

OVERVIEW OF THE TRAINING PROGRAMMES OFFERED BY THE ISIDORE PARTNERS

The ISIDORE partners and their collaborators offer a broad portfolio of training opportunities that are consistent with, but not limited to, the ISIDORE objective of enhancing European and global capacity to prevent and respond to infectious threats. The training offers range from (on demand) on-site and/or virtual training, workshops, conference sessions and webinar series, to written guidelines. Many providers have their own training platform, which allows, for example, self-paced learning and/or access to recordings of training content. Further detailed information can be found on the websites of the ISIDORE partners as well as the World Health Organization (WHO), the European Centre for Disease Prevention and Control (ECDC) and the World Organisation for Animal Health (WOAH).

You can find an overview in table 1:

Table 1: Overview of the training programmes offered by ISIDORE partners and WHO, ECDC and WOAH

ISIDORE Partner	Training description	Link to website (last accessed on 13/07/2023)
ERINHA	<p>ERINHA brings together the top training centres in biosafety and biosecurity with proven track records of providing training. ERINHA trainers have experience in operating and maintaining high containment facilities (BSL4 and complementary) as well as years of hands-on work within BSL3 and BSL4 laboratories.</p> <p>ERINHA offers training for:</p> <ul style="list-style-type: none"> • Working safely in high containment laboratories • General Biosecurity Training • Operations of a Biosafety Laboratory • Other trainings related to high containment research facilities 	https://erinha.eu/access-our-services/training/

ISIDOR e Partner	Training description	Link to website (last accessed on 13/07/2023)
BBMRI	<p>BBMRI provides training and workshops on Ethical, Legal and Social Implications (ELSI) issues such as Data Protection Impact Assessment (DPIA), ethical compliance and social engagement, among others.</p> <p>In the field of Quality Management BBMRI offers in-house and online training, university courses, summer schools, short courses, workshops, and consulting services.</p> <p>The BBMRI Academy provides educational webinars – both live and on demand – on the latest developments in biobanking and biomolecular resources. Due to the accreditation of selected educational webinars by the European Accreditation Council for Continuing Medical Education attendees can claim Continuing Medical Education (CME) credits if they attend the entire live educational webinar.</p>	<p>https://www.bbmri-eric.eu/elsi/</p> <p>https://www.bbmri-eric.eu/elsi-knowledge-base/</p> <p>https://www.bbmri-eric.eu/services/quality-management/</p> <p>https://www.bbmri-eric.eu/services/e-learning/</p>
EATRIS	<p>EATRIS offers an online learning environment for translational scientists. There is a range of self-paced online courses, live courses, recorded webinars, and more.</p> <p>TransMed Academy – self-paced online courses</p> <ul style="list-style-type: none"> • Regulatory aspects of vaccine development • Introduction to translational medicine • Cell & gene therapies - Advanced Therapy Medicinal Product (ATMP) development • PERMIT (personalised medicine trials) recommendations • Translational research & rare diseases <p>Live courses and workshops</p>	<p>https://eatris.eu/transmed-academy/</p>

ISIDOR e Partner	Training description	Link to website (last accessed on 13/07/2023)
	<ul style="list-style-type: none"> • Translational medicine explained (TMex) • Personalized medicine summer school • Cell & gene therapies - ATMP development • Public private collaboration • Regulatory aspects of vaccine development <p>Recorded webinars and series</p> <ul style="list-style-type: none"> • ATMP training • Joint EMA webinar - scientific advice for ATMPs • Regulatory knowledge • HORIZON funding • Quality and reproducibility • EATx: Showcasing EATRIS community • Drug repurposing • ENTRIITC industrial liaison • Neuroscience 	
ECRIN	<p>ECRIN develops dedicated training and webinars for different stakeholder groups. These range from its Clinical Trials Unit (CTU) network to principal investigators and sponsors to consortia and affiliated partners in ECRIN supported projects.</p> <p>The training focuses on ECRIN's core expertise in the development and coordination of multinational clinical research projects. Training aims to highlight the existing difficulties and provide the learners with tools to overcome them. Training may also address issues related to data sharing across borders, including the sharing of sensitive data.</p>	https://ecrin.org/training

