If you wish to participate in the conference, please access the platform: [https://sc.qlearning.it](https://sc.qlearning.it). Click on “Register”, fill in the requested data and create your account. An e-mail confirming your registration will be sent within 24 hours.

Your registration to the course is valid only after paying the admission fee. Please visit also: [http://www.studio-congressi.com/calendario_eventi.php](http://www.studio-congressi.com/calendario_eventi.php)

**CME CREDITS**

- **CME REF. NUMBER:** 752 - 315010
- **CME CREDITS:** 17
- **ATTENDEES:** Medical Doctors, Physicists, Engineers, Mathematicians, Statisticians, Computer Scientists.
- **FIELDS OF INTEREST:** Radiology, Radiotherapy, Nuclear Medicine, Surgery, Oncology, Neuro-radiology, Physics, Engineering, Math.

**MAX. NUMBER OF PARTICIPANTS:** 40
MORNING SESSION

08:30  Participants’ registration
09:00  Welcome
Introduction
Anna PICHIECHIO – Lorenzo PREDA - Andrea FILIPPI
MODERATORS ~ G. MAGENES, F. CALLIADA
09:30–10:00  Fundamentals of Radiomics in Medical Images
A. LASCIALFARI
10:00–10:30  How radiomics could change our approach to medical imaging
R. ORECCHIA
Methods
10:30–11:00  Evaluating machine learning models R. BELLAZZI
11:00–11:15  Coffee break
MODERATORS ~ L. PAVARINO, E. D’ANGELO
11:15–11:45  Machine learning methods in Radiomics: supervised and
unsupervised approaches F. MAMBRETTI
11:45–12:30  Deep learning for Biomedical Images S. GUALANDI
12:30–13:30  Sponsored lecture 1
13:30–14:30  Lunch

AFTERNOON WORKSHOP

14.30–17.00  ARTIFICIAL INTELLIGENCE APPROACH FOR MEDICAL USE
M. GROSSI/D. M. REBUZZI
17:30  Visit at the Golgi Museum
19:00  Happy hour - “Get together”

DAY 2 : 9 September 2021

MORNING SESSION
MODERATORS ~ G. RIZZO, S. FIGINI
08:30–09:00  Feature extraction: hand-crafted/engineered versus
deep learning E. SCALCO
09:00–09.30  Analysis of small dataset in radiomics and
machine learning A. RETICO
09:30–10:00  Biophysics inspired neural network G. CASTELLANI
10:00–10:30  Coffee break
MODERATORS ~ G. TOSCANI, R. BELLAZZI, A. LASCIALFARI
10:30–11:00  Principles of image based Brain Modeling
E. D’ANGELO
11:00–11:30  Features for modeling brain pathologies
N. OXTOBY
11:30–12:00  Quantification of Nuclear Imaging in Neurology
A. CHINCARINI
12:00–13:00  Sponsored lecture 2
Easing the workflow of radiomics analysis through QUIBIM Precision Platform, A. JIMENEZ, ELSE Solutions s.r.l.
13:00–14:00  Lunch

AFTERNOON WORKSHOP

14.00–17.00  BODY STRUCTURE SEGMENTATION &
BRAIN DYNAMICS SIMULATION
Segmentation
C. BORTOLOTTO/A. LANCIA/L. BIANCHINI
Brain dynamics simulation using The Virtual Brain
F. PALESI/R.M. LORENZI/A. MONTEVERDI
20:00  Social dinner
Artificial Intelligence for healthcare,
B. TAMERSOY, Siemens Healthcare
MORNING SESSION

Moderators ~ A. FILIPPI, V. VALENTINI

08:00-09:00 Radiomic and radiogenomic features in Oncology
    Guest of Honor P. LAMBIN

09:00-09:30 Radiomics: the in-vivo non-invasive biopsies for personalized medicine
    I. CASTIGLIONI

09:30-10:00 Integrating radiomics in clinical trials in oncology
    L. BOLDRINI

10:00-10:30 Coffee Break

Moderators ~ S. BASTIANELLO, S. PAPA

10:30-11:00 Applications in Neurology of quantitative Magnetic Resonance Imaging
    C. GANDINI

11:00-11:30 Translational research in neurodegenerative diseases: ready for “prime time”? S. CAPPA

11:30-12:30 Sponsored lecture 3
    Sonography & Artificial Intelligence: Design and Opportunities of Decision Support Systems in gynecology,
    R. BELLACOSA MAROTTI, SynDiag

