

EDUCATION AND TRAINING GROUP (ETR)

<p>Group head Ms Anouk Berger</p>	<p>Trainees Ms Lisa Berkani (until June 2018) Mr Louis Fernez (until June 2018) Ms Amélie Labaume (until August 2019) Mr Renzo Metail (until August 2018)</p>	<p>Dr Zdenko Herceg (Responsible officer, fellowship programme) Dr Les Mery (Scientific director, Summer School module on GICRNet Master Class: Analysis of Population-based Cancer Registry Data) Dr Catherine Sauvaget (Scientific director, Summer School module on Implementing Cancer Prevention and Early Detection) Dr Isabelle Soerjomataram (Scientific director, Summer School module on GICRNet Master Class: Analysis of Population-based Cancer Registry Data) Dr Kurt Straif (Scientific director, Summer School module on Introduction to Cancer Epidemiology) (until October 2018)</p>
<p>Senior visiting scientist Dr Rodolfo Saracci (until December 2018)</p>	<p>Affiliated staff Dr Maribel Almonte (Scientific director, Summer School module on Implementing Cancer Prevention and Early Detection) Dr Partha Basu (Scientific director, Summer School module on Implementing Cancer Prevention and Early Detection) Dr Pietro Ferrari (Scientific director, Summer School module on Introduction to Cancer Epidemiology)</p>	
<p>Assistant, fellowship programme Ms Isabelle Battaglia</p>		
<p>Assistant, courses programme Ms Sandrine Montigny</p>		
<p>Project assistant Ms Dominique Meunier</p>		
<p>Secretary Ms Mira Delea</p>		

As a core statutory function of the Agency, IARC's education and training programme has made a substantial contribution to the development of human resources for cancer research in many countries and has also helped to shape the Agency's research strategy and widen its network of collaborators.

Key achievements of IARC's education and training programme during 2018–2019 are presented here. Whereas the Education and Training Group (ETR) coordinates the Agency's activities in these areas, many initiatives are led by the research Groups.

RESEARCH TRAINING AND FELLOWSHIP PROGRAMME

The programme offers researchers at different stages of their career (collectively referred to as Early Career and Visiting Scientists) opportunities to be trained at IARC in fields of research closely associated with the Agency's missions and activities, as well as to participate in collaborative research projects. Early Career and Visiting Scientists are supported either by project funds from IARC Groups or by IARC Fellowships. A total of 295 Early Career and Visiting Scientists from 62 different

countries worked at IARC during the biennium, which represents a 16.6% increase compared with the previous biennium.

HOSTING ENVIRONMENT

The improvements made over the biennium regarding the terms and conditions under which Early Career and Visiting Scientists work while at the Agency have been monitored by ETR, in close collaboration with key players such as the Director of Administration and Finance, the Staff Physician, and the Early Career Scientists Association

(ECSA). In addition, an entirely revised version of the IARC Welcome Pack was released in 2019 (https://www.iarc.fr/cards_page/visitor-information/).

The internal programme of generic skills courses, developed within the framework of the IARC Postdoctoral Fellowship Charter and jointly managed by ETR and the Human Resources Office, offered 40 courses to Early Career and Visiting Scientists in 2018–2019 (Table 1), which were attended by more than 150 people. Since August 2018, Early Career and Visiting Scientists have had access to the WHO learning platform ilearn and Lynda.com, further expanding the learning opportunities. Continuing dialogue with ECSA has enabled the courses offered to be refined to address the needs of beneficiaries. For instance, Professional and Career Development Courses were held in both 2018 and 2019. To complement these courses, a Career Prospects Portal intranet site was jointly developed, providing a list of job offers maintained by ECSA, a selection of learning resources and tools, and a Job Application Clinic piloted by ETR in 2019.

