

International Agency for Research on Cancer



**World Health
Organization**

**Scientific Council
Fifty-first Session**

**SC/51/8
12/12/2014**

*Lyon, 28–30 January 2015
Auditorium*

BIENNIAL REPORT OF THE ACTIVITIES OF THE EDUCATION AND TRAINING GROUP (ETR), 2013–2014

**Education and Training Group (ETR)
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Lyon, December 2014

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A. Introduction and structure

1. Education and training in cancer research is one of the statutory functions of the Agency. For five decades, IARC's Education and Training programme has made a substantial contribution to the development of cancer research in many countries with special emphasis on low- and middle-income countries (LMICs), through the training of cancer researchers, in particular in the field of cancer epidemiology.
2. The ETR Group, established by the Director in 2010, is under the direction of an Education and Training Officer, initially with two Senior Programme Assistants managing the fellowship and courses programmes, in close collaboration with the Scientific Fellowship Responsible Officer and Scientific Directors of the Summer School modules, as well as all colleagues supervising Early Career Scientists and/or organizing courses. In 2013–2014, a plan was developed in order to manage the transition in the team, related to the retirement of both Senior Assistants in 2015 and 2016. Redistribution of staff functions in the Director's Office allowed ETR to benefit from additional secretarial support, with the creation of an LY3 position in 2014. Since March 2010, Dr R. Saracci, Senior Visiting Scientist, has been contributing to the work of the Group by providing advice and support as well as setting up and conducting generic courses. The current organigram of ETR is shown in Appendix 1.
3. The activities and new initiatives of ETR have been following the strategy presented and discussed during the 49th Session of the Scientific Council in January 2013 (available on the IARC Governance website: http://governance.iarc.fr/SC/SC49/SC49_7.pdf), and will continue to be driven by the research priorities and training mandate of the Agency. ETR activities are informed by the recommendations of the Agency-wide Advisory Committee on Education and Training (ACET) which holds two meetings each year.
4. The following presents key achievements of the IARC's Education and Training programme in 2013–2014. It should be noted that whereas ETR oversees activities of the Agency in these matters, several initiatives are led by the research Groups.

B. IARC Research Training and Fellowship Programme

a) Background and objectives

5. The main objective of the Research Training and Fellowship Programme is to provide opportunities for researchers and other professionals at different levels of their career to be trained in fields of cancer research closely associated with the Agency's missions and activities.
6. The specific aims of the Programme are as follows:
 - To provide postdoctoral scientists from any country with training at IARC in those aspects of cancer research related to IARC's mission, in order to build a new generation of cancer researchers and reinforce cancer research worldwide, especially in LMICs.
 - To attract top international cancer researchers to IARC to spend various periods of time contributing to the Agency's programmes and to making IARC an ideal environment for education, training and exchange.

- To develop new opportunities at IARC for further professional development for Early Career Scientists and other public health professionals in order to support and promote the development of cancer research and prevention, especially in LMICs.
- To ensure the quality of the training/hosting environment for trainees, students, Early Career and Visiting Scientists at IARC.

7. It is to be noted that, although of relatively less importance, the Agency also contributes to pre-doctoral training within specific agreements with Lyon Universities or others institutions at national or international level.

b) Activities and Results

• Postdoctoral Fellowships

8. The application process was modified with the introduction of online forms. As presented in Table 1 of Appendix 2, fellowships were awarded in 2013–2014 to 21 Postdoctoral Fellows from 16 different countries. These awards were made from a total of 141 applications, 89 of which were eligible to be considered for support. A research Return Grant was awarded to five Fellows from five LMICs to establish their research activity in their own country. Awards were co-funded by the EU Marie Curie Action FP7-PEOPLE-2012-COFUND and the IARC regular budget. ETR was awarded a new EC-FP7 Marie Curie Actions-People-COFUND grant of €1.24 million, to contribute 40% of the post-doctoral fellowship costs for the period 2013–2018.