12:30-14:00 Lunch

AFTERNOON WORKSHOP

14.00–17.00 MACHINE LEARNING APPLICATIONS FOR QUANTITATIVE MRI

    Neural networks for automatic segmentation
    A. AGOSTI/M. PAOLETTI

    Radiomics features extraction and machine learning methods
    P. FELISAZ/G. COLELLI

SYNOPSIS

Radiomics and artificial intelligence (AI) are currently revolutionising the way we look at big data and our approach in the understanding of diseases, connecting imaging metrics, biological biomarkers, genetics and clinical scores. Radiomics emerged as a translational field of research with the aim of extracting mineable data from clinical images, with initial specific attention to oncologic imaging, but soon expanded its application to all spheres of imaging. Beyond the initial focus on conventional imaging sequences, the technological advances are such that this field needs to further expand itself to embrace all kinds of quantitative imaging mapping solutions.

The application of AI is further sustaining the evolution of radiomics and promises to boost its applications, progressively proving itself to be crucial in the interplay between radiology and other medical and scientific disciplines in supporting the understanding of pathological mechanisms of diseases as well as potentially predicting clinical outcomes.

The availability of such a large amount of data poses several issues and highlights the need to improve our abilities in building and organizing adequate datasets, extracting features and signatures as well as optimizing their analysis and interpretation by correctly setting up a robust “pipeline”. Another critical issue in modern radiomics/AI based medical research is paving the way to translating these results into clinical practice.

The aim of this three-day School, coordinated by the University of Pavia, is to respond to these needs of a robust pipeline with quality control in order to translate research evidence into clinical practice. In this arduous attempt, the school will provide the attendants a complete “toolbox” to operate in this field. The technical steps will be explored in detail, ranging from data collection, data organization, analysis, feature extraction and data presentation, both from a technical/operational perspective as well as from a medical/interpretative one. Special attention will be paid not only to the pipeline but also to quality assurance in order to ease an adequate translation of evidence into clinical practice.

With the contribution of:
APPLICATION FORM PART 1

REGISTRATION

- ACCESS THE PLATFORM https://sc.qlearning.it
- CLICK ON "REGISTER"
- FILL IN THE REQUESTED DATA AND CREATE THE ACCOUNT

IMPORTANT

In order to participate in this course, we would like to remind you to pay the admission fee and fill in the billing information.

An e-mail confirming your registration will be sent within 24 hours.

After receiving the registration email, please refer to the following steps:

- ACCESS THE PLATFORM WITH THE USER ID AND PASSWORD CHOSEN DURING REGISTRATION;
- CLICK ON THE "ON-SITE EVENTS" ICON AT THE BOTTOM OF THE PAGE;

REGISTRATION DEADLINE: 30 June 2021

REGISTRATION FEES (22% VAT included)

please tick the appropriate box

☐ 320 Euro
☐ 160 Euro (only for junior doctors and graduate students)

The registration fee includes:

Participation in the conference (from Sept. 8 throughout Sept. 10, 2021)
Coffee Break, Lunch, Welcome cocktail and visit at the Golgi Museum (1st DAY)
Coffee Break, Lunch and Dinner (2nd DAY)
Coffee Break and Lunch (3rd DAY)
Certificate of Attendance

APPLICATION FORM PART 2

PAYMENT

A copy of the bank transfer must be carried out and sent to the Organizing Secretariat STUDIO CONGRESSI SRL:

⇒ BANK NAME Intesa San Paolo, Viale C. Battisti, 18 - Pavia (IT)
⇒ IBAN IT86X030691131000009728448
⇒ Purpose of the Payment Conference Registration “RADIOMICS TOOLBOX” 8-9-10 SEPT. 2021, PAVIA (IT)

PayPal payment also available

Important: please remember to specify your role (Jr. doctor or graduate student/other) by ticking the appropriate box.

A copy of the bank transfer must be sent to the Organizing Secretariat STUDIO CONGRESSI s.r.l.
Via fax +39 (0)382 303082 or e-mail info@studio-congressi.com

BILLING INFORMATION

A payment receipt will be sent to you upon receipt of the registration fee:

Please indicate:
Participant's name & surname: ____________________________
Name of the Company (in case the registration fee is sponsored by a Pharmaceutical Company, public authority or private company):
_____________________________________________________
Billing Address:
Town: ____________________________ Zip code: ___________ State: __________
Phone: ____________________________ E-mail: ____________________________
Fiscal Code: ____________________________ VAT number: ____________________________
Single Code for the Electronic Invoicing: ____________________________

The undersigned agrees to allow Studio Congressi s.r.l. to use the information provided above in accordance with Italian law nr. 679/2016 and successive modifications and amendments.

Date: ____________________________ Signature: ____________________________