

VaxInlive 2022

Focuses on Pandemic Preparedness and Respiratory Infections 1st and 2nd of December, Antwerp



BOOKLET

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VaxInlive Symposia

VaxInlive Symposia serves as a dynamic discussion platform providing an opportunity to passionate researchers from all around the globe to get engaged in scientific discourse. VaxInlive is a continuation series of Symposia (2013, 2014, 2015, 2018, 2019 and 2021), which was conducted in the context of the LIVE (Leading International Vaccinology Education) Master; an Erasmus+ Mundus Joint Master's Degree. The 1st promotion of LIVE started in September 2016. As a living story of VaxInlive symposia, the VaxInlive 2022 symposium is an initiative to build a collaborative discussion platform for Vaccinologists across the globe to induce exciting exchanges of knowledge about vaccines and their development. Similar to one of the objectives of Master LIVE, which is determined to breaking boundaries by recruiting students from all over the world with an array of nationalities. VaxInlive symposium is an amalgamation of the efforts towards breaking the barriers and putting forth the scientific expertise to engage researchers from different nationalities. The symposium is put forth by VaxInlive organizing committee; a group of enthusiastic and passionate scientists who are motivated to expand knowledge by bringing worldwide expertise on one platform.

VaxInlive 2022 Local organizing committee

Prof. Peter Delputte, PhD, Chair (Professor of Virology and Vaccinology, University of Antwerp), drs. Sara Van Looy (Master LIVE Alumni, PhD - Assistant FBD, Local Master LIVE Advisor), Sakshi Jindal (Master LIVE Alumni, Research Assistant, LMPH).

VaxInlive 2022 International committee

Prof. Christine Delprat (UCBL), LIVE master coordinator, Prof. Thomas Stratmann (UB), Prof. Carme Roura Mir (UAB), Prof. Dolores Jaraquemada Pérez de Guzmán (UAB), Prof. Stéphane Paul (UJM), Local Coordinators LIVE Master.

Detailed information is published on the website of the VaxInlive 2022 symposium: <u>https://www.uantwerpen.be/en/conferences/vaxinlive/</u>



Master LIVE

LIVE (Leading International Vaccinology Education) is a two-year dynamic and multidisciplinary Joint Master Degree co-organized by five European universities bringing forward their technical and diverse teaching expertise together and awarding a distinctive Master degree of excellent quality: Universitat Autónoma de Barcelona (ES), Universitat de Barcelona (ES), Universiteit Antwerpen (BE), Université de Saint-Etienne (FR) and Université Claude Bernard Lyon 1 (Coordinator, FR). The programme welcomes experts in the field of Vaccinology to gather and train the future generation of Vaccinologists. Academic internationality is enriched by a worldwide network of academic universities from Brazil, China. Europe and USA and a worldwide network of Associated Partners from the whole working chain in vaccinology. 25 LIVE students are recruited each year among more than 1000 registered applicants from 100 nationalities in 2021. During their studies, their mobility involves three different countries helping them to expand their vision and passion. It provides an ideal opportunity for them to learn foreign languages, English being the language of instruction of the LIVE Master. LIVE programme provides students with an advanced understanding of Immunology, Infectiology, Vaccinology, but also legislation, health policy and humanities around Vaccinology to prepare students for a professional international career and/or continuation with PhD studies. This degree opens a wide array of career opportunities where the graduates can choose a career in big pharma, vaccine manufacturers or in small and medium enterprises specialized in research and development of vaccines or in public organizations dealing with public health policy / clinic / research on vaccines. Graduates are also well prepared for doctorate research in PhD programs. The Master live is co-funded by:



The Universitat Autónoma de Barcelona, Universitat de Barcelona, Universiteit Antwerpen, Université Jean Monnet de Saint Etienne and Université Claude Bernard Lyon 1 (Coordinator),





the European commission (EACEA), thanks to the Erasmus+ Mundus Joint Master Degrees (EMJMD) label of excellence,

sanofi





Sanofi Pasteur, Institut Mérieux and Fondation Mérieux. For more information, visit: https://live.univ-lyon1.fr/

The venue

Symposium venue

University of Antwerp, Campus Drie Eiken (CDE) Auditorium O.5, 1st floor Universiteitsplein 1 2610 Antwerpen BELGIUM



Campus Drie Eiken



Reaching the symposium venue

By foot

- You can walk from the Hotel Drie Eiken to Builiding O (or Auditorium O) on Campus Drie Eiken. This journey is roughly 16-18mins long.
- Please find the journey here; <u>https://goo.gl/maps/GR9MguHeuYcM5KfK7</u>

By car

- Use "Universiteitsbaan 210, Antwerpen" as destination in your car navigation system.

- Park in car park P2. If P2 is full, you can park at P1 (Universiteitsplein 1).
- Auditorium O on the campus is a 5-minute walk from parking P2.

By bus

- Take the Bus number 17 at 'Edegem Universitair Ziekenhuis perron 4' for three stops to 'Wilrijk UA Campus'
- Details on Bus number 17 can be found at this link: http://bit.ly/BusLine17
- Leave the bus at stop 'Wilrijk UA Campus' (sometimes called stop 'Fort VI-straat').
- Building O on the campus is a 2-minute walk from the bus stop.
- For tickets, please refer to section; Local Public Transport.

Hotel

Hotel Bookings

The VaxInlive Symposium free registration does not include any accommodation. Attendants are requested to arrange their own lodging, but thanks to Antwerp Convention Bureau, ACB, the University can offer you a wide range of hotels with their best available rate, -10% discount.

How to book a hotel (please follow the steps in the right order)

- 1. Go to the online booking tool .
- 2. First enter the discount code UAACB19 and click on 'Validate'.
- 3. Then enter the arrival and departure dates and click on 'Search'.
- 4. You'll see an overview of all available hotels and their Best Available Rate -10%, <u>at that</u> moment, including any cancellation conditions.
- 5. Choose a hotel and book your room.

VaxInlive 2022 Program

December 1, 2022 – Closed Session

The LIVE Steering Committee, LIVE Associated Partners, LIVE Supporting Partners and prospective partners are invited for the Closed Session on 1st December, Thursday. The meeting will take place in;

Campus Drie Eiken (CDE) - Building S - Floor 7, Faculty of Pharmaceutical, Biomedical and Veterinary Sciences Universiteitsbaan 1 2610 Wilrijk, Belgium

Tel. +32 3 2652623

By foot, Building S is only 10 minutes far from Hotel Drie Eiken. Follow the journey here.



Usually a badge is required to enter the office space on 7th floor, but by ringing the bell outside, someone will let you in.

The program and timings of the Closed Session will be shared shortly, but it is expected to last from 9:00 to 17:00h.

December 2, 2022 – General open day

	08:45 - 09:30 Registration and Coffee	
09:30 - 09:40 VaxInlive 2022 Welcome Address		
Session 1. Novel Vaccines Technologies Against Respiratory Infections (Chair: Peter Delputte)		
09:45 - 10:05	Frank Struyf (Janssen Vaccines) Janssen RSV adult vaccine; prevention of lower RT disease in older adults	
10:05 - 10:25	Towards a variant-proof COVID-19 vaccine based on YF17D platform	
10:25 - 10:45	Tailoring vaccination for systemic and local immune responses	
10:45 - 11:05 Coffee/Tea Break		
Session 2. Accelerating Vaccine Development through CHIMs (Chair: Dolores Jaraquemada)		
11:10 - 11:30	Bart Van Meerbergen (Vaccinopolis, UAntwerp) Position of human challenge trials in pandemic preparedness and biosafety challenges	
11:30 - 11:50	Bruno Speder (hVivo) Human challenge trials: accelerating vaccine development	
11:50 - 12:10	Meta Roestenberg (Leiden University Medical Centre) Controlled human infections can accelerate vaccine development for parasites	
	12:10 - 13:30 Lunch Break	
Session 3. Passive Immunization Strategies & Unexpected Encounters in Respiratory		
Infections		
(Chair: Thomas Stratmann)		
13:35 - 13:55	Nanobodies for prevention and treatment of respiratory infections	
13:55 - 14:15	The burden of RSV disease: A need to protect infants	
14:15 - 14:35	Application of bacteria in the upper respiratory tract against viral diseases	
14:35-14:55	Guy Caljon (LIVIPH, OANWEIP) Despiratory infections: looking beyond the usual suspects	
Session 4. Bracing for Pandemics through Sequencing		
(Chair: Carme Roura i Mir)		
45:00 45:00	Philippe Selhorst (Institute of Tropical Medicine, Antwerp)	
15.00 - 15.20	Next-generation diagnostics for (re-)emerging viruses in the tropics	
15:20 - 15:40	Sebastiaan Theuns (PathoSense, University of Ghent) Fast characterisation of respiratory disease using third-generation sequencing	
	15:40 - 16:00 Coffee/Tea Break	
	16:00-16:40 Online Session with mRNA Marvel, Katalin Karikó	
Chair; Stephane Paul		
16:45 - 17:00 Closing Speech, LIVE Main coordinator		
	17.00 - 16.00 Reception	

VaxInlive 2022 Speakers

Katalin Karikó



Prof. Katalin Karikó is Senior Vice President RNA Protein Replacement Therapies at BioNTech since 2013. She is also a professor at University of Szeged and adjunct professor at the Perelman School of Medicine, University of Pennsylvania, where she worked for 24 years. During her decades-long research, she has been focusing on RNA-mediated mechanisms with the ultimate goal of developing in vitro transcribed mRNA for protein therapy. Her work widened the therapeutic potentials of mRNA and paved the way for the two revolutionary COVID-19 vaccines the BioNTech/Pfizer and Moderna vaccines. Karikó is recipient of many honours, including the 2021 Lasker Award and the 2022 Breakthrough Prize in Life Sciences. Not only those, she has also received the Japan Prize, Paul Ehrlich Award, the Gairdner Award, Kovalenko Medal and the Loreal UNESCO Award for Woman in Science.