9. Under the bilateral agreement with the Cancer Council Australia, two fellowships were awarded in 2013–2014 and two extended for an additional year. The first IARC-Ireland postdoctoral fellowship was awarded in 2014 under the bilateral agreement with the Irish Cancer Society. Such agreements offer a unique opportunity for the Fellow's career and for reinforcing the collaboration between IARC and the partner institutions. Other similar partnerships are currently under discussion with several institutions; the Scientific Council members are asked to provide support to the Agency in exploring opportunities in their own countries as a mechanism to further strengthen scientific links between the Agency and its Participating States.

• Senior Scientists Award and the Expertise Transfer Fellowship

10. Thanks to additional funding made available by the Governing Council and by the Swiss Federal Office of Public Health in Berne, it was possible to award Senior Visiting Scientist Fellowships to seven scientists in 2013–2014, as detailed in Table 2 of Appendix 2. These awards were made from a total of 18 applications, 11 of which were eligible to be considered for support. Beyond the development of collaborative research projects, the Senior Visiting Scientist Award often leads to the expansion of important initiatives (i.e. International Childhood Cancer Cohort Consortium) or the joint production of key resources for capacity building (i.e. Cervical Cancer Digital Atlas).

11. An Expertise Transfer Fellowship was awarded in 2013 to Dr Esther de Vries from the Erasmus University Medical Center, Rotterdam, The Netherlands, to spend 12 months at the National Cancer Institute, Bogotá, Colombia, to improve the use of population-based cancer

registries in Colombia and other Latin American countries. This Fellowship effectively allowed the evaluation and improvement of Colombian cancer registry data as well as the running of training activities (i.e. data analysis for cancer registry personnel). Dr de Vries has in fact decided to continue her career in Colombia at the end of this Fellowship period.

- **Short-term fellowships**

11. The UICC-IARC Development Fellowship, launched in 2012 to allow one participant of the yearly IARC Summer School to return to IARC for a period of three months for further training and collaborative work, was awarded in 2013 to a young researcher from Rwanda and in 2014 to a cancer registry professional from Sri Lanka. A joint proposal with UICC was developed to raise funds in order to sustain and expand this initiative.

- **Quality of the training/hosting environment**

12. Within the Training and Fellowship Programme and in addition to the IARC Fellows described above, the Agency hosts a number of trainees, students, postdocs and visiting scientists supported by project funds from the Groups. As presented in Table 3 of Appendix 2, a total of 256 Early Career and Visiting Scientists worked at IARC during the reporting period.

13. ETR has been working with the Information Technology Services to explore possible options for the development of a suitable tool to streamline the administration of Early Career and Visiting Scientists at IARC. An analysis of the processes and data required was carried out. Functional specifications were developed for a system building onto the new IARC Intranet infrastructure. This led to a call for tender and the appointment of an IT company that will develop the system in 2015.

14. Following the recommendations of the Scientific Council, the Agency supported the creation of the 'Early Career Scientist Association' (ECSA). ECSA is open to all post-docs and students at IARC and works in collaboration with ETR to promote opportunities for training, career development, social activities, and regular dialogue between Early Career Scientists, and with ETR and IARC management. Senior scientists invited to give an IARC seminar are asked to have additional sessions with ECSA members. Regular coordination meetings have taken place between ETR and ECSA. ETR also provided financial support for some of the events organized by ECSA, such as the first ECSA Scientific Day successfully held in April 2014.

15. The IARC Postdoctoral Fellowship Charter, launched in September 2011 in order to allow a more structured approach to postdoctoral training at IARC, continued to be successfully implemented. Charters have been completed by a majority of postdoctoral scientists (including IARC Fellows). Entry and exit interviews have been conducted with all postdoctoral scientists. Entrance interviews (~4 months after arrival) are an excellent opportunity to discuss potential issues. Exit interviews allow identification of lines of improvement for the programme and/or feedback on planned activities. In collaboration with ECSA, ETR continued to develop the Generic Courses Programme for Early Career Scientists, as an integral part of the IARC Postdoctoral Fellowship Charter. A prioritization exercise was conducted based on the results of a learning assessment survey run by ECSA in 2013; new courses offered and communication on the programme improved. Sixteen courses were organized during the reporting period. Courses

were attended by more than seventy different Early Career Scientists, some events had to be repeated due to oversubscription and the courses were in general well received.

16. Various stakeholders were consulted in order to explore the feasibility of a future mentoring programme for postdoctoral scientists, as advised by the Scientific Council in 2013. A potential programme will be further shaped and piloted in autumn 2015.

