

DISCOVER THE UNIVERSITY CANCER INSTITUTE TOULOUSE ONCOPOLE 2015



INSTITUT UNIVERSITAIRE
DU CANCER DE TOULOUSE
Oncopole

...the ...

**A NEW
REGIONAL
MODEL
FOR
ONCOLOGY**

04-05 OVERVIEW THE UNIVERSITY CANCER INSTITUTE TOULOUSE (IUCT)



L'INSTITUT UNIVERSITAIRE DU CANCER DE TOULOUSE

L'Institut universitaire du cancer de Toulouse (IUCT) is a new French regional model for the coordination of treatment, research and teaching in oncology.

IUCT represents

3 public hospital sites specialising in therapeutic innovation.

For the first time in France, a comprehensive cancer centre (the Claudius Regaud Institute) and the oncology departments of a university hospital have come together to offer a complete and integrated range of treatments, without overlap. The centre is divided across three sites: IUCT Purpan, IUCT Rangueil-Larrey and IUCT Oncopole (the new hospital located on the Toulouse oncology and health campus: Oncopole).

A research network.

This brings together teams involved in fundamental research, clinical research and applied research, specialising in oncology.

A regional care network.

It groups together 36 public and private hospitals and the 3 aforementioned hospitals. This organisation favours equal access to quality care and innovation wherever the patient's home is located.

MIDI-PYRÉNÉES, THE LARGEST REGION IN FRANCE

- ▶ The largest French region with 45,000 km² (larger than Netherlands or Denmark)
- ▶ 16,000 new cancers per year
- ▶ Airbus, Cap Gemini, Alcatel, Siemens, Bosch, Pierre Fabre
- ▶ GDP per capita: €27,200



The platforms of the new hospital on the Oncopole Campus are available for partners.





THE RIGHT TREATMENT FOR THE RIGHT PATIENT AT THE RIGHT PLACE

By joining forces, the Claudius Regaud Institute (ICR) and the oncology departments of Toulouse CHU initiate the creation of IUCT. First of all, they group together their skills and means to offer a complete and innovative range of public care on three sites: IUCT Purpan, IUCT Rangueil-Larrey and IUCT Oncopole (on the Oncopole Campus). Then they organise a regional care network with 36 partners.

Three public hospital sites specialising in therapeutic innovation

The three sites are distinguished by an integrated approach involving treatment, research and teaching. Their nationally and internationally renowned professionals specialise in all types and stages of cancer.

As experts in complex cases and rare tumours, their treatment combines cutting-edge medicine and excellent interpersonal relations. They favour an overall approach to illness in all its aspects, whether medical, psychosocial or biological.

Age-related frailties are given specific treatments through oncogeriatrics and oncopediatrics. Oncogenetic counselling for several pathologies is provided to families where there is a hereditary risk.

The three hospital sites also find their specificity through therapeutic innovation in all disciplines of cancer care. They conduct more than 400 clinical trials per year.

THE 3 PUBLIC HOSPITAL SITES-TOULOUSE

IUCT @ Purpan

Bone cancers, nervous system cancers, oncopediatrics, oncogeriatrics, maxillofacial cancers, reproductive medicine centre.

IUCT @ Rangueil-Larrey

Digestive cancers, thoracic cancers, thyroid cancers, ENT cancers (salivas glands, sinus, skull base), urological cancers (prostate, bladder, kidney), reconstructive surgery and rehabilitation.

IUCT @ Oncopole

(ICR AND CHU teams)
Hematology, women's cancers, ENT cancers, skin cancers (melanomas), some sarcomas, radiotherapy, nuclear therapy and brachytherapy, urology (medical and innovative surgery).

08-09 OVERVIEW



A regional care network

The regional care network covers a territory of 45,000 km² where 3 millions of people live (Midi-Pyrénées region). Each year around 16,000 new cancer patients are diagnosed.

