



# ESTRO 38

26-30 April 2019  
Milan, Italy

Targeting  
optimal care,  
together



#ESTRO38  
WWW.ESTRO.ORG



## DEADLINES

Abstract submission:  
**22 October 2018**

ESTRO and company awards:  
**24 October 2018**

Early registration:  
**16 January 2019**

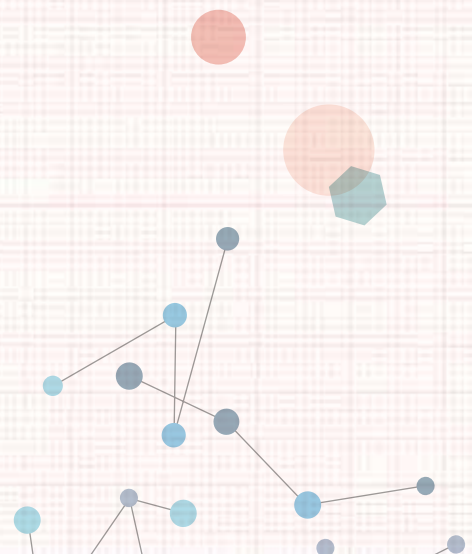
Late breaking abstract submission:  
**21 January 2019**

Late registration:  
**26 March 2019**

Desk registration:  
**as of 27 March 2019**

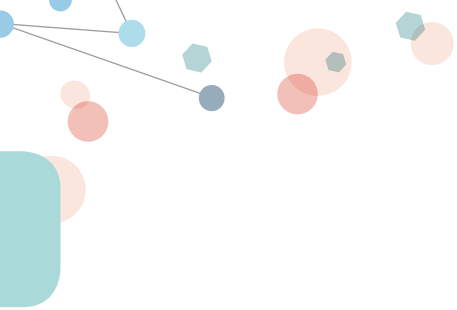


**ESTRO  
38**  
26-30 April 2019  
Milan, Italy



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[WWW.ESTRO.ORG](http://WWW.ESTRO.ORG)

# WELCOME LETTER

On behalf of the Scientific Advisory Group, it is our honour and pleasure to invite you to ESTRO 38, the annual congress of ESTRO that will take place 26-30 April 2019 in Milan, Italy.

ESTRO 38 will offer to us all, as professionals of oncology, the chance to share knowledge, practice and advances in the field, within the ever warm and dynamic environment of the ESTRO meetings.

‘Targeting optimal care, together’ will be the theme of ESTRO 38 and through these few, however impactful words, the scientific and organising committees would like to put a spotlight on the multiprofessional and multidisciplinary aspect of our specialty. The theme also represents our strength: we are all working towards a common goal for improved patient outcomes, and this will be expressed throughout the scientific programme:

**Targeting:** the concept is inherent to the radiation oncology specialty, and certainly well in line with the modern concept of precision medicine.

**Optimal Care:** the value and the cost of radiotherapy are an inseparable part of the equation for optimal treatment. Although the clinical outcome of our patients is the priority in our daily practice, this cannot happen without common efforts to improve the access to treatment for all cancer patients.

**Together:** the radiation oncology community is a mosaic of various stakeholders: medical and scientific communities, industry, national societies as well as oncology organisations, institutes, patients and advocates. We all join forces.

The interdisciplinary component of the scientific programme will include sessions on the following topics:

- Artificial Intelligence in radiation oncology: role and potential
- Radio-immunotherapy
- Adaptive radiotherapy (ART) guided by early response (adapting the adaptive!)
- Adaptive radiotherapy (ART): reactive or proactive?
- MR machines and treatment adaptation
- Clinical trials for particle therapy: which ones to run and how?
- The DNA damage response with radiotherapy
- Radiotherapy biomarkers: a confluence of imaging, genetics and pathology
- Cardiac substructures and toxicity
- Predictive models of toxicity and big data, big open issues
- The role of hypofractionation in current radiotherapy and its impact in planning radiotherapy services
- Palliation in radiotherapy - How much is enough?
- Are adolescents and young adults (AYA) a specific patients’ population?
- Plan of the day. General gains of performing
- Re-irradiation for breast cancer

- Extreme hypofractionation in the treatment of localised prostate cancer
- Radiotherapy in bladder cancer: standard of care and future perspectives
- Which is the best technique for the delivery of APBI?
- From discovery to cure
- Dose painting - what is the reality?
- Inflammatory environmental factors and radiation response
- Functional imaging in radiotherapy: from biology to guidance
- Role of ablative treatments in oligometastatic disease.

With symposia, proffered papers sessions and debates, ESTRO 38 will offer ample opportunities to learn about cutting-edge research from leading scientists.

A strong educational platform will also feature worldwide experts who will give pre-meeting courses, teaching lectures, contouring workshops and multidisciplinary tumour boards during five days.

The Young Scientists Track has now become a not to be missed event within the congress with a one-day programme tailored to the young audience. On the agenda are: lectures, symposia and networking opportunities.

ESTRO’s annual congresses feature the largest exhibition in radiation oncology in Europe with an increasing number of exhibitors year after year. Be there and get a chance to meet all the industry leaders show-casing the latest developments in the radiotherapy and oncology fields.

Finally, I’m proud to be part of a society that places quality at the heart of all its scientific moves. The state of the art science presented by worldwide participants at the ESTRO annual congresses impresses me each year. Today I’m inviting you to take note of the abstract deadline: submit your work by 22 October 2018 and be part of this outstanding scientific programme.

We look forward to welcoming you in elegant and majestic Milan, where we hope you will join us to make ESTRO 38 a memorable event for the radiation oncology community.

