

CURRICULUM VITAE
Lorenzo Spaggiari, M.D., PhD
Professor and Chief, Lung Cancer Program,
Division of Thoracic Surgery
European Institute of Oncology
School of Medicine, University of Milan
Milan, Italy
0039-0257489665

EDUCATION:

- 1988, Degree, School of Medicine, University of Parma, Italy
- 1988-1997, Residency, General Surgery, University of Parma, Italy
- 1991-1995, PhD, Physiopathology of Cardio-Thoracic Surgery, University of Modena, Italy
- 1997, European Board of Thoracic and Cardiovascular Surgery
- 1998-2002, Fellowship, Thoracic Surgery, University of Modena, Italy
- 2006, Associate Professor in Thoracic Surgery, School of Medicine, University of Milan, Italy
- 2009, Confirmed Associate Professor in Thoracic Surgery, School of Medicine, University of Milan, Italy
- 2015, Full Professor in Thoracic Surgery, School of Medicine, University of Milan, Italy

CAREER:

- 1998-2002, Deputy Director of Thoracic Surgery Division at European Institute of Oncology, Milan, Italy
- 2003-2014, Chief of Thoracic Surgery Division at European Institute of Oncology, Milan, Italy
- 2014 to now, Chief of Lung Cancer Program (clinical and research), at European Institute of Oncology, Milan, Italy

Additional International Training:

- From 2/4/1991 to 30/4/1991: intern at Division of General Surgery, Beaujon Hospital, Paris, France
- From 19/5/1992 to 19/6/1992: clinical and research fellow at Department of Thoracic Surgery, Xavier-Arnoz Hospital, Bordeaux, France.
- From 1/3/1993 to 31/7/1993: clinical and research fellow at Department of Thoracic and Vascular Surgery, Marie Lannelongue Hospital, Paris, France.
- From 1/1/1995 to 31/12/1995: assistant surgeon at Department of Thoracic and Vascular Surgery, Marie Lannelongue Hospital, Paris, France; during this period I participated to more than 400 major thoracic surgeries (all certificated).

- From 15/1/1996 to 31/10/1996: consultant at Department of Thoracic Surgery, Institut Mutualiste Montsouris Hospital, Paris, France; during this period I performed as first operator more than 200 major thoracic surgeries (all certificated)

SURGICAL EXPERIENCE

From 1998 to now (31/10/2017), he performed 4626 operations of thoracic surgery at European Institute of Oncology (all certificated by the Health Department).

Actually Member at European Institute of Oncology of:

- Member of the board of directors of IEO-CCM Foundation
- Governance Committee of Clinical and Research Area
- Internal Advisory Board
- Scientific Direction Committee
- Member of the board of the Department of Oncology and Emato-oncology (DIPO) for the professors recruitment

MEMBERSHIPS

- European Association of Cardio-Thoracic Surgery (Thoracic Oncology Working Group, Robotic Working Group).
- Society of Thoracic Surgeons
- Societa' Italiana Chirurgia Toracica

MEMBER OF EDITORIAL BOARD

- The Journal of Cardiovascular Surgery
- The Journal of Thoracic Disease
- Canadian Respiratory Journal

REVIEWER

- The Annals of Thoracic Surgery
- European Journal of Cardio-Thoracic Surgery
- Journal of Thoracic Oncology
- Others

TEACHING RECORD

Graduate School both for education lectures and clinical practice

- School of Radiographer and Radiotherapy, University of Milan, Italy
- School of Physiotherapy, University of Milan, Italy
- School of Medicine, University of Milan, Italy

Post Graduate School from 2005/2006 both for education lectures and clinical practice

- Emergency Surgery Fellowship, University of Milan, Italy
- General Surgery Fellowship, University of Milan, Italy
- Thoracic Surgery Fellowship, University of Milan, Italy
- Cardiac Surgery Fellowship, University of Milan, Italy
- Pulmonology Fellowship, University of Milan, Italy

PhD/Doctoral School for education lectures

- University of Bologna, Italy (from 2005/2006)
- University of Modena, Italy
- University of Milan, Italy (from 2013)

Tutor of the following Medical Students

- Juliana Guarize, School of Medicine, University of Milan, Italy (2006/2007)
- Barbara Ciprandi, School of Medicine, University of Milan, Italy (2008/2009)
- Liu Xiaomei, School of Medicine, University of Milan, Italy (2009/2010)
- Paola Zuccoli, School of Medicine, University of Florence, Italy (2010/2011)
- Shehab Mohamed, School of Medicine, University of Milan, Italy (2014/2015)
- Simone Banfi, School of Medicine, University of Milan, Italy (2014/2015)
- Stefano Terzi, School of Medicine, University of Milan, Italy (2014/2015)
- Cristina Diotti, School of Medicine, University of Milan, Italy (2015/2016)
- Laura Filippi, School of Pharmacy, University of Parma, Italy (2016/2017)