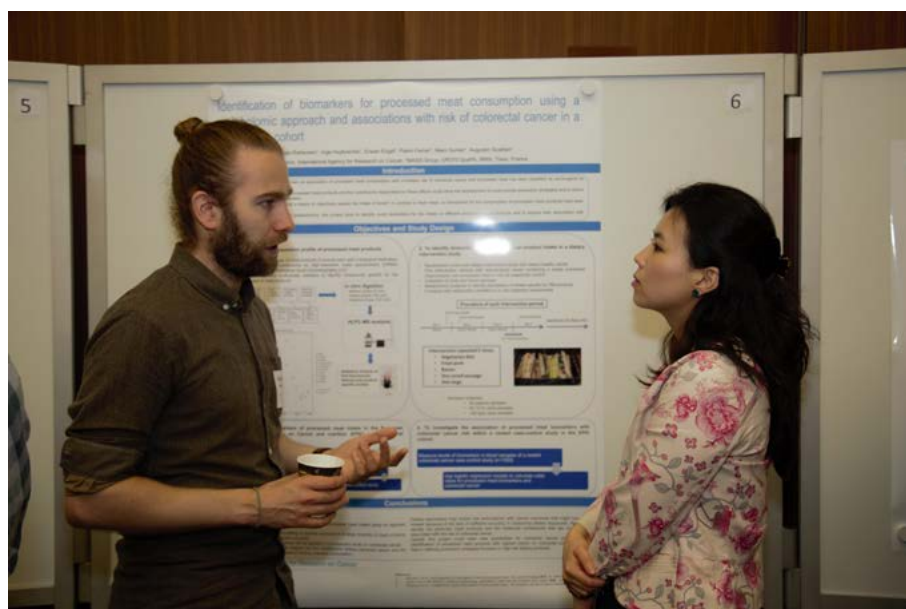
In addition to the exchanges described above, the Agency continued to support and work closely with ECSA on several areas to improve the quality of the training environment. Among other activities, ECSA continued to successfully hold its Scientific and Career Days in 2018 and 2019 (Figure 1), with a growing number of attendees, including through the Cancéropôle Lyon Auvergne Rhône-Alpes. Testimonials can be viewed online (<https://www.youtube.com/watch?v=d6zLkeckMoo>).

The relationship with local academic players has been strengthened, in particular through the opening of some of the above-mentioned courses to local students, including in partnership with the Cancéropôle Lyon Auvergne Rhône-Alpes. An example of such a course was “Nextflow: reproducible and portable bioinformatics data analyses”, held at IARC in September 2019.

Table 1. Generic courses for Early Career Scientists, 2018 and 2019

Research skill development	Writing skills
Analysing TCGA data in the cloud	Copyright issues
Basic UNIX for handling large datasets	Documentation and in-depth searching to support systematic reviews
Data preparation and formatting	Effective scientific posters
Ergonomics in laboratories	EndNote basic (twice a year)
Good IARC laboratory practice (7 sessions)	EndNote advanced (three times)
Good pipetting practices	EndNote for systematic review (twice)
Introduction to biostatistics	Grant writing (twice)
Introduction to HPC and the IARC Linux clusters	Publishing in scientific journals
Introduction to geographic information systems (GIS) for epidemiology	PubMed workshop (twice a year)
Nextflow: reproducible and portable bioinformatics data analyses	Systematic reviews search methodology (three times)
Pathology of cancer: basic principles for non-pathologists	Web of Science
Statistical practice in epidemiology using R	Zotero (three times)
Using the IARC Nextflow bioinformatics pipelines	
IT skills	Communication skills
Electronic Laboratory Notebook (three times)	Dealing with conflicts in a multicultural environment
Electronic Laboratory Notebook outside laboratories	Dialogue on respect (WHO Office of the Ombudsman and Mediation Services)
Excel intermediate course (twice)	Instructor development course
REDCap for data collection (twice)	
REDCap for surveys (twice)	
SharePoint (twice)	
Career management and development	Leadership and management
Managing your career during the 4th industrial revolution (WHO Global Talent Management) (online)	Financial management
Networking	Make your research count
Professional and career development course (twice)	Project management (twice)
A holistic approach to career management (online)	Task management (twice)
Massive open online course (MOOC) reimbursement scheme offered for:	
Statistical skills and bioinformatics; Introduction to public speaking; Work smarter, not harder; Mindfulness for well-being and peak performance	

Figure 1. ECSA Scientific and Career Day 2018. © IARC/Sandrine Montigny.



In 2018, the Agency awarded seven Fellowship extensions funded exclusively by the IARC Regular Budget. No new IARC Fellowships were awarded in 2018, because the call for applications was suspended in 2017 as a result of budgetary constraints. To maintain an effective programme while pursuing alternative funding, the Agency restricted the awarding of IARC Fellowships to candidates from low- and middle-income countries (LMICs). This led in 2019 to the awarding of six new Fellowships funded by the IARC Regular Budget. Fundraising efforts initiated in previous years started to pay off and one additional Postdoctoral Fellowship could be awarded in 2019, thanks to the financial support of the Terry Fox Foundation.