With warm regards,



*Umberto Ricardi*  
ESTRO 38 Chair



UMBERTO RICARDI

# SCIENTIFIC AND ORGANISING COMMITTEES

## CHAIR OF THE CONGRESS

U. Ricardi (IT)

## ESTRO 38 SCIENTIFIC PROGRAMME COMMITTEE (SPC)

**Chair:** U. Ricardi (IT)

### Scientific Advisory Group (SAG) chairs:

U. Ricardi (IT), Chair of the interdisciplinary track

B. Pieters (NL), Chair, SAG Brachytherapy

M. Vooijs (NL), Chair, SAG Radiobiology

C. Clark (UK), Chair, SAG Radiation Physics

C. Rödel (DE), Chair, SAG Clinical Radiotherapy

B. Bak (PL), Chair, SAG Radiation Therapy

M.-I. Bittner (UK), Chair, Young track

C. Chargari (FR), Chair, Young track

**Members:** M. Baumann (DE), R. Coppes (NL), S. Faithfull (UK), C. Kirisits (AT), M. Krause (DE), Y. Lievens (BE), M. Mast (NL), G. Meijer (NL), L. Muren (DK), J. Overgaard (DK), K. Røe Redalen (NO), B. Slotman (NL), M. Spalek (PL), D. Zips (DE).

## SCIENTIFIC ADVISORY GROUP (SAG) FOR RADIATION PHYSICS

**Chair:** C. Clark (UK)

**Members:** M. Aznar (UK), L. Cozzi (SE), A. Dekker (NL), M. do Carmo Lopes (PT), C. Fiorino (IT), E. Gershkevitsh (EE), N. Jornet (ES), E. Malinen (NO), L. Muren (DK), T. Nyholm (SE), K. Parodi (DE), D. Sarrut (FR), K. Tanderup (DK), M. Tenhunen (FI), D. Thorwarth (DE), W. van Elmpt (NL).

## SCIENTIFIC ADVISORY GROUP (SAG) FOR BRACHYTHERAPY

**Chair:** B. Pieters (NL)

**Members:** L. Fokdal (DK), A. Henry (UK), C. Kirisits (AT), R. Nout (NL), P. Papagiannis (GR), C. Polgár (HU), B. Šegedin (SI), F.-A. Siebert (DE), A. Stewart (UK), V. Strnad (DE), K. Tanderup (DK).

## SCIENTIFIC ADVISORY GROUP (SAG) FOR CLINICAL RADIOTHERAPY

**Chair:** C. Rödel (DE)

**Members:** C. Faivre-Finn (UK), E. Fokas (DE), D. Gabrys (PL), M. A. Gambacorta (IT), C. Grau (DK), M. Guckenberger (CH), K. Haustermans (BE), J. Kazmierska (PL), V. Kouloulis (GR), E. Lartigau (FR), C. Marijnjen (NL), A. Ree (NO), U. Ricardi (IT), E. Troost (DE), M. Verheij (NL).

## SCIENTIFIC ADVISORY GROUP (SAG) FOR RADIATION THERAPY

**Chair:** B. Bak (PL)

**Members:** A. Boejen (DK), M. Coffey (IE), I. Curic (SR), C. Dickie (CA), A. Duffton (UK), I. Lobato (PT), M. Mast (NL), F. Moura (PT), L. Mullaney (IE), A. Osztaavics (AT), Y. M. Tsang (UK).

## SCIENTIFIC ADVISORY GROUP (SAG) FOR RADIOBIOLOGY

**Chair:** M. Vooijs (NL)

**Members:** K. Borgmann (DE), A. Chalmers (UK), R. Coppes (NL), N. Cordes (DE), B. Cornelissen (UK), E. Hammond (UK), M. Koritzinsky (CA), H. Lyng (NO), F. Paris (FR), B. Singers Sørensen (DK), M. van Vugt (NL).

## YOUNG ESTRO

**Chairs:** M.-I. Bittner (UK), C. Chargari (FR)

**Members:** J.E. Bibault (FR), P. Franco (IT), G. Borst (NL), L. Dubois (NL), L. Mullaney (IE), K. Røe Redalen (NO), M. Spalek (PL), D. Thorwarth (DE), W. van Elmpt (NL).

# PRE-MEETING COURSES

For registration and fees, see page 38

## CLINICAL PRE-MEETING COURSE

### *MR guided radiotherapy for clinicians*

**FRIDAY 26 APRIL 2019**

**Course directors:** B. Slotman (NL) and C. Gani (DE)

#### **COURSE AIM**

To provide an overview of the current and potential role of external beam MRI guided radiotherapy for clinicians.

#### **LEARNING OBJECTIVES**

- To obtain an overview on MRI guided systems for external beam radiotherapy
- To assess the clinical benefits of MRI-guided radiotherapy for various tumour sites
- To identify limitations of MRI guided radiotherapy
- To become engaged in this new field within radiotherapy
- To get an overview of the potential of MR hybrid devices as a research tool.

#### **WHO SHOULD ATTEND?**

Everyone interested in the exciting new field of MRI guided adaptive radiotherapy. The program will target clinicians and physicists, but RTT's with special interest in MRI guided radiotherapy will also benefit from the course.

#### **TOPICS**

- Introduction to MRI-guided radiotherapy
- MRI basics for clinicians
- Beyond T2 and 3T: New MRI-techniques for clinicians
- MRI-based treatment planning
- The MRI-linac concept (Elekta)
- The MRI-linac concept (ViewRay)
- RTT perspective on MRI-guided workflow
- Head and neck cancer: Functional MR imaging
- Pancreatic cancer: Dose escalation
- Prostate cancer: Margin reduction
- Rectal cancer: MRgBioBoost
- Individual lymph nodes: See it and zap it
- Renal cell cancer: A new indication

## RADIOBIOLOGY PRE-MEETING COURSE

### *Radiation induced cell death (the good and the ugly)*

**FRIDAY 26 APRIL 2019 | 08:30-17:00**

**Course directors:** F. Paris (FR) and R. Coppes (NL)

#### **COURSE AIM**

To provide insight in cellular processes leading the response to radiation.

#### **LEARNING OBJECTIVES**

Participant will obtain knowledge on cellular and molecular processes that are resulting from irradiation on a cellular and tissue level, the interaction of these cells with the environment and vice versa eventually resulting in a tumour and normal tissue response.

#### **WHO SHOULD ATTEND**

Radiobiologists, Clinicians, Physicists, RTTs.