Frank Struyf

Frank Struyf currently leads the Clinical team for the COVID-19 Vaccine Program as Clinical Franchise Leader in the Janssen Pharmaceutical Companies of Johnson & Johnson. He holds key expertise in clinical vaccine development and infectious diseases. Prior to working at Janssen, he successfully directed vaccine development programs at GSK as Clinical and Epidemiology Project Lead for vaccines against various targets, including HPV, hepatitis, RSV and influenza. Dr. Struyf studied at the KULeuven and London School of Hygiene and Tropical Medicine and performed postdoctoral work at the Feinberg School of Medicine in Chicago, USA.



Kai Dallmeier



Kai Dallmeier is Associate Professor of Virology at the KU Leuven Rega Institute and leading the Molecular Vaccinology & Vaccine Discovery (MVVVD) group, pioneering the use of live-attenuated YF17D to develop vaccines against emerging infections (such as Zika, Ebola and COVID-19) and therapeutic vaccines (for instance for chronic hepatitis B). His work laid the conceptional basis for the plasmid-launched live-attenuated (PLLAV) platform currently under development at the recent KU Leuven AstriVax (www.astrivax.com). biotech spin-off This translational work is complemented by the study of viral pathogenesis in a range of cell culture and animal models. Dr. Dallmeier studied Microbiology, Biochemistry and Biophysics at the University of Bremen, Germany and

obtained a PhD in Molecular Virology from the University of Freiburg.

Dennis Christensen

Dennis Christensen is the Global R&D Head of Adjuvant Systems at CRODA Pharma, situated in Copenhagen, Denmark. CRODA Pharma embodies the idea of smart science combining knowledge, passion and entrepreneurial spirit of people. His current role is complemented by his experience as the Head of Vaccine Formulation and Delivery Research Department at the highly esteemed Danish Statens Serum Institute, a role he held for more than 12 years. Today at Croda, Dennis uses his expertise in both vaccine formulations and delivery systems and is accoladed with novel vaccine and adjuvant designs.



Bart Van Meerbergen



As some might know Campus Drie Eiken has a new building; Vaccinopolis, where the first Human Challenge Studies will soon take place in UAntwerp. The fruition of this building could not be possible without the Head of Operations; Bart Van Meerbergen. Bart is a project management professional with a Master in Chemistry focused in Biochemistry and Molecular Biology from KU Leuven and has held numerous roles in his career, from scientist at Biocartis to business developer at Antelope Dx. Bart has a vast expertise in assay development, safety procedures and follows his endeavours with an indispensable 'quality mindset'.

Bruno Speder



Bruno Speder is VP, Regulatory Affairs & Consultancy at Open Orphan plc and Poolbeg Pharma Plc. He holds degree in Bio-Engineering (Ghent University, а Belgium) and a degree in Health Economics (EHSAL Management School, Belgium). He has played a pivotal role in the establishment of several Human Challenge models, and has led interactions with global regulators on their use. He is currently advising a broad range of organisations (non-profits, biotechs, large pharma) on the regulatory aspects of their drug/vaccine development, including how challenge studies can be implemented in their development plans.

Meta Roestenberg

Meta Roestenberg studied medicine at Maastricht University, graduating cum laude in 2004. She did internships in countries including India, Namibia, and the Philippines. She also completed her PhD research at Radboud Universiteit in Nijmegen cum laude. Today, she is a professor in vaccinology, and clinical head of the Controlled Human Infection Center. She leads a translational research group focused on the development of vaccines for poverty-related infectious diseases. In her (out)patient care she focusses on the daily management of the vaccination department at LUMC and she sees patients with (tropical) infectious diseases, parasitic infections or complex vaccination requests. Additionally, Roestenberg is a chair of the



Dutch Society for Parasitology and a member of the WHO's malaria vaccine Advisory Committee.

Bert Schepens



Graduated from Ghent University, Dr. Bert has also been a post-doctoral researcher at the same prestigious institute for more than 15 years. He possesses a vast skill set from molecular biology to immunology. With Dr. Xavier Saelen and team. he described the neutralization of betacoronoviruses from llama-derived antibodies. The same research was the 2020 winner of Distinguished Research Award from Molecular Cloud. It's quite well accepted that antibody therapeutics are vital for the immunocompromised population, Dr. Schepens and team have been thus working on a COVID-19 antibody, which quite recently completed the drug development trajectory.

Giovanni Checcucci Lisi

Dr. Giovanni has held many roles in his career, from being a PhD student and a plastic surgeon, the list of his accolades goes on. Today he is the Global Medical Expert and the Global Product Lead in RSV at Sanofi. Checcucci Lisi's previous contribution in Sanofi Pasteur MSD as the Medical affairs manager revolved around the HPV vaccine development and management in Italy. Today at Sanofi, he utilizes his vaccine expertise to lead in Medical Affairs that include support to drug development and launching of various vaccines. He completed his MD at GMC, UK, during which he worked in several university hospitals including London and Cambridge.





Ilke De Boeck

Ilke is a postdoctoral researcher at the Lab of Applied Microbiology and Biotechnology at the University of Antwerp. Her expertise focuses on exploring the potential of beneficial bacteria or probiotics for the upper respiratory tract. This includes the isolation and screening of potentially beneficial bacteria, microbiome analysis of the airways and bacteria-host interaction assays. She also has ample experience in organizing human clinical studies to investigate the potential of microbiome-based products for topical administration in the respiratory tract.

Guy Caljon

Prof. Guy Caljon is the head of the Parasitology group in the Laboratory of Microbiology, Parasitology and Hygiene, at the University of Antwerp. Prof Caljon's parasitic team studies two major diseases: leishmaniasis, which is transmitted by sand flies, and African trypanosomiasis (or sleeping sickness) which is transmitted by tsetse flies. His team is working on finding new active compounds against these diseases and is uncovering new fundamental insights into the biology of the parasites and their interactions with the insect and mammalian host. He was awarded the 2020 Dubois-Brué Prize for Tropical Pathology and 2017 Boehringer-Ingelheim the award for Parasitology from the Netherlands Society for



Parasitology, particularly for his work on insect-transmitted parasitic infections.

Sebastiaan Theuns

Dr. Sebastiaan Theuns is co-founder of PathoSense, a spin-off from Ghent University which offers complete diagnostics of infectious diseases in veterinary medicine. The technology makes use of third-generation sequencing and allows veterinarians to make a diagnosis without having to make a prior selection of which pathogens to test for. The spin-off was generated from the Laboratory of Virology of Prof. Hans Nauwynck. In 2010, Sebastiaan obtained his diploma as a veterinarian, after which he successfully defended his doctorate in 2015. Sebastiaan and PathoSense have already been selected for several prestigious start-up accelerator programs, including the Belgian MedTechAccelerator in 2018 and StartIt@KBC in 2020-2021, and was admitted to the



Vlerick Business School Scale-Up Masterclass of 2022. Sebastiaan is a co-author of >30 scientific publications and a patent.

Philippe Selhorst



Philippe Selhorst is a medical virologist with an interest in infectious diseases, biotechnology, and molecular epidemiology who works at the Institute of Tropical Medicine in Antwerp. He has broad experience in viral culture, next-generation sequencing technologies, and antiviral drug discovery. Previously, he has successfully led research projects in South Africa focusing on HIV transmission, drug resistance and pathogenesis while in Belgium he has mainly worked on SARS-CoV-2, MPX, CHIKV, ZIKV, and DENV.

General information

Registration Desk

A registration desk will be open at the conference venue to pick up your conference materials and badge upon arrival. Registration will be completed within 8:45 – 9:30 a.m..

Conference Badges

Name badges are required for all sessions, meal functions and receptions. Please cooperate by wearing your badge at all times.

WiFi access

All guests of VaxInlive 2022 Symposium can connect to free WiFi provided on campus. On the day of 2nd December, guests can browse to <u>www.guestroam.be</u> to connect to WiFi. Please choose 'Universiteit Antwerpen' as the Institute, and then 'VaxInlive Symposium 2022; Pandemic Preparedness and Respiratory Infections' as the Department. After accepting the policy disclaimer, you will receive a validation code and then the credentials to connect to WiFi.

Legal Disclaimer: This network may only be used for legal purposes. Users must make sure their equipment is in no way a threat to the proper operation of other networked devices (virus-free). Some applications (e.g. P2P networks) are excluded from use on the UA network. If you will use such applications, your device will be quarantined for at least one hour. This means that during this period no connection can be made to the internet. Take care: some download programs (characterized by contacting a lot of hosts in a limited period) can be seen as a P2Pclient and can trigger the device to be quarantined. The use of this network is at your own risk. The University of Antwerp is not responsible for any damage to your device by using the UA network.

Host information desk

Local organising committee members will be available to answer questions you may have regarding local sites, restaurants, and to provide logistic information.

Emergency telephone numbers

Fire, medical emergency or ambulance

Call: 100 (free number)

In Belgium, local emergencies are organised under the free 100 number, which can be called for any accident or emergency to connect you to an operator who will arrange assistance and contact the emergency services. It works similar to 112 except that you need a SIM if you call via mobile (unlike 112).

Police

Call: 101 (free number) | www.police.be

Local public transport

Within the province and the city of Antwerp transport is organised by the public transport company De Lijn. Buses leave to all parts of the city from Antwerp Centraal Station, from the bus station Rooseveltplaats which is close to the Central Station.

Read more on De Lijn (https://www.delijn.be/en/) for information about trams and buses. Price for a 1-hour ticket: 2,5€.

Taxis

You can also take a Taxi: around 25 - 35€ from the city centre to the conference venue. The oldest and largest taxi company in Antwerp is Antwerp-tax

- http://www.antwerp-tax.be/nl
- +32 3 238 38 38
- A journey from Antwerp Centraal to Hotel Drie Eiken can roughly cost around 30€.

Several other companies also provide taxi services in Antwerp

- https://www.visitantwerpen.be/en/info-on-the-go-254068

EMJMD LIVE Main Partners

UNIVERSITAT DE

The Universities of Spain



Under the motto "The Audacity of Knowledge" during the 2017-2018 and 2018-2019 academic years the UAB celebrated its 50th anniversary

with different institutional and cultural events on the campus and the surrounding cities, with an emphasis on the milestones achieved over these fifty years. In parallel the university has also launched a strategic reflection process to define the vision of the university in the strategic lines of Horizon 2030. After 50 years of existence, the UAB has consolidated amongst the 200 best universities in the world within the main university rankings.