In 2018–2019, modest Research Return Grants were also awarded to six Fellows from LMICs, contributing to the establishment of their research activity in their own country.

SHORT-TERM FELLOWSHIPS

In collaboration with the Union for International Cancer Control (UICC), the UICC-IARC Development Fellowship enables a selected number of participants of the IARC Summer School to return to IARC for a period of 1 month for further training and collaborative work. In 2019, this fellowship was awarded to four researchers from LMICs.

SENIOR VISITING SCIENTIST AWARD

Two Senior Visiting Scientist Awards were made in 2018–2019 (Table 2). Beyond the development of collaborative research projects, the Senior Visiting Scientist Award often leads to the expansion of important research initiatives or the joint production of key resources for capacity-building.

IARC SUMMER SCHOOL IN CANCER EPIDEMIOLOGY

Because of budget constraints, the IARC Summer School in Cancer Epidemiology was not held in 2018. The event was held

Table 2. Senior Visiting Scientist Awards, 2018 and 2019

2018	
Professor Torkjel Sandanger	Department of Community Medicine, Arctic University of Norway, Norway
2019	
Dr Rashmi Sinha	Division of Cancer Epidemiology and Genetics, National Cancer Institute, USA

in Lyon in June–July 2019, with the goal of improving the methodological and practical skills of more than 60 cancer researchers and health professionals from more than 40 countries, the vast majority of whom were from LMICs (Figure 2). The following modules were held: Introduction to Cancer Epidemiology, GICRNet Master Class: Analysis of Population-based Cancer Registry Data, and Implementing Cancer Prevention and Early Detection. Most sessions of the Summer School were recorded (<https://videos.iarc.fr/channels/SummerSchool2019/>), and some of those resources were viewed more than 1000 times between July and December 2019. Testimonials can be viewed online (<https://training.iarc.fr/course-testimonials/summer-school2019/>).

SPECIALIZED AND ADVANCED COURSES

Specialized and advanced courses are organized by IARC’s scientific Groups, sometimes with the support of ETR. Most of these courses are associated with collaborative research projects, in which IARC is transferring skills needed to conduct the projects and to enable the subsequent implementation of the research findings in the countries concerned. Specialized courses are often co-organized with external partners and are held at diverse locations worldwide (Table 3). During the biennium, more than 50 courses were organized, enabling the training of about 1700 scientists and health professionals.

Figure 2. IARC Summer School 2019 module on Implementing Cancer Prevention and Early Detection. © IARC/Amélie Labaume.



Table 3. Specialized and advanced courses, 2018 and 2019

Course title	Location	Number of participants	External collaborations
2018			
<i>Cancer surveillance</i>			
Basic cancer registration in Indonesia	Indonesia	60	
Basic cancer registration in Tanzania	United Republic of Tanzania	21	
Basic cancer registration in United Arab Emirates	United Arab Emirates	72	
CanReg5	Thailand	60	
Childhood cancer registration	Côte d'Ivoire	10	
GICR <i>Net</i> data quality train the trainers workshop	IARC	22	
SEER*Stat training workshop for the analysis and reporting of national mortality data	Trinidad and Tobago	10	
SurvCan-3: data collection for survival studies: data quality and assessment for survival analysis focusing on trace-back of DCO cases (Central and South American countries, Caribbean)	GoToWebinar	18	Cancer Institute (WIA), Chennai, India
SurvCan-3: data collection for survival studies: data quality and assessment for survival analysis focusing on trace-back of DCO cases (India and surrounding countries)	GoToWebinar	16	Cancer Institute (WIA), Chennai, India
SurvCan-3: data collection for survival studies: data quality and assessment for survival analysis (Central and South American countries, Caribbean)	GoToWebinar	18	Cancer Institute (WIA), Chennai, India
SurvCan-3: data Collection for survival studies: data quality and assessment for survival analysis (India and surrounding countries)	GoToWebinar	24	Cancer Institute (WIA), Chennai, India
<i>Cancer prevention and early detection</i>			
CICAMS-IARC Planning and implementing cancer control programmes, 2nd edition for ASEAN countries and China	China	42	Cancer Foundation of China, Cancer Institute of the Chinese Academy of Medical Sciences (CICAMS)
IFCPC-IARC online training: colposcopy and the prevention of cervical cancer (in English) for India		15	International Federation of Cervical Pathology and Colposcopy (IFCPC)
IFCPC-IARC training course in colposcopy and the prevention of cervical cancer – objective structured clinical examination (OSCE)	India	20	International Federation of Cervical Pathology and Colposcopy (IFCPC)
IFCPC-IARC online training: colposcopy and the prevention of cervical cancer (in Russian and English)		30	International Federation of Cervical Pathology and Colposcopy (IFCPC), United Nations Population Fund-Eastern Europe Central Asia office (UNFPA-EECA)
Project ESTAMPA – Bolivia centre setup (4 sessions): project presentation, clinical samples collection, colposcopy and clinical management, laboratory procedures	Bolivia	63 (42 + 5 + 14 + 4)	
Projet Care4Afrique – Côte d'Ivoire – IVA et thermo-coagulation (in French)	Côte d'Ivoire	20	Ministère de la Santé et de l'Hygiène Publique; Institut National de Santé Publique, Abidjan, Côte d'Ivoire; Lalla Salma Foundation, Rabat, Morocco
Projet Care4Afrique – Sénégal – IVA et thermo-coagulation (2 sessions) (in French)	Senegal	46 (22 + 24)	Ministère de la Santé et de l'Action Sociale du Sénégal; Lalla Salma Foundation, Rabat, Morocco
Projet PAPRICA: ateliers d'information et de partage "Vaccination HPV" (3 sessions) (in French)	IARC	21	