#### **TOPICS**

The course will discuss several modes of cell death including mitotic cell death, apoptosis, immunogenic cell death, necrosis, senescence, necroptosis, ferroptosis and autophagy and the consequences this may have for tissue and tumour response.

# INTERDISCIPLINARY PRE-MEETING COURSE

## *Conservative treatment in early rectal cancer*

**FRIDAY 26 APRIL 2019 | 08:30-17:00**

**Course directors:** N. Gambacorta (IT) and A. Appelt (UK)

### **COURSE AIM**

To provide an overview of alternatives to radical surgery in the management in early rectal cancer, including patient selection, imaging, pathology and radiotherapy techniques.

### **LEARNING OBJECTIVES**

- To be able to identify patients who might benefit from non-surgical management of early rectal cancer.
- To understand the role of different imaging modalities in selection, assessment and follow-up of patients with early rectal cancer treated without radical surgery
- To understand the pathology risk factors to identify different risk classes of early tumour
- To understand the potentials of treatment intensification.
- To gain knowledge of the characteristics and limitations of different radiotherapy treatment modalities, including external beam treatment, brachytherapy and contact X-ray.

### **WHO SHOULD ATTEND?**

Radiation oncologists and senior residents; lower GI radiologists who support a radiotherapy service; medical

physicists who are involved in rectal cancer radiotherapy.

### **TOPICS**

- Clinical rationale for use of alternatives to radical surgery in patients with early rectal cancer
- Patient selection for non-surgical treatment
- Current evidence for use of local excision, TEM
- Surgical techniques - local excision, TEM
- Pathology assessment: essential requirements after local excision and risk factors for relapses (local, nodal, distant)
- Options after non-radical surgery: follow-up, TME, chemo-radiation
- Current evidences for the use of radiotherapy-chemo in early rectal cancer (preoperative, definitive)
- Current treatment regimens and emerging treatment approaches.
- Radiotherapy treatment targets
- Radiotherapy dose escalation, rationale and techniques, including on-treatment image guidance
- Brachytherapy and contact X-ray treatment for early rectal cancer
- Imaging for patient selection, response assessment and follow-up.

# BRACHYTHERAPY PRE-MEETING COURSE

## *Management of high-risk prostate cancer*

**FRIDAY 26 APRIL 2019 | 08:30-17:00**

**Course directors:** A. Bossi (FR) and G. De Meerleer (BE)

### **COURSE AIM**

To provide an up-date of the current challenges related to the diagnosis and management of High Risk prostate cancer patients with specific emphasis on the role of EBRT and brachytherapy, whether or not within a multimodality approach.

### **LEARNING OBJECTIVES**

The most important learning objective will be to recognise the need of a fully multidisciplinary approach in the diagnosis and treatment of patients diagnosed with High risk Prostate cancer.

In details, after participating to this course attendees will be able:

- to summarise the current evidences related to the recent definition and diagnosis of High risk disease.
- to discuss the modern treatment options.
- to explain the rapidly changing paradigm in the association between drugs and irradiation

- to identify the most frequent toxicity related to the different management options.
- to discuss the current and future treatment approaches.

### **TARGET AUDIENCE**

Radiation oncologists, surgeons with a special interest in urology, medical oncologists, RT physicists, RTTs and RT nurses.

### **TOPICS**

Definition, Imaging for diagnosis and staging, Surgery, Which is the best Irradiation technique?, RT + Systemic Treatments, What if surgery / RT fail?, Treatment of therapy induced toxicity, On-going prospective studies in the High Risk Disease, Clinical cases for interactive discussion (2 sessions: end of morning, end of afternoon)



# PHYSICS PRE-MEETING COURSE

## *Machine learning for physicists*

**FRIDAY 26 APRIL 2019 | 08:30-17:00**

**Course directors:** B. Heijmen (NL) and D. Verellen (BE)

### **COURSE AIM**

To provide basic knowledge on machine learning and its potential use in Radiation Oncology. The course aims at enabling medical physicists to understand the basics behind clinical applications from a user point of view and, provide information for interested developers to get started without prior knowledge. The course assumes that the participants have no knowledge on the subject.

### **LEARNING OBJECTIVES**

After following this course, the participants will be able to:

- understand the fundamental basics of machine learning
- describe and explain the most common algorithms, methods and approaches related to machine learning
- understand concepts such as artificial intelligence, machine learning, deep learning, supervised and unsupervised learning
- identify advantages and disadvantages of different approaches in relation to applications in radiation oncology

- explore existing tutorials and sources for open source software to start up a program.

### **WHO SHOULD ATTEND?**

Medical physicists with no prior knowledge, that want to understand the basics of machine learning in order to implement existing applications safely in a clinical workflow. The course also provides a starting point for those physicists that are interested in learning how to develop their own applications.

### **TOPICS**

- Basic introduction on machine learning
- Overview of some common approaches (from basic notions to some practical examples)
- Tips and tricks to get started from colleagues that recently went through the process.

# RTT PRE-MEETING COURSE

## *Basic course brachytherapy treatment*

**FRIDAY 26 APRIL 2019 | 08:30-17:00**

**Course directors:** R.I. Schokker (NL) and B. Wisgrill (AT)

### **COURSE AIM**

Radiation Therapist (RTTs), dosimetrists and RT nurses have several tasks in the brachytherapy treatment. To get to a more uniform level of knowledge, this course will provide with the basic principles of brachytherapy. Next, to these basic principles, there will be different hospitals from various European countries presenting their workflow. It will be an interactive program, where participants can share their experiences.

### **LEARNING OBJECTIVES**

The participants will:

- Gain knowledge of the basic physiological and biological aspects of brachytherapy
- Gain knowledge in assisting during the brachytherapy treatment
- Understand the strengths and limitations of the described techniques
- Understand the role of the RTTs, dosimetrists and RT nurses
- Be able to expand the role of nurses, dosimetrists and RTTs in their brachytherapy department.

### **TARGET AUDIENCE**

The course is aimed at radiation therapists (RTTs), RT nurses, and dosimetrists who want to improve their basic knowledge of brachytherapy. It will also be very helpful to physicians and physicists who want the RT nurses, dosimetrists or RTTs from their department to be more involved in brachytherapy.