Closely linked to Barcelona and Catalonia, the University of Barcelona combines traditional values with innovation, quality and inclusion. The University of Barcelona has sixteen faculties, ten affiliated centres and a doctoral school through which all its academic programmes are run. It also has a Science Park, a Science and Technology Centre service, seventeen research institutes, over five hundred research groups and nearly six thousand researchers. The University of Barcelona has the mission to provide a public service for higher education, with the highest level of quality, through study, teaching, research and effective management of knowledge transfer. The UB's values are derived from the principles set out in its Statutes, which are shared by the entire university community: freedom, democracy, justice, equality and solidarity.

http://www.uab.cat/; http://www.ub.edu/;

The University of Antwerp

The University of Antwerp is a young, dynamic and forward-thinking Universiteit university. It integrates the assets of its historical roots with its Antwerpen ambition to contribute positively to society. The University of Antwerp develops, provides access to and disseminates scientific knowledge through research, teaching and academic service to the community and accomplishes these tasks in a spirit of academic freedom and responsibility. The University of Antwerp espouses active pluralism. In that spirit, it stimulates critical research and teaching, reflection and debate on scientific, social, philosophical and ethical questions. Our university has nine faculties, a host of centres and institutes, several decision-making and advisory bodies and eleven central departments. The University of Antwerp has almost 5,000 members of personnel in various layers, organised according to basic academic and administrative structures. The University of Antwerp does not operate alone. We have close ties with Antwerp University Hospital (UZA), Antwerp Management School (AMS) and other higher education institutions in Antwerp that belong to the Antwerp University Association. These relationships and our partnerships with the City of Antwerp and the port continuously create win- win situations. Our university is embedded in an extensive socioeconomic network, which ensures that we are engaged in intensive dialogue with society.

https://www.uantwerpen.be/en/

The Universities of France



The Université de Lyon is located at the heart of the Auvergne-Rhône-Alpes region, in Lyon & Saint-Étienne and represents the most important French University site outside the Paris Region. The Université de Lyon is a world-class academic site of

excellence composed of 12 member institutions including the Université Claude Bernard Lyon 1 and the Université Jean Monnet de Saint-Etienne, 154,000 students, 6,800 researchers and teacher-researchers, 17 doctoral schools, 5,400 PhD students, 1,000 theses defended each year. The University of Lyon obtained the label "Initiative of Excellence / Initiative d'excellence (IDEX)" in 2017 to develop three major axes, which are in resonance with the socio-economic assets of our territory: Humanities and Urbanity, Sciences and Engineering, BioHealth and

Society. The Université de Lyon provides several programs that aim to help strengthen entrepreneurship and innovation in Lyon and Saint-Étienne: The PEPITE Beelys to support students in projects setting up or taking over companies; The Innovation Factory, to use the university's talents in the creation of start-ups and local companies; The SATT PULSALYS (Technology Transfer Acceleration Company), to develop research findings at the Université de Lyon and to promote their transfer to socio-economic sectors; Doctor'Entreprise, to bring together companies, research laboratories and PhD students. To expand abroad and welcome talents from abroad, the International Alliance of the Université de Lyon is an integrated platform for research and training involving ten universities spread over 5 strategic geographical zones (Brazil, Canada, China, Japan, Europe). A keystone to our education policy, the Université de Lyon offers 20 IDEXLYON-labelled Master's programs that are jointly organized by several institutions, and grant accredited diplomas. With strong international focus, these Master's programs, including the EMJMD LIVE, are part of our 140 Master's degrees. Its ambition is to make from the «university » – in the broad sense – an active player and contributor to the development of the society.

https://idexlyon.universite-lyon.fr/idexlyon/version-anglaise/, https://www.univ-st-etienne.fr https://www.univ-lyon1.fr,

EMJMD LIVE associated and supporting partners



Founded in 2011 by Innate Pharma and Transgene (formerly Platine Pharma and Services, then ABL Lyon), our company is a leader in soluble and cellular biomarker analysis in the context of clinical

trials. We offer expert services to advance innovative therapies from pre-clinical to clinical testing. In 2014, Platine Pharma services was acquired by ABL Inc, a global contract manufacturing and laboratory research service provider, a full subsidiary of Institut Mérieux. In 2020, alongside its senior managers, Turenne Santé acquired our company, creating a new entity named Active Biomarkers. In September 2022, Active Biomarkers joined KCAS, adding its European capacity and expertise to KCAS and FlowMetric's existing facilities in Kansas, Philadelphia and Milan, Italy. Active Biomarkers' team has decades of experience in immunological-based assays. We develop tailored assays to support human clinical trials and pre-clinical animal studies. Our everyday mission is to design and run bioanalyses to help our clients better understand the impact of their cutting-edge therapies, document the mechanisms of action, correlates of protection, pharmacokinetic / pharmacodynamic, and other critical safety and efficacy data. Since 2011, Active Biomarkers is accredited for French research tax credit (CIR).

https://active-biomarkers.com/



AMAL Therapeutics (AMAL) is a biotech, developing unique therapeutic vaccines and a distinct unit of the Discovery Research organization of the Boehringer Ingelheim group of companies.

Their aim is to overcome the challenges around effective anticancer therapy by stimulating a patient's immune system in a

unique way, in order to create immunological memory, as well as target a broad range of patients. They have developed KISIMA®, a novel peptide/protein-based immunisation technology platform, which is self-adjuvanting and enables the assembly within one chimeric fusion protein of three elements essential to generate potent immunity: a proprietary cell-penetrating peptide for antigen delivery, a proprietary TLR- peptide agonist as adjuvant and a modulable multi-antigenic cargo that can be tailored for various indications. While the power

of KISIMA® can be harnessed to discover and develop therapeutic vaccines for different indications, their vision is to transform the prospects of cancer patients. They aim to offer effective cancer therapies by complementing existing standards of care (e.g., chemo-and radiotherapies) without adding to their known toxicities, and by working in synergy with them, including with immune-checkpoints inhibitors. ATP128, their lead program in metastatic colorectal cancer has entered into the clinic in July 2019.

https://www.amaltherapeutics.com/



Auvergne - Rhône - Alpes

Accredited as a world competitive cluster by the French State in 2005, Lyonbiopole focuses on the global fight against human and animal infectious diseases and cancers, from diagnostic and prevention to treatment, including innovative delivery systems.

Lyonbiopole is the gateway to healthcare innovation in the Auvergne-Rhône-Alpes region. They support ambitious projects and innovative companies in the healthcare & life sciences' sector. Their aim is to help innovators develop new technologies, products and services in a push toward a more personalized medicine and better treatments for patients.

According to their 4 strategic areas: Human medicine, Veterinary medicine, in vitro diagnostics, Medical devices and medical technologies, they gather a 200 members community: 6 founders including 4 word class industrials (Sanofi Pasteur, bioMérieux, Bohringer Ingelheim Animal Health, BD), CEA and the Fondation Mérieux, 180 innovative companies, 14 research and clinical centers. They support innovation and SMEs development. They strengthen the cluster's international position and develop a high-level infrastructure offer. https://lyonbiopole.com/



Baylor College of Medicine is a health sciences university that creates knowledge and applies science and discoveries to further education, healthcare and community service locally and globally. The school applies strong traditions in basic, translational and

applied biotechnology research. NSTM will launch a variety of basic, clinical and biotechnology educational programs to train a new generation of scientists and health professionals. The depth and breadth of the Texas Medical Center and Baylor College of Medicine in concert with resources made available by the Houston location provide the foundation and the model for the establishment of the National School of Tropical Medicine.

https://www.bcm.edu/education/schools/national-school-of-tropical-medicine



BIOASTER is an independent institute dedicated to infectious diseases and microbiology. Created in April 2012 by l'Institut Pasteur and Lyonbiopole health competitiveness cluster, following the initiative of the French government, BIOASTER Technology Research Institute (TRI) is working to develop a unique technological and innovative model to

support the latest challenges in microbiology, in particular to: fight antimicrobials resistance, improve vaccines safety and efficacy, quickly diagnose infections at patient bedside, take full advantage to human and animal microbiota. BIOASTER was established as a foundation for scientific cooperation based on an innovative public/private partnership model with eight funding members: Lyonbiopole and the Institut Pasteur, three major industrial companies - Sanofi, Institut Mérieux, Danone Research - and three academic research centers - INSERM, CNRS, and CEA - as well as a group comprising 40 SMBs (small- and medium-sized businesses) from the Rhône-Alpes and Paris areas. BIOASTER conducts independent and collaborative interdisciplinary R&D activities on the frontier between basic and industrial development to ensure optimal alignment between research and innovation through five programs: vaccines, antimicrobial, microbiota, diagnostics, translational science, in the fields of infectious diseases and microbiology and its impact on health.

https://www.bioaster.org/



BioMérieux is first and foremost a human and scientific adventure that began more than 55 years ago, yet its roots reach back to the tradition of Louis Pasteur and the fight against infectious diseases. In 1897, Marcel Mérieux, who had studied with Pasteur, founded a laboratory in Lyon where he developed the first anti-tetanus sera. A global leader in in vitro diagnostics for over 55 years, BioMérieux has always been driven by a pioneering spirit and unrelenting commitment to improve public health

worldwide. The Company is present in 44 countries and serves more than 160 countries with the support of a large network of distributors. It provides diagnostic solutions that improve patient health and ensure consumer safety. BioMérieux develops and produces in vitro diagnostic solutions (systems, reagents, software and services) for private and hospital laboratories, mainly for the diagnosis of infectious diseases. The results obtained from a patient sample (blood, urine, stool, cerebrospinal fluid, saliva, etc.) provide doctors with information to support their decisions.

