UNIKLU, Anita Thaler	http://www.icwes14.org
ICWES14	15.07.2008	18.07.2008	Lille, France	Careers of Women Engineers in Academic Technology Research	Presentation and Paper	Careers of Women Engineers in Academic Technology Research	UNIKLU, Christine Wächter	http://www.icwes14.org
ICWES14	15.07.2008	18.07.2008	Lille, France	Advance: Promoting female scientists	Poster	Advance: Promoting female scientists	DUK, K.Siebenhandl	http://www.icwes14.org

Table 7: Scientific Conferences

Highlights

At the Conference of ***"Women in Engineering and Technology research; PROMETEA International Conference"***, held in October, 2007 at Paris, France a scientific paper "ADVANCE – Advanced Training for Women in Scientific Research; Reviews on an Innovative Concept" was presented by Doris Bammer (DUK).

Advance participation at the EPWS Annual conference "Women Shaping Science", Vilnius, Lithuania, June 2008
The Advance team suggested to organise a session on mentoring, which had the objective to highlight the opportunities of different mentoring programmes implemented across Europe. This session reflected European co-operation in this area by presenting and discussing results and sharing experiences of three EU-funded projects aiming to empower women researchers and enhance and support their careers. The projects were Advance, Eument-Net and Encouwomsci. The session provided an opportunity to network and to explore possibilities and partnerships for future co-operation in this area.

Advance final conference 'Supporting Women in Scientific Careers', Brussels on June 26th and 27th, 2008.
Coordinators of the EU-projects 'Encouragement to Advance – Training Seminars for Women Scientists', led by the Center of Excellence Women in Science, and 'Advanced Training for Women in Scientific Research', led by Danube University Krems decided to host the final conference of their projects jointly, because both projects compass similar objectives. The conference aroused great interest, more than 50 representatives of (European) organisations and universities from 21 countries participated in the conference. For two days the conference became a market-place of networking for new opportunities, lively discussions about Gender and Science and presentations of the two entitled projects.

Section 3 - Publishable results

Bammer, D., 2007. Detailed Summer School Program. Available at: http://www.advance-project.eu/the-summer-school/the-summer-school-content/ [Zugegriffen Oktober 2, 2008].

Gindl, M., Zauchner, S. & Bammer, D., 2007. Mentoring and Coaching Program including Implementation Plan. Available at: http://www.advance-project.eu/mentoring-and-coaching-program/the-mentoring-and-coaching-program-the-intention/ [Zugegriffen Oktober 2, 2008].

Husu, L., Program Evaluation Report, Deliverable 8, Advance Project. Available at: http://www.advance-project.eu/plonearticlemultipage.2008-06-19.9916186110/intention [Zugegriffen Oktober 20, 2008].

Husu, L. & Siebenhandl, K., Transfer Models: Recommendations for implementing a Summer School and Mentoring and Coaching Program for Women Scientists. Available at: http://www.advance-project.eu/plonearticlemultipage.2008-06-19.9916186110/intention [Zugegriffen Oktober 2, 2008].

Zauchner, S. & Gindl, M., 2006. Documentation of the Preparatory Workshop. Available at: http://www.advance-project.eu/the-summer-school/the-summer-school-content/ [Zugegriffen Oktober 2, 2008].

Zauchner, S. & Gindl, M., 2007. The Advance Summer School Curriculum. Available at: http://www.advance-project.eu/the-summer-school/the-summer-school-content/ [Zugegriffen Oktober 2, 2008].