### **TOPICS**

- Basic physiological and biological aspects of brachytherapy
- Different applicators and catheters used for several brachytherapy treatments
- Current imaging modalities for brachytherapy treatments
- Basic principles of treatment planning
- Preparation of the brachytherapy treatment
- QA that should be done before a treatment can be executed
- Errors that can occur and safety procedures that are available in the treatment process.

# EDUCATION PRE-MEETING COURSE

## *Academic entrepreneurship, innovation, and technology transfer in radiation oncology*

**FRIDAY 26 APRIL 2019 | 08:30-17:00**

**Course directors:** P. Lambin (NL) and K. Tanderup (DK)

### **COURSE AIM**

Radiotherapy is a discipline involving a high degree of technology and using various disciplines (imaging, biology, computer sciences, clinic, physics...). This course is meant as a workshop to stimulate collaboration between academia and industry and technology transfer which is essential for new technology to bridge the “second translational gap” and reach the patients.

### **LEARNING OBJECTIVES**

To provide understanding of:

- Business models
- Product development
- Patents and technology transfer
- Rules and regulations
- Funding opportunities.

To facilitate:

- Networks between academia and industry
- Networks between researchers working with innovation.

To stimulate technology-oriented consortia which can apply for joint EC funding.

To promote European radiation oncology industry.

### **TARGET AUDIENCE**

- Radiation oncologists, medical physicists, RTTs, and radiation biologists
- Engineers/physicists/biologists from knowledge-based companies, start-ups, spin-offs.

### **TOPICS**

- Welcome and round of presentation
- Technology transfer or Academic Entrepreneurship (AE): what is it? And why should we do it?
- The path of AE: a helicopter view
- Intellectual property: the first step
- The business plan: the second step
- (Pre-)seed funding
- Grants for technology transfer
- AE for hardware
- AE for software
- AE for biomarkers (SNP, gene signatures...)
- AE for service
- AE for drugs
- The issue of potential conflict of interest.

# EDUCATION PRE-MEETING COURSE

## *Foundations of leadership in radiation oncology*

Joint ESTRO-CARO-RANZCR

### **COURSE DURATION: 8 weeks with live pre-meeting workshop at ESTRO 38**

- Online programme to start on 20 March 2019
- Live session on 26 April 2019 and 2 lunch meetings

(see description of full programme below)

**Course directors:** K. Benstead (UK), M. Giuliani (CA), S. Turner (AU)

**Course teachers:** A. Cortese (BE), J. Eriksen (DK), B-A Millar (CA), L. Morris (AU)

### **COURSE AIM**

This course, run for the first time in 2018, introduces foundation principles of effective leadership as they apply to senior trainees and junior practitioners in the radiation oncology professions. Feedback from the first fully-subscribed course has been very positive.

The course aims to equip participants with the knowledge, skills and attributes viewed as the building blocks for effective leadership. The course is directed at professionals interested in developing expertise in leading teams for quality improvement, advocacy and in all situations where they might positively influence the future of our discipline within both local and international settings. The course links to a specific radiation oncology competency knowledge and skill-set developed through Delphi consensus process. ([dx.doi.org/10.1016/j.radonc.2017.04.009](https://doi.org/10.1016/j.radonc.2017.04.009)).

### **LEARNING OBJECTIVES**

Upon completion of the course, successful learners will be able to:

- Examine and reflect on their own behaviour, reactions and interactions with team members
- Describe basic leadership theory and styles as they might apply to practical situations
- Describe the foundations of effective change, management and negotiation
- Explore strategies to establish and lead effective teams
- Apply basic quality improvement tools to approach an improvement process.

### **WHO SHOULD ATTEND?**

The target group consists of senior trainees or junior practitioners (approximately first five years after training) in the radiation oncology professions, including radiation or clinical oncologists, radiation physicists, radiation therapists/technologists, nurses and scientists.

### **CONTENT**

This course consists of a blended learning programme of two months' duration including on-line and face to face components. All sections of the programme will be highly interactive and will highlight their practical relevance to the workplace and facilitating improvements within our discipline.

The on-line components will start around 20 March 2018 and consist of an introductory 90-minute tutorial with the participants and teachers followed by on-line exercises and compulsory electronic learning modules to be completed prior to the ESTRO 38 conference. Live sessions will take place during ESTRO 38 in Milan.

Responses of participants to a follow-up survey will form the basis of the on-line tutorial a month after ESTRO 38.

An on-line community network of participants will be established at the completion of the 2-month programme.

On-line and live course topics include:

- An introduction to leadership – what it means and why it is our responsibility
- Basics of leadership theory and styles - how to apply these
- Self-awareness, personality and emotional intelligence – how they link to leadership
- Leading and managing change
- Tools and strategies for leading quality improvement processes
- Team building and engagement – including basics of negotiation
- Creating and communicating a vision for change.

# CONTOURING WORKSHOPS

For registration and fees, see page 38



FALCON (Fellowship in Anatomic DeLineation and CONtouring) is the multifunctional ESTRO platform for contouring and delineation. Eight such workshops have been planned for ESTRO 38.

## PROGRAMME

- **OAR on head and neck cancer:** Friday 26 April 2019 from 08:00-10:00 (repeated Saturday 27 April from 14:30-16:30)  
Chair: J. Cacicedo  
Panellist: O. Leaman (ES), AR Lopes Simões (UK)
- **Rectal cancer:** Friday 26 April 2019 from 10:30-12:30 (repeated Sunday 28 April from 14:30-16:30)  
Chair : MA Gambacorta (IT)  
Panellist : C. Valentini (DE), F. Peters (NL), V. Plodek (DE)
- **Lung SBRT:** Friday 26 April 2019 from 13:30-15:30 (repeated Monday 29 April from 14:30-16:30)  
Chair: M. Dachele (NL)  
Panellist: M. Guckenberger (CH), A. Navarro (ES)
- **Image guided adaptive brachytherapy in vaginal cancer:** Friday 26 April 2019 from 16:00-18:00 (repeated Tuesday 30 April from 09:15 – 11:15)  
Chair: L. Fokdal (DK)  
Panellist: R. Nout (NL), C. Haie-Meder (FR).