The network enables:

- ▶ to create common standards;
- ▶ to increase recruitment for clinical trials through networking;
- ▶ to develop teaching;
- ▶ to set up specialized workshops such as oncopediatrics, oncogeriatrics, hematology...;

To facilitate exchanges, the 39 partners develop a shared information system: workflows, common database, common patient record, interdisciplinary medical meetings through webconferences...

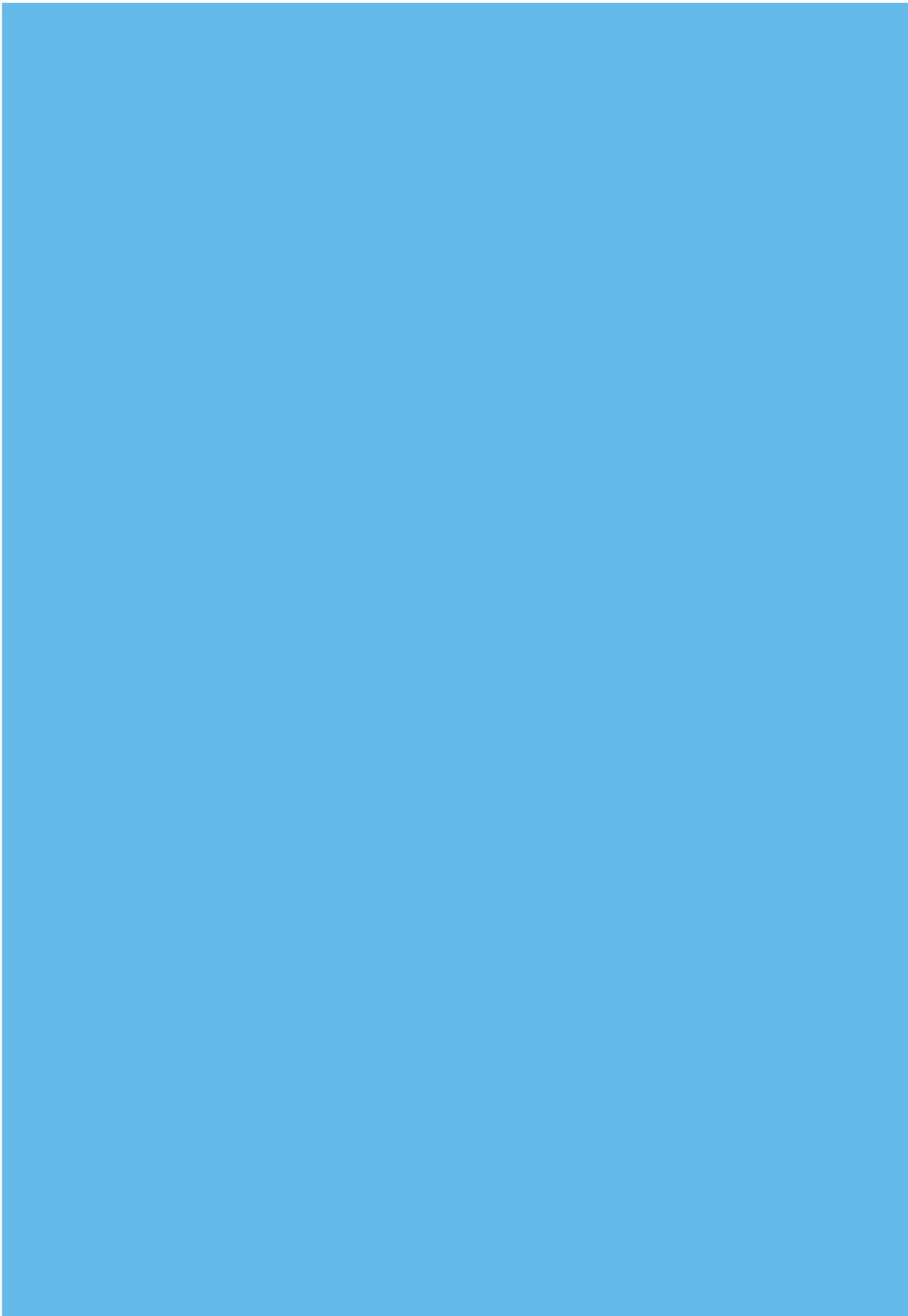
The regional care network aims at reducing direct costs by grouping the innovative and new equipment investments, but also indirect costs such as patient transportation. Working together enables to develop early care management and to reduce rehospitalisations.