https://www.biomerieux.com/en



The Boehringer Ingelheim Animal Health business is a global leader in the animal health industry and part of family-owned Boehringer Ingelheim, founded in 1885. Their work is guided by a passionate belief in a future in

which no animal suffers from a preventable disease. Their discover, develop and manufacture vaccines, parasiticides and therapeutics, complemented by diagnostics & monitoring platforms. Their strive to go beyond medicine to better predict, detect and prevent animal diseases before they arise. Across the globe, they work to meet the growing demand for protein and the increasing needs for animal companionship. With their innovative solutions, they support farmers, veterinarians and pet owners who raise and deeply care for their animals. Designing even more effective medicines for humans and animals is at the heart of their work. Their mission is to create innovative therapies that have the potential to change patients' lives. Boehringer Ingelheim has been an independent family business since its inception in 1885. They are a world leader in the research-driven pharmaceutical industry. Their 51,000 employees create value every day through innovation in our three areas of activity: human health, animal health and the manufacture of biopharmaceutical products on behalf of third parties. Improving the health and quality of life of humans and animals is the goal of the research-driven pharmaceutical company Boehringer Ingelheim. The focus in doing so is on diseases for which no satisfactory treatment option exists to date. The company therefore concentrates on developing innovative therapies that can extend patients' lives. In animal health, Boehringer Ingelheim stands for advanced prevention.

https://www.boehringer-ingelheim.com/animal-health/overview, https://www.boehringer-ingelheim.fr/qui-sommes-nous/qui-sommes-nous



Centre for the Evaluation of Vaccination Vaccine & Infectious Disease Institute University of Antwerp The CEV is a multidisciplinary research group, participating on a regular basis in (inter)national scientific vaccine research. The available expertise

of the CEV holds a platform for conducting vaccine trials (phase 1-4) and is involved in policy research projects related to vaccination. Research mission:

- Improve knowledge in several vaccine-related fields by performing different research projects, including clinical vaccine trials, epidemiological surveys and economic evaluations and infectious disease modelling.
- Spread knowledge on all aspects of vaccination by publishing results of the research projects, both through scientific and vulgarised publications, by offering teaching and

training to (para)medical students and by organising vaccine-related courses to health care professionals.

- Support public health policy making, based on our expertise in Public Health, Youth Health, Social Medicine, Epidemiology, and Vaccinology.
- Support and help target vaccination policy and public health in Flanders, Belgium, and Europe, by written as well as oral communications.
- Offer consultancy services in vaccine-related fields, such as vaccine research, vaccine administration, vaccination programmes, and epidemiology of vaccine-preventable diseases.

https://www.uantwerpen.be/en/research-groups/centre-for-evaluation-vaccination/



MURAZ Centre is a national health research institution. It has the status of a non-hospital public health facility. The Centre's activities are guided by an International Scientific Council. The ambition of the MURAZ Centre is to become a regional centre of excellence and innovation in

research, training and expertise in the public health service. Its mission is to contribute, mainly to Burkina Faso, to the prevention, diagnosis and control of communicable and non-transmissible diseases by promoting and carrying out health research, training and expertise in medical biology, the humanities and public health.

http://www.centre-muraz.bf/



The Cancer Research Center of Lyon (CRCL, UMR Inserm 1052 CNRS 5286 - Center Léon Bérard) is a research structure affiliated with the University Claude Bernard Lyon 1, the national health and research bodies (Inserm and CNRS),

the Léon Bérard Comprehensive Cancer Center (CLB) and with the Lyon University Hospitals (HCL) as clinical partners. The CRCL was officially created in January 2011 and its 5-year contract was recently renewed for the 2016-2020 period. It comprises 24 teams, totalling over 480 members, including 138 researchers and lecturers. The CRCL aims at increasing its international visibility and the attractiveness of the Lyon cancer research cluster, at facilitating the transfer of knowledge from fundamental cancer research to clinical applications in oncology, and at developing teaching and training in oncology. One of the main goals of the CRCL is to support the development of strong translational research to bedside" was rendered possible due to the strong collaboration between clinicians and pathologists of the CLB and HCL and scientific teams of the CRCL, creating a continuity between basic research and clinical applications.

http://www.cnrs.fr/en, http://www.crcl.fr/, https://lbti.ibcp.fr/, http://www.ipbs.fr/fr



Founded in 1997, the Institute of Research in Health Sciences (Institut de Recherche en Sciences de la santé - IRSS) is one of the 4 specialized units of the National Center of Scientific and Technologic Research. The research unit on HIV/AIDS and reproductive health is part of IRSS and was created in 2006. It aims to ensure coherence in and to provide support to research on HIV/AIDS and reproductive health. In the field of reproductive health IRSS conducted a

study on female genital mutilation practices in collaboration with ICRH. It also did research on the impact of the abolition of user fees on the utilization of health services and the impact of the gratuity of emergency neonatal and obstetric care on maternal mortality. IRSS also implemented a Demographic and Epidemiologic Surveillance System in Kaya (KaDESS) in the northern part of Burkina Faso. This surveillance system covers a population of 54,785 people and serves as a platform for research on HIV, reproductive health and health systems. http://irss.bf/



The Pasteur Center of Cameroon (CPC) is a technical body of Cameroon's Ministry of Public Health, a hospital institution with financial autonomy and legal personality. It was established in 1959 in Yaounde; it has had an annex in Garoua (CPCAG) since 1985, and since 2004 it has had an office in Douala. The CPC is a member of the International Network of Pasteur Institutes (RIIP),

whose main mission it shares, the fight against infectious diseases. To this end, it carries out four missions: services, public health, research and training. The objective of each of these missions is to best meet the scientific expertise needs and response needs of the Ministry of Public Health by building on the Sectoral Health Strategy and the Poverty Reduction Document, thus integrating into the United Nations Millennium Development Goals. http://www.pasteur-yaounde.org/



The Office of the Commissioner for Atomic Energy and Alternative Energy (CEA) is a public scientific, technical and industrial research organization (EPIC). A major player in research, development and innovation, the CEA operates in four areas: defence and security, low-carbon energy (nuclear and renewable), technological research for industry and basic research (material

sciences and life sciences). Drawing on a recognized capacity of expertise, the CEA participates in the implementation of collaborative projects with numerous academic and industrial partners. The CEA is located in 9 Centers throughout France. It develops numerous partnerships with other research organizations, local communities and universities. As such, the CEA is part of the national alliances coordinating French research in the fields of energy (ANCRE), life sciences and health sciences (AVIESAN), digital science and technology (ALLISTENE), environmental sciences (AllEnvi) and humanities and social sciences (ATHENA). Recognized as an expert in its areas of expertise, the AEC is fully integrated into the European research area and has a growing presence at the international level. The CEA is the only French research organization to be included in the Clarivate 2020 ranking and is the first research organisation to apply for patents in Europe, according to the 2019 European Patent Office (EPO) ranking.

https://www.cea.fr/english



CoReVac is a national vaccine research consortium that aims to facilitate, coordinate and stimulate vaccine research at the national level and in close collaboration with European partners. It brings together partners from across disciplines involved in vaccine research. This includes basic, pre-clinical, translational, clinical, epidemiological and

social sciences, as well as industries, research and development, stakeholders and public health institutions involved in vaccine implementation and immunization. CoReVac operates under the auspices of Aviesan, the French National Alliance for Life

Sciences and Health, in close cooperation with its institutional members:

- Inserm (National Institute for Health and Medical Research)
- CEA (Alternative Energies and Atomic Energy Commission)
- Cirad (National Agricultural Research Center for International Development)
- CNRS (National Center for Scientific Research)
- CPU (Conference of University Presidents)
- Inra (National Institute for Agricultural Research)
- Inria (National Research Institute for Digital Sciences)
- Pasteur Institute
- IRD (National Research Institute for Development)
- Chu (University Hospital Network) Network

CoReVac was established in 2012 under the coordination of Brigitte Autran in partnership with the Institute for Immunology, Inflammation, Infectious Diseases and Microbiology, (ITMO I3M) under the auspices of Aviesan. CoReVac is a consortium dedicated to vaccine research, with the mission of stimulating and facilitating the coordination of research activities both at national level and in close collaboration with European partners.

http://www.corevac.org/



The Centre for Research in Infectious Diseases (CIRI) was created in 2013 by the Inserm, CNRS, ENS Lyon and University Claude Bernard Lyon 1. Along with these trustees and with its other partners, i.e., the Institut Pasteur, the Fondation Mérieux and the Hospices Civils

de Lyon, the CIRI comprises over 20 teams behind one goal: the fight against infectious diseases, the second cause of death worldwide. Through a multidisciplinary approach combining microbiology (bacteriology and virology), immunology, cell biology, clinical research and epidemiology, plus a strong interface with the industry, the CIRI intends to be a research Centre opened to therapeutic innovation and to act a major player in the areas of medical prevention and treatment of infectious diseases. The CIRI is meant to implement an essential further step of the development of the research in Infectiology in Lyon through a highly structured co-operation between academic and clinical research communities, on the Charles Mérieux campus. It will play a pivotal role by structuring the interactions between academic and private research, and by promoting socio-economic opportunities through strong partnerships with operators involved in the innovation or pre-industrial development, including the Lyon Biopôle and the IRT BioAster. The CIRI will thus constitute a strong interface with industry, with increased collaborations with key actors in the domain of human and animal health on the Lyon area and optimal potential for valorization of results. The CIRI currently includes nearly 300 researchers, faculty members, graduate students, engineers and technicians in ca. twenty teams that have been enrolled because of their strong expertise in key basic disciplines for the study of infectious diseases (i.e., microbiology, immunology and cell biology) and also of their capacity or specific interest to translate novel knowledge, of scientific or technological nature, in translational research programs and applied research. It is a joint research Unit (INSERM U1111 - CNRS UMR5308 - ENS Lyon - UCB Lyon 1), which brings together research teams from the Human Virology Unit (Inserm U758 – ENS Lyon, Dir FL Cosset) from the I2V Unit (Inserm U851 – UCB Lyon 1, Dir Marvel J) and three teams from the CNRS, the Fondation Mérieux and the Institut Pasteur. http://www.ens-lyon.fr/en/, https://ciri.ens-lyon.fr/



EFS is the French blood transfusion organisation, guaranteeing France's self-sufficiency in blood supply for a million patients each year, thanks to the generosity of donors. EFS, manages the collection, processing, screening and distribution activities of blood

products, and supplies over 2000 health establishments throughout France. EFS is also the leading supplier of cell and tissue therapy products to health-care establishments, with its network of 18 dedicated platforms and tissue banks. Every year, 60% of the tissues (corneas, bones, heart valves, vessels, skin, etc.) collected by health-care establishments are processed and stored at the EFS's tissue banks. Beyond its core purpose, EFS also develops innovative research projects, in the field of blood transfusion, immunology, cell therapy and advanced cell medicinal products. The up-grading of five cell therapy facilities to reach GMP grade is planned, and EFS should soon become a pharmaceutical company for the manufacturing of cell therapy products.