## TARGET AUDIENCE

The delineation workshops are aimed at all radiation oncology professionals who want to improve their contouring skills. Three types of cases are dedicated to radiation oncologists: a common case, a rare case and a more advanced case. The OAR case is especially targeted to radiation therapists (RTTs) and dosimetrists.

## STRUCTURE OF THE WORKSHOPS

- Presentation of the clinical case and the delineation exercise
- Explanation of the contouring software
- 20 minutes for the first delineation on site
- Presentation of the delineation guidelines
- 20 minutes for the second delineation on site
- Discussion between experts and participants.

## PRACTICAL ARRANGEMENTS

- Participants should bring their own laptops
- Wifi and wired connection will be available
- Participants will be limited to 40 per workshop to keep a strong interactivity in the group.

## ABOUT FALCON

FALCON workshops have been organised at ESTRO congresses since 2010 and have been growing steadily in popularity. Attending a FALCON workshop offers the opportunity for individual professionals to:

- Validate their contouring practice during live workshops by comparing them with those from experts and other participants
- Learn the indications proposed by the experts that coordinate the workshops
- Discuss with other participants, experts and panelists
- Communicate and use the delineation guidelines in order to further integrate them into daily practice.

# 7<sup>TH</sup> ICHNO

International Congress on  
innovative approaches in

## HEAD & NECK ONCOLOGY

14-16 March 2019

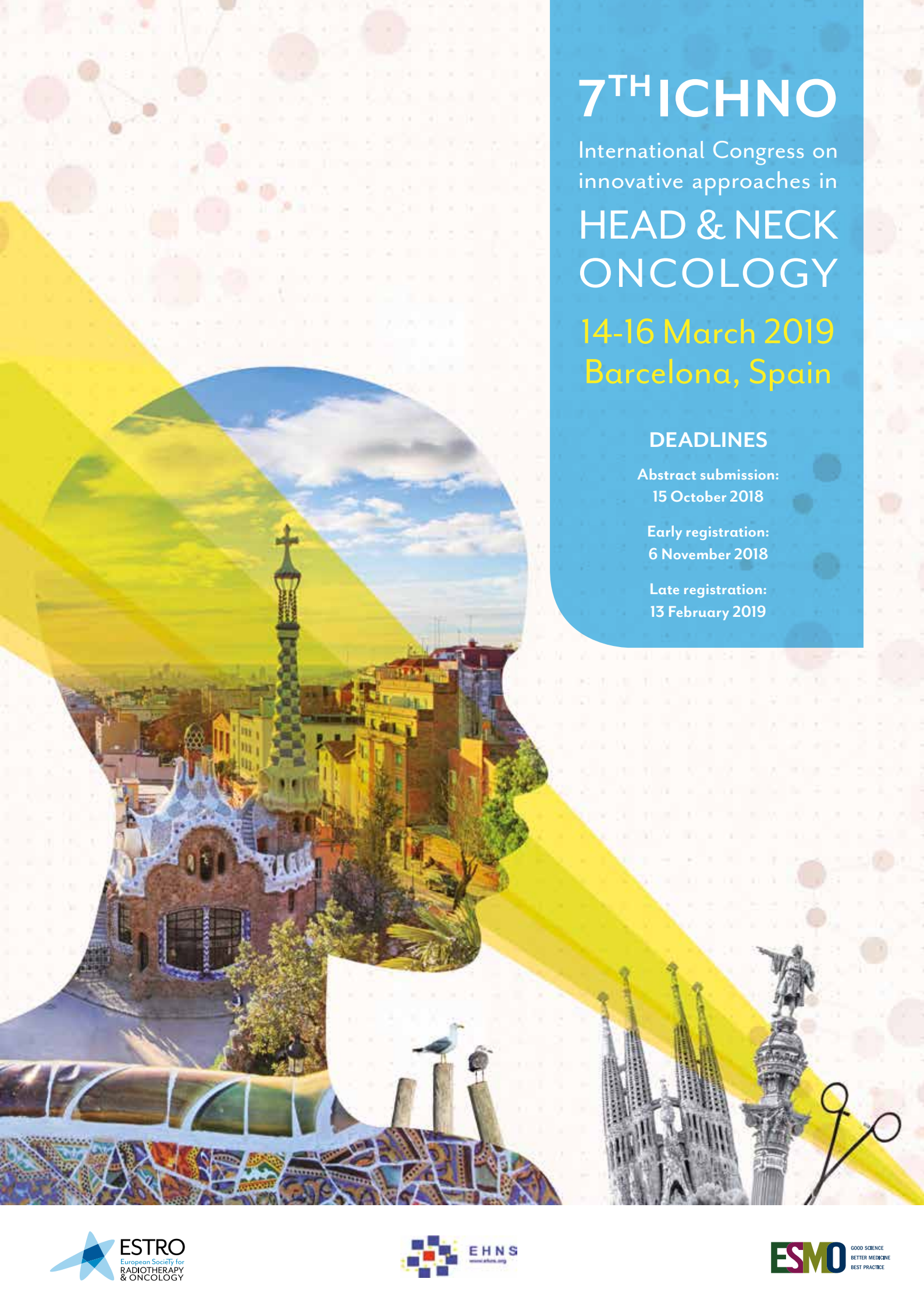
Barcelona, Spain

### DEADLINES

Abstract submission:  
15 October 2018

Early registration:  
6 November 2018

Late registration:  
13 February 2019



# CALL FOR ABSTRACTS

## GUIDELINES FOR SUBMISSION OF ABSTRACTS

ABSTRACT SUBMISSION DEADLINE: 22 OCTOBER 2018 (23.59 HRS CET)

### GENERAL INSTRUCTIONS

Abstracts must be submitted on-line on the ESTRO website at: [www.estro.org](http://www.estro.org).

We highly recommend completing your submission early - otherwise authors may experience technical delay due to server overload.

For questions regarding the on-line submission process, please e-mail [abstracts@estro.org](mailto:abstracts@estro.org).