Telesurgery and distance education.



Web conferences about complex cases.



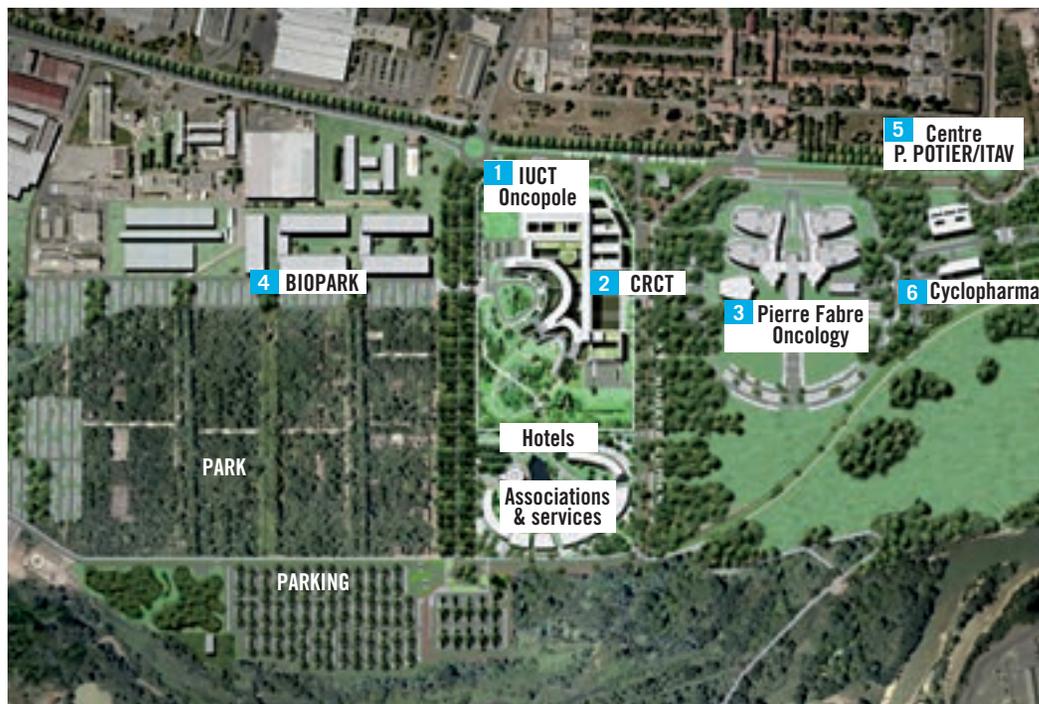


**TOULOUSE
ONCOPOLE**

**THE CAMPUS
THE NEW
HOSPITAL**

THE CAMPUS

1. An hospital: the Institute universitaire du cancer Toulouse Oncopole (306 beds).
2. A basic cancer research centre (CRCT).
3. Pierre Fabre Oncology.
4. Sanofi-Evotec. A biopark: 54,000 m² for health innovation; 6 biotechs in 2015.
5. A start-up incubator and innovation hub in biosciences.
6. Medical companies (Cyclopharma).



THE ONCOPOLE CAMPUS

The Institut universitaire du cancer Toulouse Oncopole is located on a campus dedicated to oncology and health: Toulouse Oncopole

1 billion € and 3,000 professionals

The IUCT-Oncopole is located on a 220 ha campus dedicated to oncology and health: Oncopole. It comprises pharmaceutical industrialists (Pierre Fabre Oncology and Sanofi), a biopark with biotech (EVOTEC) and start-ups, a public cancer research centre (CRCT), a centre of advanced technologies for life sciences,

a start-ups incubator, medical companies (Cyclopharma, SADIR), hotels, services and associations for patients and families.