Tutor of the following Residents and Fellows

- Antonio Floridi, Emergency Surgery Fellowship, University of Milan, Italy (2004/2005)
- Alessandro Pardolesi, General Surgery Fellowship, University "G. D'Annunzio", Chieti-Pescara (2009/2010)
- Juliana Guarize, Pulmonary Medicine Fellowship, University of Milan, Italy (2010/2011)

- Sava Durkovic, Thoracic Surgery Fellowship, University of Milan, Italy (2011/2012)
- Giorgio Loiacono, Thoracic Surgery Fellowship, University of Messina, Italy (2012/2013)
- Elena Magni, Pulmonary Medicine Fellowship, University of Milan, Italy (2013/2014)

Tutor of the following PhD Student

- Francesco Leo, PhD in “Scienze Pneumo-Cardio-Toraciche di Interesse Medico e Chirurgico” University of Bologna (2007)
- Domenico Galetta, PhD in “Scienze Pneumo-Cardio-Toraciche di Interesse Medico e Chirurgico” University of Bologna (2009)
- Roberto Gasparri, PhD in “Scienze Pneumo-Cardio-Toraciche di Interesse Medico e Chirurgico” University of Bologna (2011)
- Juliana Guarize, PhD in “Scienze Pneumo-Cardio-Toraciche di Interesse Medico e Chirurgico” University of Bologna (2017)
- Monica Casiraghi, PhD in “Scienze Pneumo-Cardio-Toraciche di Interesse Medico e Chirurgico” University of Bologna (ongoing)

Mentor of thirteen international “Research Fellows” (10 thoracic surgeons and 2 pulmonologists from Brasil).

RESEARCH ACTIVITY

Grant History (Principal Investigator or Co-Principal Investigator)

- Chief of Research Unit (model B) PRIN 2008: “Clinical and Surgical evaluation of the master slave da Vinci in the North Italy.
- Isolated lung perfusione with high dose chemotherapy for pre-treated lung cancer (primary or secondary). (R146-IEO S151/103).
- Phase II multicenter pilot study: induction chemotherapy follow by surgery (with or without radiotherapy) for patients with “very limited” SCLC (stadio I,II,e IIIA). (R182 – IEO S190/104)
- Phase III prospective randomized trial: comparison between surgery and surgery plus preoperative chemotherapy with cisplatinum and gemcitabine for early stage NSCLC (T2N0, T1-2N0-1, T3N0 e T3N1). CHEST Study. (IEO S29/499)

- Phase II trial with ALIMTA plus cisplatinum for neoadjuvant treatment followed by surgery and radiotherapy in the treatment of malignant pleural mesothelioma. H3E-IT-S079". (IEO S226/604).
- Open prospective randomized multicenter study (parallel group) to compare efficacy and safety of TachoSil and standard surgical treatment in patients undergoing pulmonary lobectomy for lung cancer and with need of treatment for pulmonary air leaking. Tachosil International Study. (IEO S282/605)
- Phase III randomized trial to compare sublobar resection versus lobectomy as treatment for stage IA NSCLC. (IEO S638/311)
- S39 Pilot study: validation of low dose CT scan for lung cancer screening program. (IEO S039/699)
- COSMOS I study: validation of low dose CT scan for lung cancer screening program. (S39/100)
- COSMOS II study: early diagnosis of lung cancer in high-risk subjects with low dose CT scan and molecular marker. (IEO S669/511)
- Identification of novel biomarker of chemo-resistance using genomic signature in patients with stage IIIa-pN2 NSCLC. (R65/14-IEO 76)
- Robotic approach in the treatment of locally advanced (stage IIIA-pN2) non small cell lung cancer after induction chemotherapy. (IEO 560)
- A prospective trial to evaluate the diagnostic yield of 19-gauge EBUS-TBNA needle compared to 22-gauge needle for the cyto-histological evaluation of mediastinal lymphadenopathies. (IEO 573)