### REGULATIONS

With the submission of an abstract for ESTRO 38, the corresponding (presenting) author:

- Accepts responsibility for the accuracy of the abstract and ascertains that all authors are aware of the content before submission
- Accepts to be the contact person for all correspondence related to the abstract and to inform the co-authors about its status
- Accepts to identify any financial interest in products or processes described in the abstract. This includes stock ownership, membership on any advisory boards, commercially sponsored research or any other substantial relationships
- Certifies that the information to be reported is for exclusive presentation in the session to which the abstract will be assigned if accepted and that the information will not be presented as such at any commercially sponsored satellite symposia during the conference.

#### Further notes:

- **Please log in to the abstract submission site with the presenting author login details**
- Abstracts must be submitted and presented at the conference in English. The Scientific Committee reserves the right to reject an abstract written in poor English
- Abstracts will be anonymised before review to ensure fairness and eliminate possible bias. Therefore, it is strictly forbidden to include the authors' names or institutions in the body of the abstracts.

### ABSTRACT FORMAT

- **Track:** choose a track keeping in mind that:
- Abstracts submitted under the Clinical track are reviewed by clinicians and considered for the clinical track of ESTRO 38

- Abstracts submitted under the Physics track are reviewed by physicists and considered for the physics track of ESTRO 38
- Abstracts submitted under the Radiobiology track are reviewed by radiobiologists and considered for the radiobiology track of ESTRO 38
- Abstracts submitted under the Brachytherapy track are reviewed by brachytherapists and considered for the GEC-ESTRO brachytherapy track of ESTRO 38
- Abstracts submitted under the RTT track are reviewed by Radiation Therapists (RTTs) and considered for the RTT track only.

It is extremely important that you submit your abstract under the correct track. Submitting under the wrong track will result in your abstract being sent to the wrong experts for review and being scored low as a consequence.

#### Further advice for submitters:

- **Delineation abstracts:** if the focus of the abstract is on imaging techniques, then the abstract should be submitted under the physics topics; if the focus of the abstract is on correctness of TV, OAR, then the abstract should be submitted under the clinical topics or under the RTT topics
- **Brachytherapy abstracts:** abstracts on combination of BT and EBRT should be submitted under the clinical topics. Abstracts on BT and EBRT may also be submitted under the brachytherapy track topics if the focus of the scientific question is brachytherapy related, however the submitter should be aware of the fact that the track to which he/she submits may have an influence on the way the abstract is evaluated
- **Clinical outcome:** If there is no clinical outcome (at least toxicity reporting) the abstract should be submitted under the physics topics (or brachytherapy topics).
- **Topic category:** choose the topic category that refers to the main subject of the abstract. The Scientific Committee reserves the right to re-categorise the abstract.
- **Keywords:** authors are required to select a keyword from a pre-defined menu. The list of keywords corresponding to each topic category indicated in the table (below) can be a useful guide to determine the most appropriate topic category under which to submit the abstract. When submitting your abstract only one keyword can be selected from the pre-defined list.

- **Presentation preference:** authors should indicate the presentation preference (oral, poster or no preference). Please note that the final decision on the presentation format rests with the Scientific Committee.
- **Title:** abstract titles should be brief and reflect the content of the abstract. The title (maximum 100 characters) is important since it focuses attention (it is the “showcase” for the presentation). Do not use capital letters in the title except for words that are always capitalised and do not use non-standard abbreviations.
- **Body of the abstract:** abstracts should be structured in such a way as to include (1) Purpose/Objective; (2) Material/methods; (3) Results; (4) Conclusion.
- **The on-line abstract submission procedure:** the on-line abstract submission system will not accept abstracts that exceed 3,000 characters (body of the abstract, including spaces).
- The use of standard abbreviations is desirable. A special or unusual abbreviation must be placed (in round brackets) after the first appearance of the word for which it stands.
- **Table and image:** with their submission authors may include maximum two (2) uploads (tables or images) in JPG, PNG or TIFF formats. These uploads are not included in the number of characters. The maximum pixel size of an image is 600(w) x 800 (h) pixel.
- **Data table:** authors may include one data table using the insert table icon (we advise not to copy-paste a table into the body of the abstract). The characters in a data table are included in the overall number of characters allowed.
- **Equations:** can be inserted in the text as images.

### ABSTRACT SELECTION PROCESS

Abstracts submitted for presentation will be reviewed by an international panel of experts in the field of the subject.

Abstract review criteria are based on clarity, supporting data, scientific rigour, potential significance, interest in the topic chosen and innovation or usefulness.

Work in progress: abstracts on research obviously not yet performed and results not yet obtained will be banned.

Encore abstracts: papers already presented in another meeting will not be considered, unless the previous audience is distinct from the ESTRO 38 congress audience (e.g. national meetings).

Abstracts will be selected for one of the following presentation formats:

- **Oral presentation:** abstracts selected for oral presentation are presented at one of the proffered paper sessions in the programme.

- **Poster viewing:** abstracts selected for poster viewing sessions will be displayed in a central section of the poster area with posters on a similar topic grouped together. The presenting authors of the posters visit all the posters within each group, along with the audience. By each poster, the presenting author will present the poster in 5 minutes followed by 3 minutes for discussion led by two chairpersons.
- **Poster:** abstracts selected for presentation in (paper) poster format are grouped by topic and are displayed throughout the conference. Only a limited number of abstracts will be selected as posters.
- **E-poster:** abstracts selected as e-posters can be viewed in electronic format in special stations at the conference venue.

### Notification of outcome of abstract submission will be sent by email by mid-January 2019.

The notification email is sent to the email address of the person whose credentials were used to login to the submission page.

### WITHDRAWAL OF AN ABSTRACT

Abstracts submitted for ESTRO 38 can be withdrawn until 15 December 2018 (to withdraw your abstract you should send an email to [abstracts@estro.org](mailto:abstracts@estro.org)). After this date, withdrawal of abstracts is no longer possible. Abstracts selected for oral / poster presentation should be presented at the meeting. In case the first (presenting) author cannot attend the conference, he / she should assign a replacement and inform the ESTRO office of the replacement as soon as possible.