https://dondesang.efs.sante.fr/



The European Vaccine Initiative (EVI) is a leading European non-profit Product Development Partnership (PDP) that is supporting global efforts to develop effective and affordable vaccines against diseases of poverty and emerging infectious diseases. EVI openly provides its expertise and supports vaccine research and development (R&D),

helping them to advance and accelerate their vaccine candidates. The European Vaccine Initiative (EVI) supports global efforts to develop effective and affordable vaccines against diseases that disproportionately affect low- and middle-income countries. Through constructive collaboration and exchange with academia, pharmaceutical and biotechnology companies, policy makers, donors and other product development partnerships (PDPs), EVI is building a vaccine portfolio that proactively addresses critical challenges and opportunities and is promoting innovative solutions in vaccine research and development. EVI recognises the power of partnerships and engages with partners worldwide to harness the best knowledge and expertise from leaders in the field of vaccine R&D. We aim to spearhead global vaccine development efforts by engaging with partners from academia and other research institutions, the private sector, governments, and civil society organisations, including partners from lowand middle-income countries affected by diseases of poverty. EVI's activities are diverse. EVI supports and coordinates research into individual vaccine candidates, works across Europe to harmonise processes and protocols for vaccine development, and to build capacity, and EVI supports the strengthening of capacity for vaccine Research and Development in low- and middle-income countries.

http://www.euvaccine.eu/



Fondation Mérieux, an independent family foundation with public interest status, is committed to fighting, in the field, the infectious diseases that affect developing countries by building capacities, particularly in clinical laboratories.

With its network of laboratories, the foundation's work is focused on diagnosis, an essential aspect of patient care and an indispensable tool for disease surveillance and control. Taking a global health approach, the foundation also works in the field to help the most vulnerable, with a strong emphasis on mothers and children. From its very beginning in 1967, the Mérieux Foundation has united public and private sector partners around a common mission. Active today in over twenty countries, the Foundation works to strengthen the skills of healthcare professionals in the field to ensure its programs have a long-lasting impact. It catalyses local and international initiatives to help the most vulnerable

- populations gain fairer access to healthcare. Our philosophy of action:
 A collaborative dynamic driven by partnerships with local healthcare stakeholders,
 - international organizations, academic research, companies and NGOs,
 - A long-term vision with sustained support leading to autonomy and local ownership of infrastructures and programs,
 - Building networks for international cooperation to share experience and pool skills,
 - A global health approach from humans to animals, taking into account healthcare, but also nutrition, environmental safety, education and socio-economic support for patients.

http://www.fondation-merieux.org



Over the past decade, the Fudan University's medical school has actively explored running a medical school within a comprehensive university, with important work in promoting all branches of basic and clinical medicine, as well as collaboration between medicine and other areas of study, with positive results. Funds for medical research and the number of projects have increased

from about 25% when the two schools were combined, to half of the school's total. Clinical medicine is close to ranking in the ESI's top 0.1%, and the school is ready to begin competing as a world-class institution. Currently the medical parts of Fudan University include Basic Medical School, Clinical Medical School, School of Public Health, School of Pharmacy, School of Nursing, Institute of Biomedical Science, Institute of Brain Science, Institute of Radioactive Medicine and Department of Laboratory Animal Science, and 11 affiliating hospitals. Shanghai Medical School as an extension of the University is authorized to manage all medical parts in terms of education, research, discipline development, exchanges and development and planning. Shanghai Medical College's near- to mid-term goals are to effectively promote the synthesis of basic medicine with clinical and medical science, as well as the interdisciplinary study of medical and non-medical domains, persistently transforming medical concepts, consolidating the leading role of medicine and life medicine in China and making a core contribution to the key city of Shanghai by building a medical centre which ranks among the best in Asia.

https://www.fudan.edu.cn/



The Barcelona Institute for Global Health, ISGlobal, is the fruit of an innovative alliance between the "la Caixa" Foundation", academic institutions and government bodies to contribute to the efforts

undertaken by the international community to address the challenges in global health. ISGlobal is a consolidated hub of excellence in research that has grown out of work first started in the world of health care by the Hospital Clínic and the Parc de Salut MAR and in the academic sphere by the University of Barcelona and Pompeu Fabra University. The pivotal

mechanism of its work model is the transfer of knowledge generated by scientific research to practice, a task undertaken by the institute's Education and Policy and Global Development departments. Its ultimate goal is to help close the gaps in health disparities between and within different regions of the world.

https://www.isglobal.org/en/about-us



GlaxoSmithKline Vaccines (Belgium) are a science-led global healthcare company with a special purpose: to help people do more, feel better, live longer. They aim to bring differentiated, highquality and needed healthcare products to as many people as

possible, with our 3 global businesses: pharmaceuticals -vaccines- consumer healthcare, scientific and technical know-how and talented people. They invest in scientific and technical excellence to develop and launch a pipeline of new products that meet the needs of patients. payers and consumers. £3.9bn R&D investment and 3 major launches in 2017: Shingrix, a vaccine for shingles, Trelegy Ellipta for COPD and Juluca for HIV. Their Vaccines business has a broad portfolio and innovative pipeline of vaccines to help protect people throughout life. They deliver over two million vaccine doses per day to people living in over 160 countries. http://www.gsk.com/



Immuno Valley is a business driven public-private IMMUNO VALLEY consortium of over forty scientific and business partners. Operating at the interface of human and animal health, Immuno Valley is the premier One

Health consortium for recognising science and business opportunities and combining R&D expertise in the field of infectious diseases. Immuno Valley monitors trends in research & development and matches scientific findings with business and funding opportunities. The ultimate aim is to translate R&D expertise into new products for the diagnosis, prevention and treatment of infectious diseases. Consortium partners: Amsterdam Academic Medical Centre, Amsterdam Economic Board, Central Veterinary institute of Wageningen, GD animal health, Intravacc, Research Ant, Sanquin Bloedvoorziening, Task Force Innovation Utrecht, TNO innovation for life, Utrecht University, Utrecht University Medical Centre, VU Medical Centre, Ardol, BioXpert, Ceva Santé Animale, Crossbeta biosciences, DaaVision, Dechra Veterinary Products, De Stolle Kracht, Dopharma, Eli Lilly Elanco Animal Health, EpiVax, Farma Research Animal Health, Greenvalley International, InnatOss, InnoServ, Merial, Metabolon, Micreos, MSD Animal Health, Nizo, Nutriad, Nytor, OMFL, Perstorp, Prionics, Purac Corbion, Schothorst Feed Research, U-Protein Express BV, Zoetis B.V., Ministry of Economics Affaires Agriculture and innovation, Municipality of Amsterdam-Lelystad-Utrecht, Province of Flevoland-Noord-Holland-Utrecht.

http://www.immunovalley.nl/



Incepta Vaccine Ltd is the first human vaccine manufacturing company in Bangladesh. The manufacturing unit is situated at Zirabo, Savar which is conveniently located at the outskirt of

Incepta Vaccine Ltd Dhaka city. It is established with an objective to introduce modern concepts in manufacturing vaccine by acquiring advanced knowledge and technique. Prime objective of this company is to protect vast populations of Bangladesh as well as developing world from various infectious diseases at an affordable cost. It has a vision to develop novel vaccines against diseases of the developing world. Incepta Vaccine Ltd, a state-of-the-art facility fully compliant with WHO GMP requirements, is a large vaccine manufacturing facility that has the capacity to manufacture 180 million single dose vials and ampoules per year. A large pool of scientists are engaged in different areas of specialties like research and development, quality control, quality assurance, production and other related areas. http://inceptavaccine.com/



I-REIVAC is the only French network for clinical research in vaccinology. It has been labeled a network of excellence within the framework of the F-CRIN project. The network is part of the Vaccinology Research Consortium (CoReVac) created by the Institute of Microbiology and Infectious Diseases (IMMI). It was first composed of four Clinical

Investigation Centres (CIC) (Cochin and Bichat in Paris, Clermont-Ferrand and Montpellier), which constituted the network managing board. The network then grew to include 18 centres including 7 CICs, 2 Clinical Research Centres (CRC), 1 immunology clinical research unit, 3 infectious disease services, 1 epidemiology and prevention service and 2 labelled laboratories in immunology for the extraction of PBMC, situated at Cochin and St-Etienne. The I-REIVAC main goals are to sustain the "proof of concept" studies, increase the numbers of clinical trials in vaccinology in France and in the European Community, recruit the research participants to be effective, harmonize procedures and tools for administrative and financial management within the quality approach and establish a biobank available to partners. Their objectives is to enhance the visibility and competitiveness of France in vaccination research, to develop a quality and attractive scientific program for industrial and university partners, to promote French excellence and to develop European and international strong and efficient collaborations. In partnership with F-CRIN, I-REIVAC offers a training program in clinical research and vaccinology for medical staff (young physicians and experienced investigators) and paramedics (clinical research technicians, nurses, clinical trial coordinators, project managers ...).

https://www.ireivac.org/



The Institute for Health Science Research Germans Trias i Pujol (IGTP) is a public research centre in the Autonomous region of Catalonia in Northern Spain dedicated to increasing scientific knowledge and transferring it to improve the care and lives of patients. The institute is

attached to one of the large teaching hospitals in the Barcelona area; the Germans Trias University Hospital (HUGTP), and is located on the biomedical campus that surrounds it, Campus Can Ruti. It is a CERCA centre; a member of the biocluster supported and supervised by the Autonomous Catalonian Government. It is also accredited as a Centre of Excellence by the Instituto Carlos III (Spanish Government) and in this capacity acts as an umbrella organization for scientific research on the campus, where it works closely with the other centres located there. The mission of the IGTP is to create a multi-disciplinary and multiinstitutional environment that opens the gates to highly efficient translational research with a view to improving people's heath and quality of life.