Oncopole represents a public and private investment of nearly 1 billion € and welcomes 3,000 employees.

ONCOPOLE'S STRENGTHS

- ▶ 300 millions Euros for the new hospital
- ▶ 220 hectares including 65 dedicated to the economic, clinical and scientific development
- ▶ 30 acres of parkland
- ▶ The Oncomip network managing a regional network of 39 care partners, both private and public
- ▶ The involvement of Toulouse Paul Sabatier University in research and education



Open in 2014, the IUCT Oncopole is equipped with state-of-the-art technologies, on a surface area of 65,000 m².

THE NEW HOSPITAL

This comprises the Claudius Regaud Institute and several oncology departments of Toulouse University Hospital (CHU). 1,400 staff practise on site.

1. EXPERT AND INTERLINKED FOR CANCER CARE

The institute has been designed to anticipate the next evolutions of healthcare systems and cancer care.

IUCT Oncopole combines the resources and expertise of a comprehensive cancer centre and several university hospital oncology services, i.e. 17 medical services. The activities of IUCT O are treatment, research and teaching. Expert in rare and complex pathologies, it also accommodates patients requiring treatment for the following pathologies: hematology, women's cancers, ENT cancers, skin cancers, some sarcomas, urology (medical and innovative surgery).

Open and interlinked with care community, its features:

- ▶ Expertise of teams specialized in cancer care, with excellence skills and fully involved in international care and research programs.
- ▶ High technology platforms required for cancer diagnosis, treatment and research (imaging, surgery, oncology, radiotherapy, nuclear medicine, brachytherapy and anatomical pathology) and vital to the development of personalised treatments: molecular biology, oncogenetics, clinical research with phases I, II and III. The platforms are available to partners.
- ▶ Bench-to-bedside continuum. The Cancer Research Centre building is adjacent to the hospital.
- ▶ Telemedicine and participatory medicine.
- ▶ Collaboration with all cancer care partners of Midi-Pyrénées.
- ▶ Investment partnership between Claudius Regaud Institute and Toulouse University Hospital, and with industrialists (GE Healthcare, Olympus...).

The outpatient care revolution

The building of the new hospital was the opportunity to reconsider the care organization with regard to the evolutions of cancer care. Indeed care pathways tend to move from clinic to home ought to patients will and therapeutic advances. By now treatments are less invasive and safer, the more often in outpatient settings. Within 5 five years, 50% of chemotherapy treatments will be oral for example. Another evolution regards the cancers that can be controlled like a chronic disease. The challenge is to support patients for the good run of treatments and the maintenance of quality of life. This leads IUCT Oncopole to develop a remote follow-up program which includes: home follow up after outpatient surgery, phone support plans (AMA and COACH*) for patients treated in hematology and medical oncology, e-surveillance devices enabling clinic teams to monitor patient's health at home (oncology, pain management, surgery). This remote monitoring implies a high quality information transferred to patients and care professionals but also the developpement of empowerment. The IUCT Oncopole has elaborated a therapeutic education program for women who have breast cancer that comprises 9 workshops from diagnosis to life after cancer.

*AMA: aid for outpatients during a treatment and after cancer in hematology - COACH: Coordination Aid in Chemotherapy regarding some chemotherapy protocols

10,000 new patients
per year.

KEY FACTS

- ▶ One of the biggest **anatomopathology** service in Europe in terms of activity: telepathology (virtual samples), liquid and solid tumours, 1,000 exams per week. 2 rooms with decompression chamber for analysing surgery samples within 20 minutes.
- ▶ **Pharmacy** production of 400 chemotherapies/day, radiopharmacy (routinely activity and research).
- ▶ **Hematology** 100 beds & places - 150 clinical trials in progress – internationally recognised.
- ▶ **Surgery** 50% of outpatient care for senology ; news surgery techniques: tele-robotic surgical, local cryotherapy (urology), per operative radiotherapy...
- ▶ **Radiotherapy** 6 accelerators, including tomotherapy (2) and all the innovative techniques.