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ELIXIR	<p>The ELIXIR Training Platform aims to strengthen national training programmes, grow bioinformatics training capacity and competence across Europe, and empower researchers to use ELIXIR's services and tools. With their Training eSupport System (TeSS), they offer a search portal for training courses and other types of resources (e.g. presentations, videos, handbooks).</p>	<p>https://elixir-europe.org/services/tag/training</p> <p>https://tess.elixir-europe.org/</p>
EU-OPENSREEN	<p>Relevant training topics are assay development, assay technologies, instrumentation and automation, compound management, and informatics.</p> <p>EU-OPENSREEN is providing training packages dedicated to Master and PhD students, postdoctoral scientists and independent principal investigators to foster the next generation of European researchers.</p>	<p>https://www.eu-openscreen.eu/services/training.html</p>
Euro-Biolmaging	<p>Euro-Biolmaging coordinates and supports several levels of training: general, specific and advanced. They focus on both current and future users (masters and PhD students, post-graduates, senior scientists, technicians) as well as on the staff of imaging facilities across Europe. Euro-Biolmaging offers numerous courses that for instance teach how to use various imaging technologies or analyse and process the results. Also, hands-on training is offered to the imaging technologies, to make sure the experiments are successful.</p> <p>Current portfolio of training courses and resources:</p> <ul style="list-style-type: none"> • Biological Imaging Courses • Biomedical Imaging Courses • Training Resources from Industry Partners • MSc degree programmes 	<p>https://www.eurobioimaging.eu/content/training</p>

ISIDOR e Partner	Training description	Link to website (last accessed on 13/07/2023)
	<ul style="list-style-type: none"> • MSc level internships/mobility 	
European Virus Archive (EVAg)	<p>EVAgs goal is to provide global access to standardised diagnostic, therapeutic and research tools that will significantly enhance the efforts to control diseases and improve human and animal health. Being constantly updated, the EVAg Portal enables to provide an overview on all EVAg qualified resources and capacities: virus, reagents, platforms, protocols, processes as well as training and expertise available from all the partners.</p> <p>This unique platform thus constitutes a cornerstone for virus research projects aimed at epidemic/pandemic preparedness and response, in providing both essential resources as well as a platform for the continuation of project-derived products.</p>	<a data-bbox="1317 389 1946 520" href="https://www.european-virus-archive.com/evag-portal-list?portal_search=training&advanced_ictv_tax_search=">https://www.european-virus-archive.com/evag-portal-list?portal_search=training&advanced_ictv_tax_search=
INFRAFRONTIER	<p>The INFRAFRONTIER Research Infrastructure and its partners organise a wide range of specialised workshops, engaging conferences, educative courses, and state-of-the-art training opportunities. Especially, Mouse Clinics in different European countries provide outstanding training in first-line mouse phenotyping as well as specialised phenotyping courses covering e.g. mouse osteology and mouse blood and lymphatic vessel phenotyping.</p> <p>The INFRAFRONTIER training courses offered by European Mouse Mutant Archive (EMMA) partners cover unique training opportunities in mouse model development and cryopreservation courses.</p>	<a data-bbox="1317 853 1883 887" href="https://www.infrafrontier.eu/training-events/">https://www.infrafrontier.eu/training-events/
InfraVec2	<p>InfraVec2 offers online, classroom and hands-on courses and personalised training in laboratory facilities. This contains biosafety for containment and handling of</p>	<a data-bbox="1317 1289 1688 1323" href="https://infravec2.eu/training/">https://infravec2.eu/training/

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	mosquitoes and other biting insects and arthropods. Also training about secure insectary experimental methods and introduction to bioinformatics resources for vector genomics studies are offered.	
Instruct	Instruct offers a range of workshops delivered at Instruct Centres by internationally recognised experts. The education programme aims to train European scientists in a variety of structural biology methods, enabling researchers to expand their expertise and implement new techniques in their research.	https://instruct-eric.org/instruct-training-events-annual
MIRRI	MIRRI brings Training and Education (T&E) to the core of its activities, aiming at facilitating the access to T&E towards different users – e.g., scientists, collaborators of microbial domain biological resource centres (mBRCs) and culture collections, entrepreneurs/industrials, high-school teachers, journalists and science communication professionals, policy makers, etc. –, thus contributing to the capacity building within the bioscience and the bioindustry communities, as well as the society. MIRRI will endeavour to fill identified, demand-driven T&E gaps, as well as developing and designing new, effective tools to deliver T&E.	https://www.mirri.org/training-education/
Sonar Global	Sonar Global provides an online database for training on social dimensions of infectious threats.	https://sonar-global.eu/disease/covid-19/
Transvac	Training scientists in vaccine research and development (R&D) is crucial in order to sustain Europe's excellence in this field. The TRANSVAC2 Consortium has set up training modules at leading European centres (in collaboration with WP18 partners) that can be combined to create customised	https://www.transvac.org/training