The Germans Trias Institute carries out research within 9 areas:

- Science of Behaviour and Substance Abuse
- Immunology and Inflammation
- Cardiovascular and Respiratory Diseases
- Infectious Diseases
- Endocrine and Diseases of the Metabolism, Bones and Kidneys
- Diseases of the Liver and Digestive Tract
- Cancer
- Neuroscience
- Community Health

Scientists working in these areas publish an average of over 500 papers a year, contribute to improved treatment and healthcare protocols, produce patents and set up spin-off companies in order to improve the lives of patients. http://www.germanstrias.org/

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immunotherapy, food safety, and nutrition. Its three bio-industrial companies (bioMérieux, Transgene and Mérieux NutriSciences), working closely with its entities devoted to innovation (such as ABL Inc. and Mérieux Développement), have contributed to major advances in medicine and public health. Institut Mérieux employs nearly 20,000 people around the world and is present in nearly 45 countries, with almost 3,2 billion euros in sales.

CENTRE D'INVESTIGATION CLINIQUE EPIDEMIOLOGIE CLINIQUE (CIC-EC)

The CIC-EC of Saint-Etienne was created in February 2003. The major assignments entrusted were to develop the methodological aid

and IT support to multicentric clinical trials and clinical epidemiological research taking on all or part of this research work. The CIC-EC was therefore aimed at clinical research development particularly within labelled teams of the CHU of Saint-Etienne. In 2008, the CIC-EC has been expanded to new fields of clinical research as cancer and vaccinology. The CIC-EC Vaccinology has been developed by the Pr. F. Lucht (medical doctor in infectious diseases) and the Dr. S. Paul (immunologist and expert in vaccinology). In 2009, the CIC-EC Vaccinology has been labelled by ANRS (French network for HIV vaccine research) and REIVAC (French network of clinical investigators in Vaccinology). The CIC has participated in more than 20 clinical trials in the field of vaccine development both with academic labs and companies. The expertise of the CIC-EC Vaccinology renamed as CIC1408 in 2013 is the evaluation of mucosal vaccines. In 2014, the REIVAC network has been labelled by the F-Crin network to develop excellence in the field of Vaccinology in Europe.

https://www.inserm.fr/en, https://www.ciil.fr/,

http://www.chu-st-etienne.fr/Professionnels/Recherche/Presentation_DRCI/Pro_CIC_EC.asp



Instituto Butantan supplies the Brazilian public health system with 90% of the antivenin and 65% of all vaccines distributed in the country. Out of the 170 million doses of vaccines dispensed annually by the Brazilian immunization program, 100 million are produced Butantan. In particular, Instituto Butantan

manufactures 100% of the influenza vaccine doses used by the Ministry of Health. Presently, we are the largest flu vaccine manufacturer in the Southern Hemisphere. The current manufacturing capacity is the result of an internal development of processes to obtain vaccine antigens, as well as technology transfer processes and Productive Development Partnerships between Butantan and external Laboratories. As the largest and most qualified provider of vaccines and antivenom for the country's public health system, as from 2017, Butantan adopted a strategy to strengthen its position in Brazil and gain a foothold in the world market via collaborations and partnerships, at the same time promoting important adjustments in its industrial park. All 2019 infrastructure projects have been reviewed to match the short and mid-term strategies to increase the nominal output capacity. A new Business Unit is in place, dedicated to building partnerships with a view to accelerate the absorption of new technologies and to provide a wider product and services portfolio to meet increasing public health demands.

https://butantan.gov.br/instituto-butantan



The International Vaccine Institute (IVI) is a non-profit International Organization established in 1997 as an initiative of the United Nations Development Programme (UNDP). They are among the few organizations in the world dedicated to vaccines

and vaccination for global health. Their mission is to discover, develop and deliver safe, effective and affordable vaccines for global public health. IVI is headquartered in Seoul, Republic of Korea, as their host country. The Republic of Korea, Sweden, and the World Health Organization (WHO) are among the 36 signatories to their international treaty. IVI focuses on vaccines against infectious diseases affecting the World's most impoverished. They aim to make vaccines available and accessible for vulnerable populations in developing countries. We live in an increasingly globalized world where new and emerging infectious diseases of major global health threats. IVI also focuses on vaccines against infectious diseases of major global health concern.

http://www.ivi.int/



Even the most promising vaccines don't always make it out of the laboratory into large-scale production. Researchers at Intravacc are fully aware of the challenges on the long road of

vaccine development. They substantially reduce the risks and costs involved with developing vaccines. How? By bridging the gap between your concept and late-stage clinical studies. The Netherlands-based Intravacc part of the Utrecht Science Park location, Bilthoven, is one of the world's leading organizations with many years of experience in translational vaccinology. As an established independent clinical development and manufacturing organization (CDMO) in the vaccine industry, Intravacc offers a wide range of expertise and is the bridge between your discovery and the start of your phase I/II clinical trials in humans. http://www.intravacc.nl/



Janssen's work in the Netherlands covers everything that comes with making medicines and vaccines: from research to disease prevention and from the development of new medicines and vaccines to the production and making them

available. Every day they are committed to a future in which disease is a thing of the past. Janssen in the Netherlands is an innovative pharmaceutical company with more than 2000 employees, who work every day with dedication to everything that comes with making medicines: from research to disease prevention and from the development of new medicines to the production, marketing and sale of them. They want to continue to develop medicines that make a difference to patients and society: that means improving the quality of life of patients and their loved ones, extending life expectancy and contributing to the productivity and prosperity of our country.

https://www.janssen.com/netherlands/



Karolinska Institutet (KI) is one of the world's leading medical universities. Their vision is to advance knowledge about life and strive towards better health for all. As a university, KI is Sweden's single largest centre of medical academic research and offers the country's widest range of medical courses and programmes. Since 1901 the

Nobel Assembly at Karolinska Institutet has selected the Nobel laureates in Physiology or Medicine. In Sweden, KI accounts for the single largest share of medical academic research and has the largest range of medical education. Karolinska Institutet was founded in 1810 as an "Institute for the Making of A-Based Field Physicians". Today, Karolinska Institutet is a modern medical university and one of the world leaders. With their close relationship with healthcare, well-developed infrastructure, and a strong economic base, Karolinska Institutet

has the best conditions for education and research of the highest quality. Karolinska Institutet has a wide range of education in medicine and healthcare. The wide range is unique in Sweden. Karolinska Institutet conducts research and education on two campuses (Solna and Flemingsberg) and at several of the county's hospitals. At KI, approximately 6,000 full-time students study longer or shorter educational programmes and courses. Teachers often conduct research in parallel with their teaching, which means that the students get to know the latest in the entire medical field. Students, teachers, and researchers together create an interesting and stimulating environment. Several of KI's courses include clinical training and on-site training in health care. They also have a large international exchange that gives students the opportunity to study abroad for some time. https://ki.se/

KU LEUVEN

INSTITUTE OF HEALTH

The Rega Institute was founded in 1954 by Professor Piet De Somer and named after the 18th century filantropist and Professor Josephus Rega of Leuven. It hosts part of the Department of Microbiology and Immunology. Since its inception, the Rega

Institute hosts also the Section of Medicinal Chemistry of the Department of Pharmaceutical Sciences and it is thus a true interdepartmental and interdisciplinary research institute. The Rega Institute has always been a jewel in the crown of research and innovation at the University of Leuven on the basis of publications, citations and prestigious scientific prizes of its members.

https://www.kuleuven.be/english/, https://rega.kuleuven.be/

LUXEMBOURG Luxembourg Institute of Health (LIH) is a public biomedical research organisation. Striving for excellence, its researchers, by creativity. enthusiasm and commitment, their generate RESEARCH DEDICATED TO LIFE knowledge on disease mechanisms and contribute to the

development of new diagnostics, preventive strategies, innovative therapies and clinical applications that impact the healthcare of Luxembourgish and European citizens. The LIH is a public research organisation at the forefront of biomedical sciences. LIH aims to perform research that transcends the boundaries of individual diseases and that can be tangibly applied in the clinical practice to address unmet needs, thus positively affecting health outcomes for patients. This translational and transversal research strategy, combined to the increasing appreciation of the role of the immune system in determining disease, has led LIH to focus on four priority areas: Cancer, Immunological disorders, Neurodegenerative diseases, Preventive medicine. With its strong expertise in population health, oncology, infection, and immunity as well as storage and handling of biological samples, LIH investigates disease mechanisms to develop new diagnostics, innovative therapies, and effective tools for personalised medicine.

https://www.lih.lu/

MSD aspires to be the premier research-intensive biopharmaceutical **MSD** company in the world. For more than 125 years, Merck Sharp & Dohme (MSD) has been inventing for life, bringing forward medicines and vaccines for many of the world's most challenging diseases in pursuit of our mission to save and improve lives. They demonstrate their commitment to patients and population health by increasing access to health care through far-reaching policies, programs, and partnerships. Today, they continue to be at the forefront of research to prevent and treat diseases that threaten people and animals – including cancer, infectious diseases, such as HIV and Ebola, and emerging animal diseases.

https://www.msd.com/



The Institute of Microbiology of the CAS represents the largest scientific body extensively exploring life cycles, molecular mechanisms and regulatory systems of various microorganisms such as bacteria, yeast, fungi and algae) as well as mammalian cell lines with respect to basic research questions as well as their prospective practical exploitation in medicine and industry. The main research interests of this Institute

represent cellular and molecular microbiology, genetics and physiology of microorganisms and their resistance to antibiotics, production of microbial metabolites and their biotransformation, and grading up production strains by genetic modifications etc. Another main research direction is embodied by soil ecology, ecotoxicology and microbial degradation of organic pollutants in the natural environment. An immunological section of the Institute then studies the importance of microorganisms in phylogenetic and ontogenetic acquisition of immunity as well as during the onset of autoimmune diseases and, last but not least, it is also focused on immunotherapies of oncogenic diseases.

http://mbucas.cz/en/



The National University of Life and Environmental Sciences of Ukraine is one of the leading institutions of education, science and culture in Ukraine. More than 26 thousand students and more than 600 graduates, PhD students and seekers study at 3 educational and research institutes and 13 departments of basic university institution (in Kyiv) and 10 separate units of NULES of Ukraine - regional universities of I-III accreditation levels. Educational process and scientific research at the University are provided by more than 2,600 scientific and educational and pedagogical workers, including about 300 professors and doctors of sciences, more than 1,000 assistant professors and PhDs. https://nubip.edu.ua/en