SUPPORT CARE

A support treatments service is created in the new hospital: algology, psycho-oncology,

physiotherapy, speech therapy, nutrition, palliative care, sophrology, onco-sexuality,

therapeutic education and rehabilitation. The professionals intervene at the hospital and

coordinate the outpatient follow-up with local care professionals including palliative care ones.

The CRCT building linked to the hospital.

R&D

- ▶ **One operating theater devoted to R&D**
through a partnership with Olympus
- ▶ **Nuclear imagery**
the world first patient care for the next generation of PET Scan ('Discovery IQ' / partnership with General Electric Healthcare)-accredited PET/CT centre of excellence
- ▶ **60% of radiotherapy accelerators renewed**
A protontherapy project
- ▶ **Side effects of targeted therapeutics**
- ▶ **Therapeutic educational program**
- ▶ **Empowerment services and e-surveillance**



2. ACCELERATING ACCESS TO THERAPEUTIC ADVANCES

The IUCT Oncopole groups on a same site 300 physicians and researchers involved in therapeutic innovation. The proximity and the pooling of platforms foster the care/research continuum. Scientific production is around 500 publications per year.

Basic research

Embodied by the Toulouse cancer research center which is adjacent to the IUCT Oncopole's building, it represents a critical mass of scientists that is to say 170 PhDs working in 17 teams led generally by a physician-researcher from IUCT Oncopole. The ambition is to welcome 24 teams eventually.

The research fields are:

- ▶ molecular biology and genetics;
- ▶ tumourous micro-environment;
- ▶ hematology and immunology;
- ▶ experimental therapeutics.

Transfer research

It forms the link between basic and clinical research. It enables to accelerate the transfer of research findings to patients.

It aims at:

- ▶ adapting therapy to the genetic characteristics of the individual and their tumour;
- ▶ being able to determine predisposition to the disease;
- ▶ resolving the problems of recurrence related to cells which are treatment-resistant, and to the

toxicity of medicines for healthy cells;

- ▶ identifying the sociocultural and economic factors which influence the effectiveness of prevention, access to early diagnosis, access to high-quality treatment, and therefore patient survival.

Clinical research

Depending on research programs, clinical trials focus on new drugs, association of molecules, secondary effects, medication administration but also on innovative techniques in the following specialties: imaging, radiotherapy, surgery. The IUCT Oncopole has a INCa certified early phase centre (CLIPP) that is in the French Top 3 for conducting phase I trials. Its administrative team, that has obtained the ISO 9001:2008 certification, comprises a Clinical research office, a datamanagement unit and a biostatistic unit. A part of clinical research is also dedicated to phases II and III trials, particularly in hematology, senology, gynecology. Those trials are conducted in collaboration with the pharmacokinetics unit on site.



Innovative platforms. Together they form a basic-to-clinical continuum on a same site. This continuum is boosted by the Oncopole's partners.

CONTINUUM

ONCOPELE
CAMPUS

ONCOPELE
CAMPUS

ADVANCED TECHNOLOGIES FOR LIFE SCIENCES/ITAV (USR/CNRS)

Platforms

- ▶ Bionanotechnology
- ▶ Automated Synthetic Chemistry
- ▶ Multi-scale Photonic imaging

CENTRE PIERRE POTIER

▶ **Start-ups incubator:**

- Ederna
- Dendris
- Selexel
- Syntivia
- Gama Mabs
- Univercell biosolutions
- Genoskin
- Derichebourg Aqua

BASIC

CRCT (Toulouse Cancer Research Center – UMR 1037)

- ▶ 17 basic research teams
- ▶ 300 professionals including 170 PhDs
- ▶ 13,000 m² (including free modules to host new teams)

An experimental and zootechnical platform (CREFRE)

- ▶ 14,000 animal cages state-of-the-art imaging: PET Scan, MRI, gamma cameras, 3D imaging
- ▶ 1 cryolab for embryos conservation