### LATE BREAKING ABSTRACTS

- The work and/or update must be novel, ground-breaking, of high significance, evidence-based and with scientific merit
- The work and/or update must be original and not previously have been published or presented at any other scientific meeting
- The abstract must present timely findings which were not available at the time of the deadline (22 October 2018). The late breaking abstract deadline is not intended to be a second deadline for abstract submissions
- A limited number of late-breaking abstracts will be accepted
- Submissions will be accepted for oral presentation only.

The deadline for late-breaking abstracts is 21 January 2019.

## TOPICS

KEYWORDS (APPLIES TO ALL TOPICS)

CLINICAL	
Head and neck	Stereotactic radiotherapy
CNS	Intraoperative radiotherapy
Haematology	Brachytherapy
Breast	3D conformal
Lung	IMRT
Upper GI (oesophagus, stomach, pancreas, liver)	IGRT
Lower GI (colon, rectum, anus)	Functional imaging
Gynaecological (endometrium, cervix, vagina, vulva)	MRI guidance
Prostate	Delineation
Urology (non-prostate)	Targeted therapy
Skin cancer/ malignant melanoma	Chemoradiotherapy
Sarcoma	Altered fractionation
Paediatric tumours	Dose escalation
Palliation	Particle therapy
Elderly	Normal tissue
Health services research / health economics	Aetiology
Communication	Personalised medicine
Other	Symptom control
	Shared decision making
	Quality of life
	Cost-effectiveness
	Cost/reimbursement
	Randomised controlled trial
	Guideline
	Patterns of care
	Other

## TOPICS

## KEYWORDS

PHYSICS	
Basic dosimetry and phantom and detector development	Dosimetry protocols
	Dosimetry fundamentals
	New detectors
	New phantoms
	Time resolved dosimetry
	Other
Dose measurement and dose calculation	Validation of dose calculation
	Characterisation of treatment equipment
	QA of treatment units/sources
	New dose calculation algorithms
	<i>In vivo</i> dose measurement
	Pre-treatment verification
	Particle therapy
	Other



Radiation protection, secondary tumour induction and low dose	Shielding calculations Dose monitoring Out-of-field dosimetry Modelling of secondary tumour induction Imaging dose Particle therapy Artificial Intelligence Other
Treatment plan optimisation: algorithms	VMAT IMRT Protons and ions Ions Beam angle optimisation Robust planning Real-time planning Optimisation for dose painting Radiobiological optimisation Artificial Intelligence Other
Treatment planning: applications	4D planning New treatment techniques Treatment technique comparison Radiobiological planning Particle therapy Automated planning Other
Radiobiological and predictive modelling, and radiomics	Outcome prediction Normal tissue complication probability models Tumour control models Data-mining and method for variable selection Multi-variable predictive models Model validation and assessment of robustness Modelling of fractionation Modelling of particle therapies Artificial intelligence Immune system and RT interaction Chemotherapy and RT interaction Micro-linacs and animal models Radiomics: standardisation Radiomics: robustness and repeatability Radiomics in predictive models Genomics in predictive models Other

Intra-fraction motion management	<ul style="list-style-type: none"> <li>Immobilisation and positioning systems</li> <li>In room imaging/monitoring</li> <li>Motion prediction algorithms</li> <li>Artificial Intelligence</li> <li>Gating</li> <li>Tracking</li> <li>Breathhold</li> <li>Particle therapy</li> <li>Other</li> </ul>
Adaptive radiotherapy and inter-fraction motion management	<ul style="list-style-type: none"> <li>Immobilisation and positioning systems</li> <li>In room imaging/monitoring (EPID, CBCT, US...)</li> <li>Correction protocols</li> <li>Margins</li> <li>Clinical applications</li> <li>Novel strategies</li> <li>Simulation of clinical impact</li> <li>Dose accumulation</li> <li>Particle therapy</li> <li>Artificial Intelligence and Automation</li> <li>Other</li> </ul>
Quantitative, functional and biological imaging	<ul style="list-style-type: none"> <li>Pre-treatment imaging</li> <li>Use for dose painting</li> <li>Use for ART</li> <li>Response assessment and prediction</li> <li>Validation</li> <li>QA and technical aspects</li> <li>Artificial Intelligence</li> <li>Other</li> </ul>
Imaging acquisition and processing	<ul style="list-style-type: none"> <li>4DCT</li> <li>Dual energy CT</li> <li>MRI</li> <li>PET</li> <li>Synthetic CT</li> <li>Deformable image registration</li> <li>Automatic contouring</li> <li>Contour propagation</li> <li>Geometrical accuracy</li> <li>Image quality</li> <li>Proton CT and proton radiography</li> <li>Automation</li> <li>Artificial Intelligence</li> <li>Other</li> </ul>
Implementation of new technology, techniques, clinical protocols or trials (incl. QA & audit)	<ul style="list-style-type: none"> <li>Treatment units</li> <li>Treatment techniques</li> <li>Imaging equipment</li> <li>Automation or Artificial Intelligence</li> <li>Risk and quality management incl Incidents and accidents</li> <li>Audits</li> <li>Other</li> </ul>

**TOPICS****KEYWORDS****RADIOBIOLOGY**

Radiobiology of normal tissues	Normal tissues
Radiobiology of stem cells (cancer and normal tissue)	Stem cells
Radiobiology of particles and heavy ions	Particles
Radiation-induced signalling pathways	Signaling pathways
Tumour microenvironment	Tumour microenvironment
Immuno-radiobiology	Immuno-radiobiology
Radiation and tumour metabolism	Metabolism
DNA damage response	DNA damage response
Biological therapies (e.g. viruses, vaccines)	Biological therapies
Radiation response biomarkers	Biomarkers



TOPICS

KEYWORDS(APPLIES TO ALL TOPICS)