17. Relations with Universities have been strengthened or developed in order for IARC to be recognized as a host institute for PhD and master students. At the local level, links with two doctoral schools of Lyon University have been reinforced, leading to improved day-to-day communication and potential future collaborations (i.e. recognition of IARC generic courses). In addition, ETR is now serving on the Administration Board of the Lyon University's Human Biology Department as well as one of the doctoral schools (EDISS). At the international level, discussions with Warwick University have been initiated in order to set up a partnership for the hosting of PhD students.

18. ETR coordinated the finalization of the IARC Welcome Pack (<http://www.iarc.fr/en/about/welcome/index.php>), which provides information for those considering applying to work or study at IARC, as well as to assist those who are preparing to move to Lyon or have joined IARC recently. ETR will be responsible for the maintenance of this resource.

19. Finally, ETR has contributed to the further development of the IARC Alumni Group created in 2011 within the LinkedIn® social network and administered by the Communications Group. Former Early Career and Visiting Scientists have been encouraged to register, either at the time of arrival/departure or through the recently launched ETR newsletter. To date 203 former Agency staff, visiting scientists, fellows, postdocs or students have registered.

c) Conclusion and future perspectives

20. The IARC Research Training and Fellowship Programme continues to demonstrate its relevance and efficiency in providing opportunities for deserving Early Career Scientists from around the world to acquire excellent training and experience in an exceptional multi-cultural and international environment, enhanced by the hosting of senior visiting scientists.

21. ETR would like to formally acknowledge the huge contribution of Mrs Eve El Akroud to the IARC Training and Fellowship Programme, which she has administered for the past 34 years. The success of the programme is in large part due to Mrs El Akroud's exceptional professionalism, efficiency and dedication.

22. In the coming years, and in addition to maintaining the programme at its current level of quality, the focus of ETR will be to:

- maintain the current funding sources and partnerships as well as develop more bilateral agreements for Postdoctoral Fellowships;
- expand the model of short-term fellowships at IARC in order to transfer specific skills and develop research capacity in the home institution;
- further improve the Post-doctoral Charter and the Generic Courses Programme for Early Career Scientists;

- support the Early Career Scientist Association;
- strengthen the links with local and international academic institutions; and
- consolidate policy and procedures, in close collaboration with the DAF's Office.

C. IARC Courses

a) Background

22. As one of its core functions, and since its inception, IARC has been holding courses globally in order to provide the opportunity to improve theoretical and practical skills of cancer investigators, with emphasis on researchers from LMICs. These initiatives have also stimulated collaborations with IARC.

23. The specific aims of the Programme are as follows:

- To bring IARC learning and training resources closer to their target audiences, by developing eLearning material and initiatives.
- To stimulate research in cancer epidemiology, as well as enhance cancer surveillance, detection and prevention by developing individual and institutional expertise in areas of IARC competence through training courses.

b) Activities and Results

• eLearning

24. As the first component of a future IARC online learning platform, the ETR website was re-designed including, amongst other features, a database linking to existing online IARC learning and training resources (<http://training.iarc.fr/>). A biannual ETR Newsletter was also launched in December, targeting former Early Career and Senior Scientists at IARC as well as course participants.

25. In order to develop its learning platform, IARC is seeking to expand the production of eLearning resources. In this respect, ETR provided input to the Information Technology Services and the Administrative Services Office that conducted an assessment of the technical solutions currently available for recording an online re-diffusion of presentations, training courses, workshops, etc. The solution judged to be most appropriate for IARC was put into operation in 2014. The system was used to capture some sessions of the Summer School and of the first cancer registration course in Russian language held in Kazakhstan. The material is being made available from the ETR and GICR websites.

26. Partnership initiatives have been pursued to develop e-Learning material and courses. Collaborations have been established, with the Institut Català d'Oncologia, Spain leading to the planning of a joint online course in cancer epidemiology targeting Latin American countries, and with the London School of Hygiene and Tropical Medicine, UK involving contribution to the contents of an e-Learning session on 'Introduction to Cancer'. Negotiations with the International Atomic Energy Agency – Programme of Action for Cancer Therapy (IAEA-PACT) would lead to the development of an e-Learning module on cancer registration in the framework of the Virtual University for Cancer Control network (VUCCnet).