IUCT ONCOPELE MEDICO-SCIENTIFIC PROJECT

TRANSLATIONAL

Pooled platforms

- ▶ 1 of the largest anatomical pathology laboratory in Europe - an intergenerational biological database
- ▶ IUCT-O's Biobank groups together Toulouse Hospital's and Institut Claudius Regaud banks.
- ▶ 2 translational research units:
 - myeloma pharmacogenomics (Pr Avet-Loiseau)
 - acute leukemia (Pr Delabesse)
- ▶ 1 pharmacology unit (Pr Chatelut, Pr Delord)
- ▶ 1 molecular biology/high throughput screening platform
- ▶ 1 oncogenetic platform



IUCT ONCOPELE MEDICO-SCIENTIFIC PROJECT

CLINICAL

Platforms & expertise

- ▶ 1 centre for early trials labeled by Institut National du Cancer – 43% of early trials are Phase I
- ▶ 1 clinical trials office comprising 52 professionals (certified ISO 9001:2008)
- ▶ 1 Data management unit

PIERRE FABRE ONCOLOGY

- ▶ High Throughput Screening (P. Fabre-CNRS USR 3388)

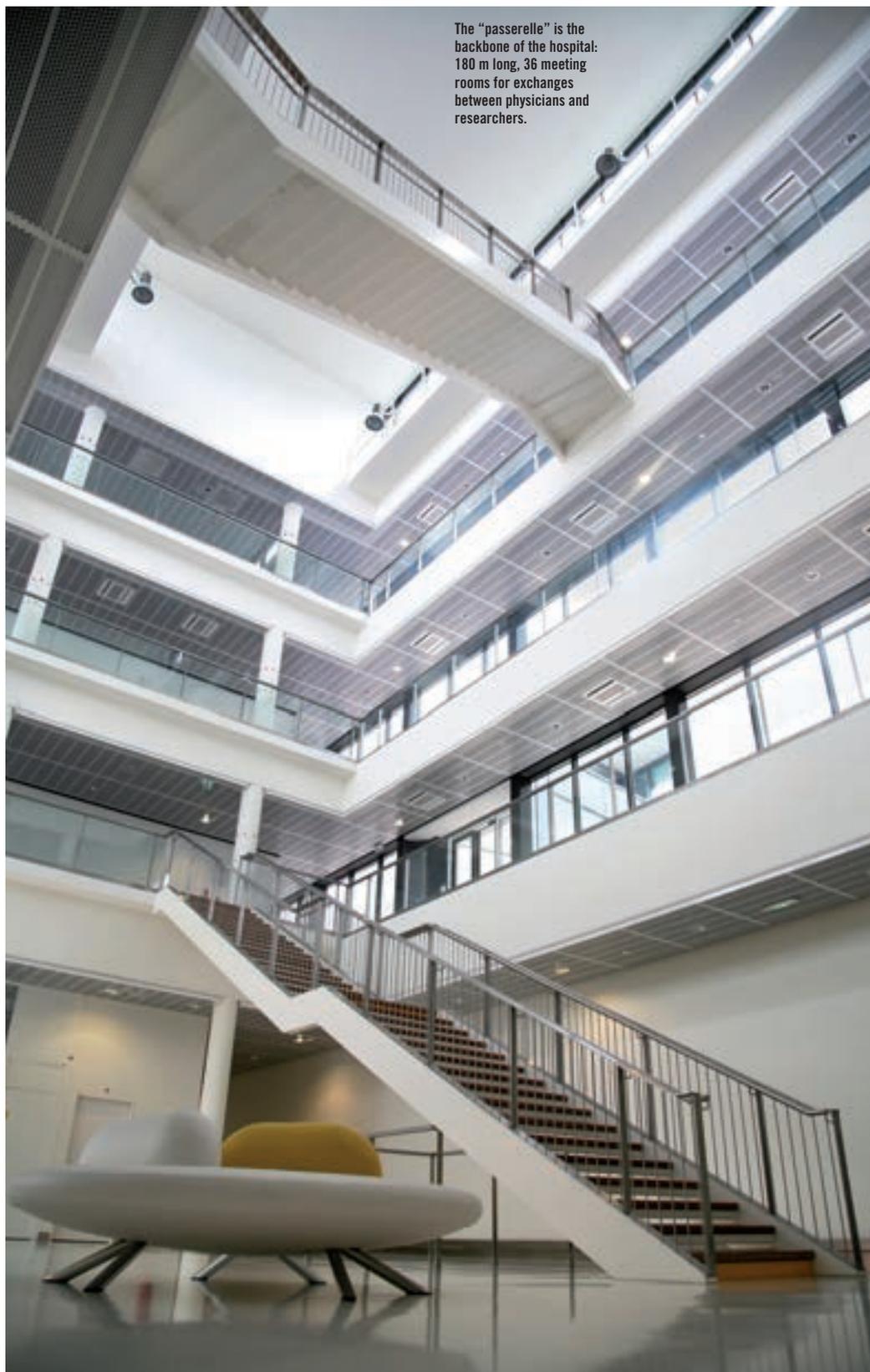
CAPTOR PROJECT

(Cancer Pharmacology of Toulouse and Region) - a French State financing of 10 millions €

BIOPARK

- ▶ 54,000 m² dedicated to host biotechs and start-ups. On site: EVOTEC, DExStr, Hyphen, Lifesearch, Omilo, TIST
- ▶ **Sanofi's chemobank** + platforms offering services:
 - Trans-Hub Integrated Sanofi Platform (THIS)
 - Exploratory Unit
 - In vitro & in vivo screening

The “passerelle” is the backbone of the hospital: 180 m long, 36 meeting rooms for exchanges between physicians and researchers.





3. UNDELAYED SHARING OF MEDICO-SCIENTIFIC ADVANCES

From initial training to continued training.

One of the IUCT's missions is teaching and transmitting know-how for the benefit of both students and professionals.

Major changes in the practice of oncology must be taken into account and anticipated in training and teaching. IUCT Oncopole is a centre of convergence for all disciplines, bringing together doctors, surgeons, radiotherapists, health professionals, teachers, researchers and industrialists. It represents an ideal forum for initial and continued training across the entire oncology field.