ISIDOR e Partner	Training description	Link to website (last accessed on 13/07/2023)
	<p>international courses on vaccine R&D. Two rounds of customised training courses are planned. Participants can select topics as needed in their field of vaccine development, and the timelines of the various modules will be harmonised in a way that allows a logical continuation from one topic to the other.</p>	
VetBioNet	<p>The E-learning platform aims to educate, inform and train technicians and researchers about best practices and ethical issues. The platform also intends to help stakeholders and the public sector to understand the innovations and risks of infectiology experimentation, the best practices, the use of international standards and to illustrate current and likely changes in disease outbreak control.</p> <p>VetBioNet works in partnership with the International Veterinary Biosafety Workgroup (IVBW), a 167 members organisation involved in farmed animal high containment from across the world, with a mission to promote best practice in microbiological biocontainment and safety in veterinary laboratories that have national responsibility for the health of large animals, and which operate at BSL3 and 4. VetBioNet has a page on the IVBW for sharing its outputs on best practice guidance notes.</p> <p>These guidances cover a wide range of topics and are focused on the specific challenges of running a High Containment Facility for Farmed Animal Species, and currently include:</p> <ul style="list-style-type: none"> • Training and Competence for Working in Containment Level 3 Animal Facilities 	<p>https://www.vetbionet.eu/video/</p>

ISIDORE Partner	Training description	Link to website (last accessed on 13/07/2023)
	<ul style="list-style-type: none"> • High Containment Facilities Building Officer – Guidance Notes • Emergency Procedures and Contingency Planning in Containment Facilities • Best Practice on the Selection, Validation and Use of Disinfectants in High Containment Animal Facilities 	
WHO (no ISIDORE partner)	<p>OpenWHO is the free open-access platform of the World Health Organization (WHO) servicing frontline responders, health workers, policymakers and anyone interested in learning about public health. Designed to enhance the global response to health emergencies, OpenWHO offers self-paced multilingual courses adapted from WHO's scientific and operational guidance. Evidence-based learning resources are presented in low-bandwidth adjusted formats that can easily be adapted, contextualized, and translated. As a centre for WHO's COVID-19 learning resources, OpenWHO witnessed an exponential surge of learners and expanded public health knowledge to hard-to reach areas and underrepresented groups, advancing equity through online learning. OpenWHO also recognizes the importance of continuing professional development (CPD) and offers CPD-accredited courses as part of the WHO health emergencies core curriculum.</p>	<p>https://openwho.org/</p> <p>https://www.who.int/emergencies/diseases/novel-coronavirus-2019/training/online-training</p>
ECDC (no ISIDORE partner)	<p>European Centre for Disease Prevention and Control (ECDC) Virtual Academy provides access to training in the domain of Disease Prevention and Control, in order to strengthen capacity of the European Union and its Member States. It partners with training network organisations within the EU and beyond and offers courses online.</p>	<p>https://eva.ecdc.europa.eu/</p>

ISIDORE Partner	Training description	Link to website (last accessed on 13/07/2023)
WOAH (formerly OIE) (no ISIDORE partner)	The World Organisation for Animal Health (WOAH, formerly OIE) provides a Platform for the Training of the Veterinary Services in the format of an innovative consortium with its network of Collaborating Centres – especially those for Training and Education – to use their expertise.	https://training.woah.org/course/index.php?categoryid=5

TRAINING OPPORTUNITIES SORTED BY SPECIFIC TRAINING TOPICS

The training opportunities offered by ISIDORE partners and their collaborators are numerous. In order to support the search for a suitable training offer, the offers in the following table (see table 2) have been sorted in alphabetical order according to specific training topics.

Table 2: Training opportunities sorted by specific training topics

Training topic	ISIDORE partner	Link to website (last accessed on 13/07/2023)
Advanced Therapy Medicinal Products (ATMP)	EATRIS	https://e-learning.transmedacademy.eu/ https://www.youtube.com/watch?v=cMX3Vt8WiV8 https://www.youtube.com/playlist?list=PLt3sZpgW2qj7w0XT9UOvBwVdIJ8kEnr5I
Biosafety	ERINHA	https://erinha.eu/access-our-services/training/