Table 3. Specialized and advanced courses, 2018 and 2019 (continued)

Course title	Location	Number of participants	External collaborations
Training course for master trainers in cervical cancer prevention, early detection, and management (participants from Morocco, Burkina Faso, Chad, Côte d'Ivoire, and Senegal (in French))	India	23	Tata Memorial Centre Rural Cancer Project; Nargis Dutt Memorial Cancer Hospital (NDMCH), Barshi, Maharashtra, India; Lalla Salma Foundation, Rabat, Morocco
Cancer research infrastructure and methods			
B3Africa webinar series: mobile data collection, parts I and II	GoToWebinar	26 (18 + 8)	International Livestock Research Institute, Kenya
BELMED workshop: epidemiological principles (characteristics) of organized screening for breast cancer	Belarus	32	Belarus Ministry of Health, WHO Belarus
IARC workshop: an introduction to GIS mapping using QGIS; epidemiologic design: case-control studies; epidemiologic study design	Zambia	40 (20 + 10 + 10)	Society for Environmental Geochemistry and Health
GloboDiet transfer of knowledge to WHO-NCD	GoToWebinar	3	WHO-NCD in Moscow
Statistical practice in epidemiology using R	IARC	32	
ICAMA – taller de formación en patología e investigación en cáncer de mama (in Spanish)	Mexico	17	
2019			
Cancer surveillance			
IARC/National Cancer Center Korea Summer School on Cancer Registration: basic principles	Republic of Korea	22	National Cancer Center, Republic of Korea, GICR
IARC/WHO EMRO basic cancer registration course	Egypt	19	WHO Regional Office for the Eastern Mediterranean
IARC/WHO EURO advanced cancer registration course	Republic of Moldova	24	WHO Regional Office for Europe, GICR
International basic course for cancer registrars	Dominican Republic	18	Pan American Health Organization-Dominican Republic, Autonomous University of Santo Domingo, INCART (Ministry of Health of the Dominican Republic), GICR
Principles and practice of cancer registration course	Slovenia	50	Cancer Registry of the Republic of Slovenia, GICR
Site visit and cancer registration and CanReg training	Peru	6	Instituto Nacional de Enfermedades Neoplásicas (INEN), GICR
Site visit and cancer registration and CanReg training	Paraguay	6	Ministry of Health of Paraguay, GICR
Workshop on ESMO EMOO lung cancer data collection tool	Thailand	16	Chiang Mai Cancer Registry, Singapore Cancer Registry, ESMO, GICR
Workshop on registration of childhood cancer: challenges and opportunities	France	90	UICC
Cancer prevention and early detection			
BELMED workshop: cervical cancer prevention and screening in the Republic of Belarus	Belarus	27	
BELMED workshop for radiographers: principles of screening mammography	Belarus	20	Breast Screening Training Centre, St. George's University Hospitals, United Kingdom
BELMED workshop: multidisciplinary team	Belarus	45	Oxford University; University Hospitals of Derby and Burton; Addenbrooke's Hospital, Cambridge; Nottingham University (all United Kingdom)