IUCT's teaching programme responds to four objectives:

- ▶ enhancing the attractiveness of university training through innovative courses;
- ▶ developing interdisciplinary and inter-establishment continuous training;
- ▶ promoting the employment of PhDs, increasing Toulouse University's role in life-long learning, in line with the economic fabric;
- ▶ supporting the emergence of new disciplines.





In 2014 around 1,000 health professionals attended a training course on site.

Medical services

RECEPTION AND CONSULTATIONS

This service provides consultations and diagnostic examinations, and organises multidisciplinary collaboration meetings.

HEMATOLOGY AND INTERNAL MEDICINE

100 beds and places. A home follow-up service for outpatients.

MEDICAL ONCOLOGY

Treatment for breast cancers, gynecological cancers, ENT cancers, skin cancers, some sarcomas, tumours of unknown origin, rare tumours. Traditional care, as an outpatient, palliative care. Chemotherapy follow-up at home in coordination with general practitioners.

SURGERY

One operating suite (7 operating theatres). Two standard hospitalisation units and one outpatient surgery unit.

MEDICAL IMAGING – Technical facilities

Diagnostic imaging: 1 MRI, 2 ultrasounds, 1 scanner, 2 radiology rooms.

Nuclear imaging: 2 gamma cameras, 1 PET scanner, 1 mammo-scintigraphy device and 1 thyroid counter.

Mastology imaging: 1 mammograph, 1 mammotome, 3 ultrasounds.

RADIOTHERAPY – Technical facilities

2 tomotherapy devices, 2 high-precision



PROFESSIONALS

1,400 employees; **300** practitioners



RESEARCH

Around **250** clinical trials in progress;
15% inclusion rate

accelerators with stereotaxis, 2 accelerators with intensity modulation and IGRT, and all brachytherapy techniques. Latest-generation equipment (60% renewed) – A seventh accelerator is planned.