- **Face to face courses**

27. The IARC Summer School was organized both years in Lyon in June-July. Both the Cancer Registration (week one) and Introduction to Cancer Epidemiology modules (weeks two and three) were organized each year. As detailed in Table 1 of Appendix 3, during the reporting period, the Summer Schools allowed the training of a total of 120 researchers and health professionals from 58 countries, 100 of them from 48 different LMICs. The Summer School modules have been very well received by the participants, with more than 95% of them declaring they would recommend the course to a colleague. In parallel and as described above, online complementary initiatives are being developed. From 2015 on and based on the development of the GICR hubs, the week dedicated to cancer registration will evolve on a rotation of more specific or advanced modules, starting with a module on survival analysis. Additional financial support for the course came from the US National Institutes of Health–National Cancer Institute (NIH-NCI) as well as from the Nordic Cancer Union (NCU) and from the Klinik und Poliklinik für Gynäkologie, Martin Luther University, Halle, Germany.

28. Advanced or specialized courses were organized by scientific Groups, often with external partners and held at diverse locations throughout the world (see Table 2 of Appendix 3). One can highlight a remarkable expansion in courses on cancer registration as the result of the GICR initiative (15 during the reporting period).

29. Courses and workshops targeting institutions engaged in collaborative projects were also organized, such as those held in Latin America in the framework of the ESTAMPA project lead by EDP/PRI. ETR has been involved in part of Groups' courses in different ways, ranging from advice on training design, organization, or development/administration of online evaluation surveys (11 during the reporting period). ETR has also been involved in some of the Groups' initiatives with a training component (i.e. member of the BCNet Education and Training Working Group, LSB) and collaborated in the development of several proposals with scientific Groups (i.e. Global Nutrition Surveillance Initiative, DEX).

30. As presented in Table 3 of Appendix 3, the Summer Schools as well as IARC specialized and advanced courses allowed the training of a total of 1001 scientists and health professionals during the reporting period.

c) Conclusion and perspectives

31. During the reporting period, IARC continued to organize and successfully run initiatives that both stimulated research on cancer globally and contributed to developing local expertise in cancer epidemiology and prevention, particularly in LMICs.

32. In the coming years the focus of ETR will be to:

- develop functional specifications for an eLearning platform and identify relevant technical options as well as possible sources of funding;
- produce and publish eLearning material in English and other languages;
- launch a webinar series, building on certain seminar cycles currently organized at IARC, with sessions recorded and material posted on the IARC website for free access;

- further run and improve the Summer School as well as set up online courses expanding its target audience;
- develop more advanced modules in areas of IARC competence; and
- pursue collaboration with and support to Groups for the design, development, organization and/or evaluation of education and training materials, courses or programmes.

E. Questions to the Scientific Council

33. This report has described key achievements of the IARC's Education and Training programme in 2013–2014, based on the strategy presented and discussed during the 49th Session of the Scientific Council in January 2013.

34. Part of future developments is dependent on the mobilization of additional resources. The Scientific Council is therefore asked for advice on seeking additional resources from, for example, Participating States and Foundations, in order to finance the expansion of Education and Training.

35. Finally, in order to align the production of the ETR Biennial Reports to that of the IARC Biennial Reports, the Secretariat requests the Scientific Council to suggest to the Governing Council to adapt the reporting period accordingly, i.e. that the next ETR Biennial Report should cover the years 2016–2017 (see Resolution GC/55/R8).

Appendix 1 – Structure

Figure 1: ETR organigram



Appendix 2 – IARC Research Training and Fellowship Programme

Table 1: IARC Fellowships 2008–2014*

Year	No. of IARC Fellowships awarded	No. fellows from low- and middle-income countries
2008**	11 (6 + 5)	11
2009	8 (4 + 4)	8
2010	10 (6 + 4)	6
2011	13 (8 + 5)	5
2012	19 (12 + 7)	11
2013	18 (10 + 8)	11
2014	21 (13 + 8)	12

*Post-doctoral fellowships (new + second year renewals), including IARC-Australia and IARC-Ireland Fellows (2011–2014)

**In 2008 and 2009, only candidates from LMICs were eligible to apply. From 2010, candidates from LMICs or with research projects benefitting to LMICs have been able to apply.