THE JENNER The Jenner Institute is based within the Nuffield Department of Medicine, University of Oxford, and operates out of the Old Road Campus Research Building, in Headington, Oxford. The Jenner Institute also supports

senior vaccine scientists, known as Jenner Investigators, within many other departments across the University of Oxford, as well as externally within The Pirbright Institute and the Animal and Plant Health Agency. The Jenner Institute brings together investigators who are designing and developing numerous vaccines to generate an exceptional breadth of scientific know-how and critical mass, whilst still allowing the individual investigators to remain independent and accountable to their funders and stakeholders. The Jenner Institute is supported by the Jenner Vaccine Foundation, a UK registered charity and is advised by the Jenner Institute Scientific Advisory Board.

https://www.jenner.ac.uk/



The Paul-Ehrlich-Institut (PEI), the Federal Institute for Vaccines and Biomedicines, in Langen near Frankfurt/Main is a senior federal authority reporting the Federal to Ministry of Health

(Bundesministerium für Gesundheit, BMG). It is responsible for the research, assessment, and marketing authorisation of biomedicines for human use and immunological veterinary medicinal products. Its remit also includes the authorisation of clinical trials and pharmacovigilance, i.e. recording and evaluation of potential adverse effects. Entrance of the institute with head of Paul Ehrlich (Source: Morgenroth/Paul-Ehrlich-Institut) Other duties of the institute include official batch control, scientific advice and inspections. In-house experimental research in the field of biomedicines and life science form an indispensable basis for the manifold tasks performed at the institute. The Paul-Ehrlich-Institut, with its roughly 800 members of staff, also has advisory functions nationally (federal government, federal states (Länder)), and internationally (World Health Organisation, European Medicines Agency, European Commission, Council of Europe etc.).

https://www.pei.de/



Pfizer Inc. is a research-based, global biopharmaceutical company. They apply science and global resources to bring therapies to people that extend and significantly improve their lives through the discovery, development and manufacture of medicines and vaccines. Vaccines are one of the

greatest public health advancements of all time, resulting in the control, elimination, or nearelimination of numerous infectious diseases that were once pervasive and often fatal. Pfizer has a rich history in vaccine research and development (R&D). Over the years, they have played a pivotal role in eliminating or nearly eliminating deadly infectious diseases like smallpox and polio globally. They have designed novel vaccines based on new delivery systems and technologies that have resulted in vaccines to prevent bacterial infections, like those caused by *S. pneumoniae* and *N. meningitidis*. Their vaccine R&D program includes an ongoing focus on the prevention of pneumococcal disease, including in adults. They are also advancing vaccines for additional deadly adolescent and adult infections including Meningococcal disease, Staphylococcus aureus and Clostridium difficile.

http://www.pfizer.com/research/therapeutic_areas/vaccines



Sanofi Pasteur vaccines help protect as many as half a billion lives each year against life-threatening infectious diseases at every stage of life. With 15,000 employees worldwide, they seek to extend the protective power of vaccination to new infectious diseases while

continuously improving existing vaccines to enhance health and wellbeing. They have a diverse portfolio of high-quality vaccines for children, adolescents and adults, including influenza, meningitis, travel and endemic diseases. They are a world leader in influenza and paediatrics vaccines, and the first worldwide supplier of polio injectable vaccine. Combination vaccines, those that protect against multiple diseases, are one of the strengths of Sanofi Pasteur's product range. They offer the advantage of simplifying vaccination schedules, decreasing the number of injections and the health-related costs. Sanofi offers the broadest range of vaccines in the world, providing protection against 20 bacterial and viral diseases. They distribute more than 1 billion doses of vaccine each year, making it possible to vaccinate more than 500 million people across the globe.

https://www.sanofi.com/



The Sphère unit (Sciences, Philosophy, History) UMR7219 was created in 2009 from the meeting of two units: the CHSPAM (Centre of History of Sciences and Arab and Medieval Philosophies, former UMR 7062), created in 1972, and REHSEIS (Epistemological and Historical

Researches on Exact Sciences and Scientific Institutions, former UMR 7596), created in 1984. This meeting concretizes the proximity and the complementarity of the scientific programs of these two units, whose works relate to a long duration ranging from the antiquity to the contemporary period, in different cultural contexts. Anne Marie Moulin, doctor, philosopher and research director emeritus of the CNRS, studies the link between the history of medicine and contemporary issues raised by global health and biomedicine, the universality of medicine and the history of vaccination in the clash of cultures and civilizations. AIDS, tuberculosis and emerging diseases are still waiting for their vaccine. The adventure goes on.

http://www.sphere.univ-paris-diderot.fr/?lang=en



Statens Serum Institut (SSI) is under the auspices of the Danish Ministry of Health. Their main duty is to ensure preparedness against infectious diseases and biological threats as well as control of congenital disorders. SSI was inaugurated on 9 September 1902 to

secure production and supply of anti-diptheria serum to Danish patients. Diptheria is a severe tonsillitis caused by a bacterium releasing a toxin. Treatment by serum from horses which were vaccinated by the toxin could reduce the mortality by half with patients suffering from diphtheria. During the first more than 100 years SSI has proved its justification and viability and has had the capacity to undertake new vital assignments. SSI has only been able to do so, because SSI is based on a strong research foundation. Today, SSI is one of Denmark's largest research institutes.

http://www.ssi.dk/English.aspx



Takeda is a patient-focused, values-based, R&D-driven global biopharmaceutical company committed to bringing Better Health and a Brighter Future to people worldwide. Their passion and pursuit of potentially life-changing treatments for patients are deeply rooted in over

230 years of distinguished history in Japan. In 1781, Takeda founder, Chobei I, began selling traditional Japanese and Chinese herbal medicines in Doshomachi, the medicine district of Osaka, Japan. He soon gained a reputation for business integrity and quality products and services. These values and characteristics have continued through the years and have become embedded in their uncompromising corporate philosophy. Their global team of researchers and scientists harness cutting-edge science to push the boundaries of what is possible. Takeda focuses its R&D efforts on four core therapeutic areas: Oncology, Rare Genetic and Hematology, Neuroscience and Gastroenterology, with targeted investments in Plasma-Derived Therapies and Vaccines. They are focusing on targeted patient populations in areas of high unmet need, where there is potential for greater therapeutic benefit. They are diseases. Leveraging platform capabilities in cell therapy, gene therapy and data sciences, they're working to deliver a steady stream of next-generation therapies with transformative or curative potential across our core areas.

http://www.takeda.com/



The Pirbright Institute is a world leading centre of excellence in research and surveillance of viral diseases of farm animals and viruses that spread from animals to humans. They receive strategic funding from the Biotechnology and Biological Sciences Research Council (BBSRC), and

work to enhance capability to contain, control and eliminate these economically and medically important diseases through highly innovative fundamental and applied bioscience. The Institute employs around 350 staff, research students and visiting scientists, and has recently moved to one campus in Pirbright, Surrey, where investment by BBSRC has resulted in a redevelopment of the site and the construction of a high level containment facility – the BBSRC National Virology Centre: The Plowright Building and a SAPO level two facility – the BBSRC National Vaccinology Centre: The Jenner Building. Their mission is to be the world's leading innovative centre for preventing and controlling viral diseases of livestock.

https://www.pirbright.ac.uk/our-science/impact-our-research



Transgene is a clinical-stage biotechnology company focused on designing and developing novel immunotherapeutics. Every day, they push the boundaries of innovation with therapeutic vaccines and oncolytic viruses, to design better treatments for patients.

A pioneer in viral vectors engineering, they have one ambition: design innovative treatments in the fight against cancer. Their approach uses the mechanisms of the immune response to enable the patient's body to fight against disease. At Transgene, they integrate genetic sequences (or transgenes) into viral vectors to transform them into weapons that can kill abnormal cells. Transgene's immunotherapeutics can be administered as single agents or in combination with other treatments (immunotherapy, chemotherapy, etc.). https://www.transgene.fr/en/

Lyon 1

Unique in France in terms of both its scale and its innovations and successes in the field, iCAP is a common service of the University Claude Bernard Lyon 1, whose main objective is the modernization and improvement of the quality of teaching. With its experience, its multiple

skills, its openness to emerging technologies, iCAP is today a national and European leader in supporting teachers, creating multimedia resources (the educational platform "Spiral Connect », 3D animations, serious games, etc ...) and educational innovation with the tools of tomorrow. iCAP's missions are: to offer teachers new tools adapted for teaching, train teachers and support them in change, to innovate, advise and experiment, evaluate the educational systems and training. The iCAP service develops and maintains the Claroline Connect educational platform.

https://icap.univ-lyon1.fr/

The University of the Orient, as a revolutionary university, directs, develops and promotes higher education policies in the continuous and integral training of the professional, science, innovation, university extension, with the constant search for excellence of all

processes for its contribution to the development of a prosperous and sustainable society, with the relevance and impact that our time requires. They are an institution of higher education, recognized nationally and internationally for its academic excellence, the quality in its processes, the social relevance of its initial and permanent training programs, the results of the activity of science, technology and innovation, as well as the assumption of the challenges of our country in this century to promote local development with competitiveness and political commitment.

https://www.uo.edu.cu/



The University of São Paulo (USP) is a public university, maintained by the State of São Paulo and affiliated with

the State Secretariat of Economic, Scientific and Technological Development, particularly efficient in scientific productivity. USP have widely recognized the talent and dedication of USP professors, students and employees. USP, as the major institution of higher learning and research in Brazil, is responsible for educating a large part of Brazilian Masters and Ph.D's. The University of São Paulo offers undergraduate and graduate programs in all areas of knowledge. The Stricto Sensu course objective is to form highly qualified human resources for teaching, research and scientific and technological development. The graduate programs may be offered by a single teaching unit, in the fields of biological, exact or human sciences and/or by various units (called inter-unit courses) or even various different institutions of higher

education (called inter-institutional courses). USP is a Partner of the Butantan Institute, the major vaccine manufacturer of Brazil, which is an associated Partner of the LIVE. https://www5.usp.br/



