



università di ferrara  
DA SEICENTO ANNI GUARDIAMO AVANTI.

**Title of the programme**

"Normal and abnormal growth of tissues and organs",

**Discipline**

Hematology - Oncology

**Period**

10 June – 4 July 2014

**Teaching language**

English

**Maximum number of students**

10 +10

**Programme co-ordinators**

Overall teaching planning and Istitutional tasks  
Antonio Cuneo (Hematology), Giovanni Lanza (Pathology)

Practical teaching  
Paolo Carcoforo (Surgery),  
Gian Matteo Rigolin (Hematology)  
Francesco Cavazzini (Laboratory)  
Massimo Negrini (Molecular Oncology)

Ferrara University, ITALY

**Contactperson**

Prof Reinhold Stockbrugger ([rstockbrugger635@gmail.com](mailto:rstockbrugger635@gmail.com))

Prof Antonio Cuneo ([cut@unife.it](mailto:cut@unife.it))

Prof Giovanni Lanza ([giovanni.lanza@unife.it](mailto:giovanni.lanza@unife.it))

**Participating departments/institutes**

Hematology – Pathology - Oncology – Molecular genetics – Surgery

## **Background information: Main Topics**

- Basic principles of normal and abnormal cell growth,
- Invasion, metastasis and immune response
- The revolution in cancer treatment: understanding genetic lesions and target therapy
- Practical approach to the patient with tumor
- The tumor in the surgical room: the paradigm of breast cancer

## **Learning goals**

### Pathophysiology of Cancer

- normal and abnormal cell cycle
- angiogenesis and metastasis
- the cell and its defence
- sequential development of genetic lesions

### Approach to the patient

- visiting a patient with tumor
- communication skills
- recognize tumor cells
- principles of modern medical treatment
- principles of surgical treatment

## **Outline of the programme**

Two case/problem-based tutorials per week

Three lectures by basic and clinical specialists per week

### Practicals in the field

- Laboratory hematology and oncology: identifying leukemia cells and tumor cells
- Laboratory genetics: basic molecular genetic techniques
- Patient with tumor in the ward and in the DH setting
- Patient with breast cancer and surgery

## **International health themes (ITM major / minor)**

English is THE language!

## **Required knowledge**

Basic knowledge of cell biology, anatomy, biochemistry and physiology;

Interest in laboratory activities

Motivation to meet patients and understand their needs

## **Feedback**

The Ferrara Dept.s involved have a long tradition in PBL and PB Teaching

## **Way of assessment and Final assessment**

Activity in the practical training; final multiple choice test

All teaching activities will be hold at the University Hospital in Cona unless otherwise specified

Week 1 (9-13 June) Basic principles of normal and cancer cell biology	Subject	Teacher and venue
Tue 10 morning 10.00 -12.30	Registration of the external students	University, Office International Affairs Dott. C. Santoro; Ferrara, Via Savonarola 9
Tue 10 14.00 – 15.00  15.00 – 16.30	Introduction to the course  Case 1 (discussion)	A. Cuneo R. Stockbrugger  Tutors: (O. Sofritti, S. L. Formigaro) <b>Aula 5</b>
Wdn 11 14.00 – 15.00  15.00 – 16.00  16.00 – 17.00	Lecture 1: Classification of hemopoietic neoplasms  Lecture 2 "Molecular cell biology"  Lecture 3: Cell & Cyclus	A. Cuneo <b>Aula 2</b> <b>CUBO FE</b>  M. <u>Negrini</u> <b>Aula 2</b> <b>CUBO FE</b>  M. <u>Tognon</u> <b>Aula 2</b> <b>CUBO FE</b>
Thu 12 14.00 – 15.00	Lecture 4 Invasion and metastasis a) biologic mechanisms excluding angiogenesis	<u>F. Di Virgilio</u> <b>Aula 5</b>
Fri 13 11.00 – 13.00  14.30 – 16.00	<b>Practical:</b> <b>Molecular genetic techniques</b>  Reporting Case 1.  Discussion Case 2.	<u>M. Negrini</u> (Cubo – FE)  Tutors Formigaro e Martinelli  <b>Aule 4 e 1</b>