Table 2: Senior Visiting Scientist Awards, 2013–2014

Name	Institution	Project	IARC Group
Professor Leticia M. Fernandez Garrote	National School of Public Health, La Habana, Cuba	Design and development of an education programme addressed to cancer registry professionals from LMICs	CSU
Professor John D. Groopman	Johns Hopkins University Bloomberg School of Public Health, Baltimore, USA	Molecular epidemiology of aflatoxin exposures: hepatocellular cancer and other health endpoints	DIR
Professor Groesbeck P. Parham	Center for Infectious Disease Research in Zambia, Lusaka, Zambia	Analysis and expansion of the Zambian cervical cancer prevention model	SRC
Professor Christopher J. Portier	Agency for Toxic Substances and Disease Registry, Atlanta, USA	Identifying mechanistic pathways to carcinogenesis	IMO
Professor Prendiville	UPMC, Beacon Hospital Department of Gynaecology, Dublin, Republic of Ireland	Distance Learning in Cervical Pre-cancer Management	SRC
Professor Steenland	Rollins School of Public Health, Emory University, Department of Environmental Health, Atlanta, GA, USA	Cancer due to lead exposure and methodological work on risk assessment	IMO

Name	Institution	Project	IARC Group
Professor Leitzmann	University of Regensburg, Department of Epidemiology and Preventive Medicine, Regensburg, Germany	Mining the serum metabolome for discovery of biomarkers of lifestyle, diet, and body size	NEP

Table 3: Number of trainees, students, postdocs or visiting scientists funded by the Fellowship Programme or IARC Groups, 2013–2014, by category*

Category	Number
Trainees**	20
Students, of whom	91
Master's students	36
Doctoral students	42
Other categories of students***	13
Postdocs	87
Visiting Scientists	30
Senior Visiting Scientists	37
Total, all categories	265

* As of 1st December 2014

** At the pre-bachelor level or trainees in administration

*** Post-master students and continuing professional development trainees

Appendix 3 – IARC Courses

Table 1: Number of participants in the IARC Summer School, 2013–2014, by country and geographical regions (WHO Regions)

Region	Countries and number of participants	Total per Region	Total per LMICs
Africa	Benin (2), Burkino Faso (1), Cote d'Ivoire (1), Ethiopia (3), Kenya (4), Malawi (1), Niger (1), Nigeria (4), Rwanda (2), Sierra Leone (1), South Africa (1), Zimbabwe (3) (12 countries; 12 LMICs)	24	24
Americas	Argentina (2), Brazil (4), Colombia (1), Ecuador (1), Guatemala (2), USA (3)*, Uruguay (1) (7 countries; 6 LMICs)	14	11
Eastern Mediterranean	Algeria (2), Egypt (5), Iran (2), Iraq (1), Lebanon (2), Morocco (1), Pakistan (3), Qatar (1)*, Sudan (2), Yemen (2) (10 countries; 9 LMICs)	21	20
Europe	Belarus (1), France (5)*, Greece (1)*, Ireland (2)*, Italy (2)*, Kazakhstan (1), Lithuania (1), Montenegro (1), Portugal (1)*, Russia (1), Serbia (1), Slovak Rep (1), Spain (2)*, Turkey (3), Uzbekistan (2) (15 countries; 9 LMICs)	25	13
South-East Asia	Bangladesh (2), Bhutan (1), India (7), Indonesia (1), Nepal (2), Sri Lanka (3), Thailand (2) (7 countries; 7 LMICs)	18	18
Western Pacific	China (8), Japan (2)*, Korea (2)*, Malaysia (1), Mongolia (1), Philippines (2), Vietnam (2) (7 countries; 5 LMICs)	18	14
Total		120	100

