



università di ferrara  
DA SEICENTO ANNI GUARDIAMO AVANTI.

**Title of the programme**

"Normal and abnormal growth of tissues and organs",

**Discipline**

Hematology - Oncology

**Period**

8 June – 3 July 2015

**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 (8-12 June) Basic principles of normal and cancer cell biology	Subject	Teacher and venue
Mon 8 9.00	Registration of the external students	University, Office International Affairs Dott. C. Santoro; Ferrara, Via Savonarola 9
15.00 -15.30 15.30 – 16.00	General Introduction to the course Introduction to the course "cell growth"	Stockbrugger Cuneo <b>Aula 1</b>
Tue 09 11.00 – 12.00	Lecture 1 "Molecular cell biology"	M. Negrini <b>Aula F3</b> <b>Chiostro Farmacologia FERRARA</b>
12.00 – 13.00	Lecture 2: Cell & Cyclus	M. Tognon <b>Aula F3</b> <b>Chiostro Farmacologia FERRARA</b>
<b>15.00 – 16.00</b>	Lecture 3: Classification of hemopietic neoplasms	<b>A. Cuneo Aula 5</b>
16.00 – 17.30	Case 1 (discussion)	Tutors: (S. Martinelli L. Formigaro; M Cavallari; M. Ciccone) <b>Hospital (Cona)</b>
Wdn 10 14.00 – 15.00	Lecture 4 Invasion and metastasis a) biologic mechanisms excluding angiogenesis	F. Di Virgilio <b>Aula 4</b>
<b>15.00 – 16.00</b>	Lecture 5: Invasion and metastasis b) Angiogenesis	<b>G. Rigolin Aula 4</b>
Thu 11 12.00 – 13.00	<b>Practical:</b> <b>Molecular genetic techniques</b>	M. Negrini (Cubo – FE)
15.30	Reporting Case 1. Discussion Case 2.	Tutors: (S. Martinelli L. Formigaro; M Cavallari; M. Ciccone) Hospital (Cona)
Fri 12 11.00 – 13.00	<b>Self studies</b>	

Week 2 (15-19 June) Cancer cell growth and interaction with the host	Subject	Teacher and venue
Mon 15	Self studies	
<p>Tue 16</p> <p><b>12.00 – 13.00</b></p> <p><b>15.00-16.00</b></p> <p>16.30</p>	<p>Lecture 6: Invasion and metastasis c) how and where metastatic spread occurs</p> <p>Lecture 7: "The cell and its defence"</p> <p>Reporting case 2 Discussion case 3</p>	<p><b>G. Lanza Aula 5</b></p> <p><b>F. Di Virgilio Aula 5</b></p> <p>Tutors: (S. Martinelli L. Formigaro; M Cavallari; M. Ciccone) <b>Hospital (Cona)</b></p>
<p>Wdn 17</p> <p>9.00 – 11.00</p>	<p><b>Practical:</b> <b>Visiting patients with hemopoietic neoplasms</b></p>	<p><u>5 students</u> <u>Hematology ward 1B3</u></p>
<p><b>Thu 18</b></p> <p>9.00-11.00</p> <p>11.00 – 12.30</p> <p><b>14.00-15.00</b></p>	<p><b>Practical:</b> <b>Visiting patients with hemopoietic neoplasms</b></p> <p><b>Practical: identifying tumor cells in tissue sections (1)</b></p> <p>Lecture 8 Sequential development of genetic lesions: the example of colorectal and breast cancer</p> <p>Reporting case 2 Discussion case 3</p>	<p><u>5 students</u> <u>Hematology ward 1B3</u></p> <p>G. Lanza, Dr. R Gafà and co-workers <b>Pathology Institute</b></p> <p><b>G. Lanza Aula 6</b></p> <p>Tutors: (S. Martinelli L. Formigaro; M Cavallari; M. Ciccone)</p>
Fri 19	Self studies	

Week 3 (22-26 June) Cancer in the clinic	Subject	Teacher and venue
Mon 22		
Tue 23		
12.30 -13.30	Lecture 9 The breast cancer model: from bed to bench and back	<b>A. Frassoldati Aula 5</b>
14.30 - 15.30	Lecture 10 Surgical approach to cancer treatment	<b>P. Carcoforo Aula 5</b>
15.30	Reporting case 4 Discussion case 5	Tutors: (S. Martinelli L. Formigaro; M Cavallari; M. Ciccone)
Wdn 24 9.00 - 13.00	<b>Practical: surgery</b>	<b>P. Carcoforo Surgery department</b>
Thu 25		
11.00-12.00	Lecture 11 Medical approach to cancer treatment: from the genetic lesion to target therapy	<b>F. Cavazzini Aula 5</b>
12.00-13.00	Lecture 12/training: "Communication skills"	<b>R. Stockbrugger Aula 5</b>
14.00 - 15.30	<b>Practical: identifying tumor cells in tissue sections (2)</b>	<b>G. Lanza, Dr. R Gafà and co-workers Pathology Institute 1E3</b>
15.30	Reporting Case 5 Discussion Case 6	Tutors: (S. Martinelli L. Formigaro; M Cavallari; M. Ciccone)
Fri 26	<b>Self studies</b>	

Week 4 (29 June-3 July) Cancer in the clinic	Subject	Teacher(s)
Mon 29 June	Self studies	
14.00 – 15.30	Reporting case 6	Tutors: (S. Martinelli L. Formigaro; M Cavallari; M. Ciccone) <b>Aula 5</b>
Tue 30		
Wdn 1 9.00 – 13.00 (to be defined)	Practical: surgery	<u>P. Carcoforo</u> Surgery department
Thu 2	Self study	
Fri 3 09.00 – 12.00	Exam (multiple choice) and course evaluation.	Prof. R. Stockbrugger <b>Aula 5</b>

**The rooms (Aule) are located at the Hospital in Cona.**

**Aula 2 (CUBO FE) is located in the old Hospital area in Ferrara, Corso Giovecca, 203**