Week 2 (16-20 June) Cancer cell growth and interaction with the host	Subject	Teacher and venue
Mon 16  14.00-15.00	Lecture 5: Invasion and metastasis b) Angiogenesis	<u>G. Rigolin</u> <b>Aula 5</b>
Tue 17 14.00-15.00  15.00-16.30	Lecture 6: Invasion and metastasis c) how and where metastatic spread occurs  Reporting case 2 Discussion case 3	<u>G. Lanza</u> <b>Aula 5</b>  Tutors L. O. Sofritti L. Formigaro <b>Aule 5 e 1</b>
Wdn 18 14.00-15.00  15.00-16.30	Lecture 7: "The cell and its defence"  Practical: identifying tumor cells in tissue sections (1)	<u>F. Di Virgilio</u> <b>Aula 5</b>  G. Lanza and co- workers Pathology Institute
Thu 19 14.00-15.00	Lecture 8 Sequential development of genetic lesions: the example of colorectal and breast cancer	<u>G. Lanza</u> <b>Aula 1</b>
Fri 20  14.00 – 15.30  15.30 – 17.00	Practical: identifying tumor cells in tissue sections (2)  Reporting Case 3.  Discussion Case 4.	<u>G. Lanza</u> and co- workers Pathology Institute  Tutors L. O. Sofritti L. Formigaro  <b>Aule 5 e 2</b>

Week 3 (23-27 June) Cancer in the clinic	Subject	Teacher and venue
Mon 23 14.00 – 15.00	Lecture 9 The breast cancer model: from bed to bench and back	<u>A. Frassoldati</u> <b>Aula 5</b>
Tue 24 14.00 – 15.00  15.00 – 16.30	Lecture 10 Surgical approach to cancer treatment  Reporting case 4 Discussion case 5	<u>P. Carcoforo</u> <b>Aula 5</b>  Tutors L. O. Sofritti L. Formigaro <b>Aule 5 e 1</b>
Wdn 25 9.00 – 13.00 (to be defined)	<b>Practical: surgery</b>	<b>P. Carcoforo</b> <b>Surgery department</b>
Thu 26 14.00-15.00	Lecture 11 Medical approach to cancer treatment: from the genetic lesion to target therapy	F. Cavazzini <b>Aula 5</b>
Fri 27 14.00-15.00  15.00-16.30	Lecture 12/training: <b>"Communication skills"</b>  Reporting Case 5 Discussion Case 6	R. Stockbrugger <b>Aula 1</b>  Tutors L. O. Sofritti L. Formigaro <b>Aula 1 e 8</b>

Week 4 (30 June-4 July) Cancer in the clinic	Subject	Teacher(s)
Mon 30 June 9.00-13.00 To be defined	Practical: Visiting patients with hemopoietic neoplasms	G. Rigolin Hematology Department 1B3
Tue 1 9.00-13.00 To be defined	Practical: Visiting patients with hemopoietic neoplasms	G. Rigolin Hematology Department 1B3
14.00 – 15.30	Reporting case 6	Tutors <b>Aula 5</b>
Wdn 2 9.00 – 13.00 (to be defined)	Practical: surgery	<u>P. Carcoforo</u> Surgery department
Thu 3	Self study	
Fri 4 09.00 – 12.00	Exam (multiple choice) and course evaluation.	Prof. R. Stockbrugger <b>Aula 5</b>

**Le Aule sono presso il polo didattico dell’Ospedale di Cona.**

**L’Aula 2 CUBO FE si trova nella struttura del Vecchio Ospedale S. Anna di Ferrara  
Corso Giovecca, 203**