* High-income countries

Table 2: Specialized and advanced courses 2013–2014

Year	Course Title	Location	Number of participants	External collaborations
2013	Early detection & prevention of Cx Ca (Screen and Treat)	Sikkim, India	32	STNM, Sikkim
2013	Training course on colposcopy & LEEP procedures in the management of cervical cancer	Pattaya-Chonburi, Thailand	39	NCI Thailand, Thai Society for Colposcopy & Cervical Pathology
2013	1 st Pathology Training Course – ESTAMPA study	Bogota, Colombia	18	NCI Colombia
2013	Cervical Colposcopy – ESTAMPA	Buenos Aires, Argentina	18	Argentinian Society of Lower Genital Tract pathology
2013	Statistical practice in epidemiology with R	Lyon, France	40	University of Tartu, Estonia
2013	Gotowebinar trainings on EPIC-soft GloboDiet	Online courses (6)	55	
2013	Cancer registration and epidemiology	Jakarta, Indonesia	35	UICC
2013	Paediatric Oncology for Cancer Registries	Lyon, France	40	ENCC (European Network of Cancer research in children and adolescents); EU; ENCR
2013	From population-based cancer registry data to scientific publication (English/Spanish)	Buenos Aires, Argentina	8	Erasmus MC University Medical Centre; IACR; UICC
2013	Cancer Registry training course	Izmir, Turkey	44	EC; US NCI; University of California, Irvine; ENCR
2013	Cancer registration and epidemiology	Bangkok, Thailand	40	US CDC agreement with NCI Thailand
2014	Cx ca screening and treatment with cold coagulation	Fès, Morocco	11	Fondation Lalla Salma Prevention et Traitement des Cancers
2014	Course on VIA, colposcopy and treatment of cervical neoplasia	Barshi, India	15	Tata Memorial Centre Rural Cancer Project, India; National Cancer Control Programme, Sri Lanka, Bill & Melinda Gates Foundation through ACCP

Year	Course Title	Location	Number of participants	External collaborations
2014	Training course on screening and treatment of cervical neoplasia	Kigali, Rwanda	14	NCI Rwanda, UICC
2014	Training Course on Colposcopy and LEEP Procedures in the Management of Abnormal Cytology	Bangkok, Thailand	57	NCI Thailand, Thai Society for Colposcopy & Cervical Pathology
2014	Master Trainers course on cervical cancer screening and treatment of pre-cancerous lesions	Barshi, India	17	Tata Memorial Centre Rural Cancer Project
2014	Gotowebinar trainings on EPIC-soft GloboDiet	Online courses (4)	45	
2014	Cancer Survival Methods for Cancer Registries	Chennai, India	29	UICC; GICR
2014	Building blocks for cancer system performance measurement and evaluation (Spanish)	Ottawa, Canada	18	GICR Regional Hub for Latin America
2014	Basic training in cancer registration	Mozambique	5	AFCRN (GICR Regional Hub for Africa)
2014	Cancer registration (for Francophone countries)	Abidjan, Côte d'Ivoire	11	Regional Hub for Cancer Registration in Northern Africa, Central and Western Asia; INCa (Institut National du Cancer)
2014	Cancer registration	Cairo, Egypt	25	EMRO
2014	Cancer registration	Yangon, Myanmar	80	Mumbai Hub, NCI Bangkok
2014	Cancer registration workshop	Shanghai, China	80	NCI
2014	IARC Cancer Registration Course (for Russian-speaking registries)	Astana, Kazakhstan	28	Regional Hub for Cancer Registration in Northern Africa, Central and Western Asia National Institute for Postgraduate Medical Education, Kazakhstan Central Asian Cancer Institute, Kazakhstan
2014	Uses of cancer registry data in cancer control research	Ankara, Turkey	25	Izmir Hub, MECC, NCIC, UC Irvine
2014	Principles of cancer registration and CanReg	San Salvador, El Salvador	52	GICR Regional Hub for Latin America

Table 3: Courses organized by IARC 2008–2014 (including Summer School)

Year	No. courses organized	No. different countries where courses held	No. courses in low- and middle-income countries	No. participants
2008	6	5	4	320
2009	13	13	12	405
2010	8	8	5	402
2011	9	6	4	235
2012	9	4	3	312
2013	12	7	6	425
2014	17	14	12	576

Note: The number of courses in 2011 was similar to previous years although the total number of participants across all the courses was lower. This reflects the fact that there were no courses with exceptionally high numbers of participants. For example in 2010 a single course on cervical cancer prevention was attended by 200 people in Trivandrum, India.