Table 3. Specialized and advanced courses, 2018 and 2019 (continued)

Course title	Location	Number of participants	External collaborations
CICAMS-IARC Planning and implementing cancer control programmes, 3rd edition for ASEAN countries and China	China	40 (including 3 observers)	Cancer Foundation of China, Cancer Institute of the Chinese Academy of Medical Sciences (CICAMS)
Colposcopy and treatment of precancers	India	25	Chittaranjan National Cancer institute, Kolkata, India
Formation en diagnostic et prise en charge du cancer du sein (in French)	Morocco	9	Institut National d'Oncologie, Rabat, Morocco; Fondation Lalla Salma, Prévention et traitement des cancers, Morocco
Genetic counselling for PRECAMA institutions and beyond (8 webinars)	Webinar	113 (19 + 13 + 14 + 6 + 17 + 15 + 15 + 14)	Hospital Sírio-Libanês, São Paulo, Brazil
Hands-on training on colposcopy and management of premalignant cervical lesions	India	8	GBH American Hospital and GBH Memorial Cancer Hospital, Udaipur, Rajasthan, India
IARC/WHO-EURO workshop on implementation of screening programmes	France	46	WHO Regional Office for Europe
IARC/WHO-EURO workshop on implementation research in cervical cancer elimination	Russian Federation	70	WHO Regional Office for Europe; N.N. Petrov National Medical Research Center of Oncology, Saint Petersburg State University, Russian Federation; Karolinska Institutet, Sweden
IFCPC-IARC training course in colposcopy and the prevention of cervical cancer – objective structured clinical examination (OSCE) (in Russian and English)	eLearning France	25	International Federation of Cervical Pathology and Colposcopy (IFCPC)
IFCPC-IARC training course in colposcopy and the prevention of cervical cancer – objective structured clinical examination (OSCE) (in Spanish)	eLearning Colombia	8	International Federation of Cervical Pathology and Colposcopy (IFCPC)
Project ESTAMPA – training for colposcopists and pathologists	Costa Rica	80	
Projet Care4Afrique – IVA et thermo-coagulation (in French)	Benin	27	Gouvernement de la République du Bénin; Lalla Salma Foundation, Rabat, Morocco; Fondation Claudine Talon
Training course for master trainers in cervical cancer prevention, early detection, and management (participants from Morocco, Burkina Faso, Chad, Côte d'Ivoire, and Senegal) (in French)	India	13	Tata Memorial Centre Rural Cancer Project; Nargis Dutt Memorial Cancer Hospital (NDMCH), Barshi, Maharashtra, India; Lalla Salma Foundation, Rabat, Morocco
Cancer research infrastructure and methods			
Cours international francophone d'épidémiologie du cancer (in French)	Morocco	20	Institut de Recherche du Cancer, Fez; Fondation Lalla Salma, Morocco
Application of metabolomics in human health	South Africa	130	African Centre for Gene Technologies (ACGT)
Application of metabolomics in human health (hands-on)	South Africa	35	African Centre for Gene Technologies (ACGT)
EMBO practical course: metabolomics bioinformatics in human health	France	32	EMBO

ONLINE LEARNING PORTAL

In 2018, an online learning platform was developed to host and disseminate resources produced in the framework of the Bridging Biobanking and Biomedical Research across Europe and Africa (B3Africa) project. The Biobank Learning platform (<http://biobanklearning.iarc.fr/>) was piloted in September 2018 and officially launched in February 2019. Between September 2018 and November 2019, the platform attracted 21 281 visitors, generating 89 542 hits (the IP addresses of visitors were from 147 countries).

On the basis of lessons learned from the launch and implementation of the Biobank Learning platform, the existing IARC Learning platform was migrated to a new information technology infrastructure with a revamped design and extended functionalities (e.g. easily searchable repositories of resources, centralized user management, decentralized content management, and enhanced technical and financial accessibility).

The new IARC Learning portal was launched in the last quarter of 2019, featuring two thematic platforms ready for registration: IARC Learning/Biobanking, with more than 80 self-learning resources for biobank-based research professionals, and IARC Learning/Cancer Prevention and Early Detection, with a variety of resources for researchers and health professionals in cancer prevention and early detection.

Four thematic platforms are under development: World Cancer Report, Cancer Surveillance, Human Exposome Assessment Platform, and IARC Summer School.

Screen capture of IARC Learning platform. © IARC.