The University of Florence is an important and influential centre for research and higher training in Italy, with 1,800 lecturers and internal research staff, 1,600 technical and administrative staff, and over 1,600 research assistants and doctoral students. It offers a wide range of study programmes at various levels and in all areas of knowledge. Over

130 Degree courses (First and Second Cycle, corresponding to Bachelor's and Master's Degrees) organised in 10 Schools, with a population of about 51,000 enrolled students, onefourth of which come from outside of Tuscany. There are over 9,000 degrees awarded each year in Florence. According to the alumni data, the percentage of students who are in the workforce one year after their First Level degree is above national average. The University of Florence has a natural international vocation and the development of internationalization is one of its strategic priorities. It is one of the largest and most productive public research systems in Italy. This result is accomplished thanks to the number of permanent and temporary researchers working in a wide range of disciplinary and scientific fields, and the numerous junior scientists in training. It is also due to an intensive participation in research programmes of national and international relevance and to the significant scientific results achieved. External funds support the research and knowledge transfer activities. This combination of factors qualifies the Florentine institution as a modern research university and accounts for its excellent position in national and world rankings. Researchers at the University of Florence operate within 21 different departments and have at their disposal approximately 40 research structures comprising inter-departmental and inter-university centres as well as specialised research, knowledge transfer and advanced training centres. https://www.unifi.it/



Four scientific Nobel Prizes, one Fields Medal, three Wolf Prizes are further evidence of the University's longstanding tradition of excellence. The Université libre de Bruxelles is an active member of the Research Area: ULB has received HR Excellence in Research

award from the EU (EURAXESS) and also EU funding to hire post-doctoral researchers (COFUND program), for example. Over the past few years, it has obtained 36 Grants (16 starting, 10 consolidator and 10 advanced) from the European Research Area (ERC) to finance research in Medicine, Mathematics, Political Science, Economics, Physics, etc. In addition, the University's Institute for European Studies is recognized as a "Jean Monnet European research centre" for its work on European integration. https://www.ulb.be/en/ulb-homepage



The Vaccine Research Institute (VRI), Laboratory of excellence, was established by the French National Agency for Research on AIDS and viral hepatitis (ANRS – France Recherche nord & sud Sida-HIV

Hépatites) and the University of Paris-Est Créteil (UPEC) to conduct research to accelerate the development of effective vaccines against HIV/AIDS, and (re)-emerging infectious diseases. The VRI's structure strengthens the links between basic research and translational research, patient's associations and the socio-economic world, contributing to accelerating vaccine development. The VRI is structured around research teams with multi-disciplinary expertise, a network of national and international thought leading scientists, a clinical network of physicians, core facilities and innovative immunomonitoring platform. The VRI's scientific strategy, since its creation, has been organized into fully integrated research programs and supported with shared scientific, technological and administrative platforms. The overarching goal is the generation of novel DC-based vaccine candidates in the field of preventive and

therapeutic vaccines inducing potent Ab and T cell responses and understands the immunological mechanisms involved in the innate and adaptive immune response to these vaccines by in vitro, preclinical studies in animal models and clinical trials of prophylactic and therapeutic vaccination.

https://www.en.u-pec.fr/, https://vaccine-research-institute.fr/

The College of Medicine at the University of Arkansas for Medical Sciences (UAMS) has held a unique, vital role in Arkansas for more than 135 years. As a major part of the state's only medical sciences university, they train the majority of Arkansas' physicians. Their outstanding faculty members are on staff at UAMS Medical Center, Arkansas Children's Hospital, the Central Arkansas Veterans Healthcare System, UAMS regional centers and numerous other clinics and facilities providing services throughout the state of Arkansas and for patients from around the world. Many of their basic sciences faculty members also hold appointments in the UAMS Graduate School, teaching tomorrow's scientists. And with a vibrant, world-class research enterprise that emphasizes multidisciplinary collaboration, the College of Medicine's researchers and clinicians serve on the forefront of medical advances.



The University of British Columbia (UBC) is a global centre for teaching, learning and research, consistently ranked among the top 20 public universities in the world and recently recognized as North America's most

international university. Since 1915, their motto, Tuum Est (It is Yours), has been a declaration of their commitment to attracting and supporting those who have the drive to shape a better world. As a result, UBC students, faculty and staff continue to embrace innovation and challenge the status quo, placing us at the forefront of discovery, learning and engagement. UBC encourages bold thinking, curiosity and initiative, so you can realize your greatest potential. Facts: 65,000 total students at both campuses, 16,000 international students from 156 countries, \$2.6 billion annual operating budget, 325,000 alumni in 140 countries, 16,000 faculty and staff, \$658 million Research funding for 9,000 projects in 2017-18, 34th in Times Higher Education world rankings, one of three Canadian universities in the top 50.

BC Children's Hospital research Institute performs world-class research that saves and transforms the lives of children in BC and beyond. Their more than 1,000 researchers are driven by a tireless commitment to help children and their families receive the best possible care and live the healthiest possible lives. Spanning a wide range of children's and women's health concerns, they have four research themes: Childhood Diseases, Brain, Behaviour & Development, Healthy Starts and Evidence to Innovation. There are 358 investigators. The 2017-18 total research revenue of the BC Children's Hospital Research Institute was approximately \$77.8 million, including grants, contracts and agreements received from foundations, granting agencies and organizations, government, hospitals and universities. https://www.bcchr.ca/ https://www.ubc.ca/

VACCINE FORMULATION INSTITUTE

Adjuvants are key components of modern vaccines, because of – among others – their ability to modulate immune responses, enable dose-sparing and improve efficacy of

numerous life-saving vaccines. However, suitable adjuvants and the associated expertise required to effectively use them are not always openly available to the majority of vaccine researchers and developers. VFI, a not-for-profit company based in Switzerland, is dedicated to provide its technologies in open-access to all interested groups. Since 2012, VFI provides vaccine researchers and developers a variety of adjuvant-related laboratory and training activities. This includes advise on how to correctly formulate and characterize the adjuvants and the resulting vaccine formulations.

https://www.vformulation.org/



Vaccines Europe is a specialised vaccines group within the European Federation of Pharmaceutical Industries and Associations (EFPIA), the professional association of the innovative pharmaceutical industry in Europe. Vaccines

Europe was created in 1991 to provide a voice for the vaccine industry in Europe. The group represents vaccine companies of all sizes operating in Europe, and currently includes all the major global innovative and research-based vaccine companies, including small and medium-sized enterprises.

https://www.vaccineseurope.eu/



Founded originally in August 2002, VPM was established following an initiative of the German Federal Ministry of Education and Research (BMBF) to promote the development of vaccines in Germany. Scope of the vaccine initiative was the funding of rapid transfer of results from basic research into the development of new vaccines. The BMBF provided VPM with 25.6

million euros funding between 2001 and 2010 to organize and finance the preclinical and clinical development of vaccines nationwide. To this end, VPM acquired proprietary rights to promising vaccine candidates from public German laboratories and managed their development until further licensing to industrial partners. In order to identify such promising vaccine candidates in Germany, a map of vaccine research with the associated technologies for research and development of vaccines was drawn up at the beginning of the BMBF funding and updated in 2006. Since July 2018 Serum Institute of India (SIIPL) is majority shareholder of VPM. SIIPL is the world's largest vaccine manufacturer by number of doses produced and sold globally (more than 1.3 billion doses) which includes Polio vaccine as well as Diphtheria, Tetanus, Pertussis, Hib, BCG, r-Hepatitis B, Measles, Mumps and Rubella vaccines. Vaccines manufactured by SIIPL are accredited by the World Health Organization, Geneva and are being used in around 170 countries across the globe in their national immunization programs, saving millions of lives throughout the world. The acquisition through SIIPL provides VPM and its clients a direct link to cost-effective GMP manufacturing.

https://www.vpm-consult.com/

Valneva

Advancing vaccines for better lives, Valneva is a specialty vaccine company focused on prevention against diseases with major unmet needs. The

Company has several vaccines in development, including unique vaccines against Lyme disease, COVID-19 and chikungunya. Valneva's portfolio also includes two commercial vaccines for travellers. Valneva's strategy stems from its vision to contribute to a world in which no one dies or suffers from a vaccine-preventable disease. We aim to become the leading specialty vaccine company. The Company's strategy is based on an integrated business model that has a unique risk profile and significant potential for value creation. https://valneva.com/



Focusing on animal health, from the beginning, In the 1960s, the various preparations manufactured by human pharmaceutical laboratories at that time did not make it possible to treat all the animal diseases. In 1968, while these major groups were looking to invest in animal health, Pierre-Richard Dick, a veterinary doctor in Nice, drew

upon his training at the Pasteur Institute to devise and develop new medications. He founded Virbac with a desire to provide veterinarians, farmers and pet owners worldwide with a set of innovative solutions to fight animal diseases.

Now present in more than 100 countries, Virbac has maintained its independence and its essence. Linking the needs of caregivers with the latest technological advances, their innovation ecosystem delivers a practical range of products and services to diagnose, prevent and treat the majority of pathologies, all while improving the quality of life for animals. Thanks to their offer, supported by a manufacturing base that meets the highest international quality standards, Virbac has been forging personalized relationships with veterinarians, farmers and pet owners in each country for more than 50 years. Through these privileged partnerships, in which societal, health and environmental issues intersect, Virbac contributes day after day to shaping the future of animal health.

https://corporate.virbac.com



Founded in 1948, WHO is the United Nations agency that connects nations, partners and people to promote health, keep the world safe and serve the vulnerable – so everyone, everywhere can attain the highest level of health. WHO leads global efforts to expand

universal health coverage. They direct and coordinate the world's response to health emergencies. And they promote healthier lives – from pregnancy care through old age. Their Triple Billion targets outline an ambitious plan for the world to achieve good health for all using science-based policies and programmes. Working with 194 Member States across 6 regions and on the ground in 150+ locations, the WHO team works to improve everyone's ability to enjoy good health and well-being. They are committed to the principle of accountability – a core value for an organization that is entrusted by countries and other donors to use limited resources effectively to protect and improve global health.