Funded Grants

- Breath Test in patients with lung cancer (IEO S683/112). Grant from AIRC 2012. (120.000 euro)
- Bronchopleural fistula closure by autologous mesenchimal stem cells endoscopic transplantation. An experimental animal model on Goats". Grant from Umberto Veronesi Foundation 2011. (120.000 euro)
- Observational prospective monocenter study (single arm) to evaluate efficacy and safety ENABLE glue in patients undergoing pulmonary resection with limited intraoperative air leaking. Grant from Enable Innovation. (68.000 euro)
- Training dogs to recognize early lung cancer on urine samples. Grant from Cariplo Foundation. (20.000 euro)

- Exhaled breath, test proteomic and urine analysis as tools for early diagnosis of lung cancer (IEO 532). Grant IEO 5x1000. (200.000 euro)

Clinical and Research Interests

- Lung cancer screening
- Minimally invasive Thoracic Surgery (both VATS and Robotic surgery)
- Multimodality treatment strategies for locally advanced NSLCL
- Minimally invasive preoperative staging such as EBUS-TBNA
- Surgery of lung metastases
- Surgical treatment of mediastinal lesions and oesophageal tumors
- Surgical treatment of pleural disease in particular for malignant pleural mesothelioma (EPP, P/D)
- Tracheal surgery
- Chest wall surgery and reconstruction for oncological disease

SUMMARY OF RESEARCH ACTIVITY

He began his research activities during the course of the PhD in Pathophysiology of Cardio-Thoracic Surgery, studying experimental models in vitro (pneumocytes type II isolated from winstar, fibroblasts and endothelial cells of the pulmonary artery) and on an original model of lung transplantation in rabbits, conservation projects lung graft function. There are many international publications with IF certifying the results obtained in this field; the two most important articles have been published in transplantation in 2005, and in 2006 (see publications).

During his international training, he studied the techniques of surgical resection for locally advanced lung cancers (vena cava, Pancoast etc.), up to the development of an original technique for the resection of anterior Pancoast tumors, now used worldwide. His clinical and research focus was on the treatment of primary lung cancer, and on the multimodal strategy in the treatment of pulmonary metastases from carcinomas and sarcomas, publishing several articles in international journals with impact factor.

Back in Italy, in 1998, at the European Institute of Oncology, his main goal was the clinical activity and the translational research for the thoracic oncology. He participated as a PI and co-PI in different multicenter and multidisciplinary trials on the treatment of locally advanced lung cancer and mesothelioma. From 2000 he coordinated as co-PI and PI different projects for the early detection of lung cancer with the use of low dose chest CT scan low-dose, with more than 5,000 volunteers enrolled. Also as part of the lung cancer screening

program, as recently published on JNCI in 2015, he is involved in projects on the use of microRNA in the screened population. Besides, MicroRNAs are studied as predictors of response to induction chemotherapy in patients with locally advanced disease and as early markers of recurrence.

He is PI of a novel study on the use of electronic nose as a method of early detection of lung cancer (Winner of a competitive grant with this protocol).

He has participated in international multicenter studies on the treatment of thymoma as demonstrated by the work published on the Journal of Thoracic Oncology, recently.

It organized a service of interventional pulmonology using EBUS (Endobronchial Ultrasound) as a suitable tool for pre operative staging and for genetic analysis of lung cancer (Genetic mutations and miRNAs).

He was responsible for a PRIN project (2008) on the development of robotic technology in thoracic surgery.

He developed a protocol on the use of stem cells to repair bronchial experimental study on animals (funded grant). With this experimental study, it was possible to treat successfully for the first time, a patient with bronchial fistula after right pneumonectomy for cancer, obtaining a complete closure of the fistula (published on N Engl J Med 2015 Jan 1; 372 (1): 96-7).

Actually, he is focusing his interest on robotic surgery both in early and advanced stage lung cancer, as well as in thymic tumors. He is the person in charge for a clinical and research project for the development of an Oncological Cardio-Thoracic Unit for advanced lung and mediastinal cancer.

AWARDS AND HONORS

- Winner of 5 years fellowship in General Thoracic Surgery
- Winner of 4 years PhD Program; during this period I was able to attend international internship/fellowship
- Scholarship "Alfonso Albrigi" at University of Parma (1994) for the performed researches in Thoracic Oncology.
- International prize "Vivisalute" Milan (2004) for the performed researches in Thoracic Oncology.

BIBLIOGRAPHY**Citations received 5068****H-Index: 36 (last update : 28.11.2017)****Impact factor since 2002 to September 2017: 991.836 (last 225 publications)****ORCID ID: 0000-0002-1068-3541****Author and Co-author of:**

- **234** Peer-reviewed articles
- **64** Letters to the editor
- **22** Book Chapters
- **76** Articles with no impact factor
- **61** Published abstracts

Milan, November, 28th 2017Signature
Lorenzo Spaggiari