SUPPORT TREATMENTS

These are the treatments required by patients throughout their care path (curative, palliative, post-cancer), both within the establishment and at home: algology, nutrition, psychosocial support, onco-rehabilitation, palliative care, re-education and physiotherapy, onco-sexuality. Creation of a day hospital offering palliative care for rapid multidisciplinary assessment.

CLINICAL RESEARCH

1 day service (15 places) for onco-hematology;
1 early clinical trials platform (14 places) -
CLIPP (INCa-certified early phase centre)

ONCOGENETICS

For breast/ovary cancers and digestive cancers (other pathologies at IUCT Purpan).

NUCLEAR MEDICINE AND BRACHYTHERAPY

For vectorised internal radiotherapy treatment or brachytherapy. The largest hospitalisation unit of this type in France.

ANATOMICAL PATHOLOGY

Grouping of three anatomical pathology departments (Purpan Hospital, Rangueil Hospital and ICR). One of the largest in Europe.

THE BIOLOGICAL RESOURCES CENTRE (CRB)

Management of CRB University Hospital collections (tumours), CRB Claudius Regaud (tumours, fluids). 54,000 certified samples.

PLUS LABORATORIES, INTENSIVE CARE, PHARMACY, ANAESTHESIA.

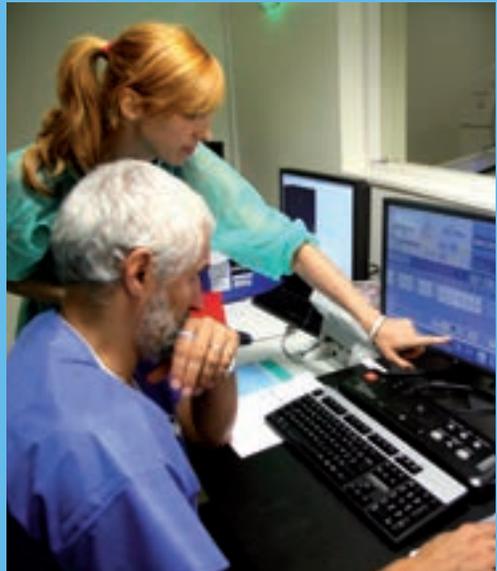


ACTIVITY

70,000 consultations;

33,000 imaging exams;

2,500 patients receiving radiotherapy treatment



TREATMENT

306 beds; **6** accelerators; **7** operating theaters



IUCT Oncopole

General Director: Pr Michel Attal

Assistant: +33 5 31 15 50 01

Medical Director: Pr Henri Roche

Surgery Director: Pr Pierre Leguevaque

Oncology Director and Clinical Research:

Pr Jean-Pierre Delord

Hematology Director: Pr Christian Recher

Radiotherapy Director: Pr Elizabeth Moyal

Supportive Care Director:

Dr Nathalie Caunes-Hilary

Medical Imaging Director: Pr Frédéric Courbon

Nuclear Medicine and Brachytherapy Director:

Pr Isabelle Berry

Intensive Care Director: Dr Jean Ruiz

Reception and Consultations Director:

Pr Jean-Louis Lacaze

Pharmacy Director: Pr Jean-Marie Canonge

Oncogenetics Director: Pr Rosine Guimbaud

Anatomical Pathology Director: Pr Pierre Brousset

Medical Oncological Biology Laboratory Director:

Pr Gilles Favre

Onco-hematology Laboratory Director:

Pr Eric Delabesse

Biological Resources Centre Director:

Pr Anne Brouchet

Medical Physics Director: Régis Ferrand

Mail: surname.name@iuct-oncopole.fr

IUCT ONCOPELE

1 AVENUE JOLIOT-CURIE

31059 TOULOUSE CEDEX 9 - FRANCE

info@iuct-oncopole.fr