Training topic	ISIDOR e partner	Link to website (last accessed on 13/07/2023)
	VetBioNet	https://www.vetbionet.eu/video/
	InfraVec2 (insectary methods)	https://infracvec2.eu/vector-research-products/?fwp_categories=personalized-training
Biosecurity	ERINHA	https://erinha.eu/access-our-services/training/
	VetBioNet	https://www.vetbionet.eu/video/
Data Analysis and statistical consultation	ELIXIR	https://www.mpc.ruhr-uni-bochum.de/service/consulting/index.html.en
	ECDC	https://eva.ecdc.europa.eu/totara/catalog/index.php?catalog_fts=MICRO23&orderbykey=featured&itemstyle=narrow https://eva.ecdc.europa.eu/totara/catalog/index.php?catalog_fts=DCA23&orderbykey=featured&itemstyle=narrow
Data Management	ELIXIR	https://github.com/BioData-PT/Ready4BioDataManagement
(Molecular) Diagnostic Training	EVAg	https://www.european-virus-archive.com/evag-portal-list?page=1&portal_search=training
	MIRRI	https://www.mirri.org/training-education/find-courses/?singleproduct=8229 https://www.mirri.org/training-education/find-courses/?singleproduct=8259
	ECDC	https://eva.ecdc.europa.eu/totara/catalog/index.php?catalog_fts=MICRO23&orderbykey=featured&itemstyle=narrow
ELSI	BBMRI	https://www.bbmri-eric.eu/elsi/
		https://www.bbmri-eric.eu/elsi-knowledge-base/

Training topic	ISIDOR e partner	Link to website (last accessed on 13/07/2023)
Ethical standards in animal experimentation	VetBioNet	https://www.vetbionet.eu/video/
Management of Culture Collections	MIRRI	https://www.mirri.org/training-education/find-courses/?singleproduct=8206
Mouse Disease Models	INFRAFRONTIER	https://www.infrafrontier.eu/training-events/
Pathway Analysis	ELIXIR	https://www.brenda-enzymes.org/index.php
Patient Engagement	BBMRI	https://www.bbmri-eric.eu/elsi/
	EATRIS	https://patient-engagement.eu/
	ECRIN	https://ecrin.org/agenda/eupati-fundamentals-training-session
	ECDC	https://eva.ecdc.europa.eu/totara/catalog/index.php?catalog_fts=COMM23&orderbykey=featured&itemstyle=narrow
Personalized Medicine	EATRIS	https://e-learning.transmedacademy.eu/
	ECRIN/EATRIS	https://permit-eu.org/training
Phylogenetic Analysis	ELIXIR	http://lifemap.univ-lyon1.fr/
		https://microbiome-tools.embl.de/
		https://mage.genoscope.cns.fr/microscope/home/
	MIRRI	https://www.mirri.org/training-education/find-courses/?singleproduct=8250
Preservation of Microorganisms	MIRRI	https://www.mirri.org/training-education/find-courses/?singleproduct=8211

Training topic	ISIDOR e partner	Link to website (last accessed on 13/07/2023)
		https://www.mirri.org/training-education/find-courses/?singleproduct=8218 https://www.mirri.org/training-education/find-courses/?singleproduct=8221 https://www.mirri.org/training-education/find-courses/?singleproduct=8257 https://www.mirri.org/training-education/find-courses/?singleproduct=8261
Public-private collaboration	EATRIS	https://www.youtube.com/playlist?list=PLhm6Shd08sAtuAwyx41pRiJ2tVVaACR8B
	VetBioNet	https://www.vetbionet.eu/video/
	WOAH	https://training.woah.org/course/index.php?categoryid=57
Quality aspects	BBMRI	https://www.bbmri-eric.eu/services/quality-management/
	EATRIS	https://www.youtube.com/playlist?list=PLt3sZpgW2qj7W5vsBfQdSSuiBP1HEawDW
Regulatory aspects	EATRIS	https://www.youtube.com/watch?v=c18efbHQWTI https://www.youtube.com/playlist?list=PLt3sZpgW2qj4bPLewTxktpullKechdCAx
	EATRIS (vaccine development)	https://e-learning.transmedacademy.eu/
	Instruct	https://instruct-eric.org/events/&all=true
Translational Medicine	EATRIS	https://e-learning.transmedacademy.eu https://eatris.eu/events/tmex-translational-medicine-explained-5-day-winter-school-2023-berlin/ https://landscape-tm.eatris.eu/

D4.4: Training Catalogue



Training topic	ISIDORe partner	Link to website (last accessed on 13/07/2023)
		https://biomarker.nu/?msclkid=19d393fecfa011ec9a27ba9b6b7488f6
Vector Risk Assessment	InfraVec2	https://infravec2.eu/vector-research-products/?fwp_categories=personalized-training