**RTT**

Patient preparation, positioning and immobilisation	Support aids 4DCT PET-CT MRI
Imaging acquisition and registration, OAR and target definition	Rigid and non-rigid registration Delineation of OAR Target definition Margins calculation Motion control
Treatment planning and dose calculation / QC and QA	IMRT 3DCRT Rotational therapy Brachytherapy MRI-Linac
Image guided radiotherapy and verification protocols	Proton therapy Gamma Knife Robotic RT Stereotactic radiotherapy Hypofractionation
Motion management and adaptive strategies	Quality Control Quality Assurance Plan comparison IGRT ART
Patient care, side effects and communication	IGART Verification protocols Safety margins Side effects
Education and training / role development	Psycho-social support Palliative radiotherapy Incident reporting Clinical workflow Communication
Risk management / Quality management	Quality management Review clinics Follow up Patient education Education of radiation therapists

## TOPICS

## KEYWORDS

## BRACHYTHERAPY

Brachytherapy: Breast	<ul style="list-style-type: none"> <li>Indications</li> <li>Clinical outcome</li> <li>Image guidance</li> <li>Other</li> </ul>
Brachytherapy: Gynaecology	<ul style="list-style-type: none"> <li>Cervix</li> <li>Endometrium</li> <li>Vulva</li> <li>Vagina</li> <li>Clinical outcome</li> <li>Image guidance</li> <li>Other</li> </ul>
Brachytherapy: Head and neck	<ul style="list-style-type: none"> <li>Oral cavity</li> <li>Oropharynx</li> <li>Clinical outcome</li> <li>Image guidance</li> <li>Other</li> </ul>
Brachytherapy: Physics	<ul style="list-style-type: none"> <li>Dosimetry</li> <li>Quality assurance</li> <li>Dose measurement</li> <li>Image guidance</li> <li>Dose planning</li> <li>Treatment verification</li> <li>Other</li> </ul>
Brachytherapy: Prostate	<ul style="list-style-type: none"> <li>Indications</li> <li>Clinical outcome</li> <li>Image guidance</li> <li>Other</li> </ul>
Brachytherapy: Anorectal	<ul style="list-style-type: none"> <li>Indications</li> <li>Clinical outcome</li> <li>Image guidance</li> <li>Contact brachytherapy</li> <li>Other</li> </ul>
Brachytherapy: Miscellaneous	<ul style="list-style-type: none"> <li>Skin</li> <li>Sarcoma</li> <li>Paediatric</li> <li>Hepatobiliary</li> <li>Intraoperative brachytherapy</li> <li>Electronic brachytherapy</li> <li>Eye plaque brachytherapy</li> <li>Intraluminal brachytherapy</li> <li>Other</li> </ul>

# SCIENTIFIC PROGRAMME

SATURDAY 27 APRIL 2019

For registration and fees, see page 38

	TEACHING LECTURE	TEACHING LECTURE	TEACHING LECTURE	TEACHING LECTURE	TEACHING LECTURE	TEACHING LECTURE	TEACHING LECTURE	TEACHING LECTURE	TEACHING LECTURE	TEACHING LECTURE
08:00 - 08:40	Artificial Intelligence applications in radiation oncology	Model organisms in radiation biology	State of the art in definitive treatment of locally advanced NSCLC	New ILROG radiotherapy guidelines for haematological malignancies	The role of postoperative radiotherapy in endometrial cancer: what have we learned of the PORTEC trials?	Gating and breath-hold techniques in radiation therapy	Technology for precision small animal radiotherapy research: Optimal use and challenges	Ensuring quality in an image guidance era		
08:45 - 10:00	<p><b>SYMPOSIUM</b></p> <p><b>Artificial intelligence in radiation oncology</b></p> <p>Clinical applications of AI for radiation oncology</p> <ul style="list-style-type: none"> <li>- Acceptance, commissioning, introduction, regulatory aspects and QA of AI</li> <li>- AI in radiation oncology research</li> <li>- Impact of AI and automation on practice</li> </ul>	<p><b>SYMPOSIUM</b></p> <p><b>Mouse models: Animal models the next step for radiotherapy</b></p> <ul style="list-style-type: none"> <li>- Linking radiation-induced DNA damage to systemic effects: what can we learn from preclinical models of normal tissue complications</li> <li>- New developments in small animal image guided radiotherapy: Bladder cancer</li> <li>- RBE of protons: what can we learn from preclinical models?</li> <li>- Dynamics Changes in Immune Cells During Glioblastoma Response to Treatment: Macrophages at Play</li> </ul>	<p><b>SYMPOSIUM</b></p> <p><b>Optimal management of patients with unresectable stage 3 NSCLC</b></p> <ul style="list-style-type: none"> <li>- Standard of care in 2019</li> <li>- Areas of controversy and ongoing research</li> <li>- Active management of patient's comorbidities (including respiratory and cardiac comorbidities)</li> <li>- Role of patient reported outcome in patients follow-up</li> </ul>	<p><b>SYMPOSIUM</b></p> <p><b>Combined modality treatment vs chemotherapy alone in lymphoma patients?</b></p> <ul style="list-style-type: none"> <li>- Hodgkin lymphoma</li> <li>- Aggressive Lymphoma (DLBCL)</li> </ul>	<p><b>SYMPOSIUM</b></p> <p><b>Image guided adaptive brachytherapy (IGABT) for primary vaginal cancer in Europe and North America</b></p> <ul style="list-style-type: none"> <li>- Evidence for image guided adaptive brachytherapy in primary vaginal cancer</li> <li>- GYN GEC-ESTRO Recommendations for IGABT target delineation in primary vaginal cancer</li> <li>- Brachytherapy for primary vaginal cancer – North American experiences</li> <li>- Dose planning for primary vaginal cancer – a multicentre comparison</li> <li>- Discussion</li> </ul>	<p><b>JOINT SYMPOSIUM</b></p> <p><b>ESTRO-AAPM</b></p> <ul style="list-style-type: none"> <li>- QA of adaptive radiotherapy</li> <li>- QA of contour segmentation</li> <li>- QA of deformable image registration</li> <li>- QA of complete treatment fraction on MRI linac: clinical experience</li> <li>- How to QA on the line</li> </ul>	<p><b>SYMPOSIUM</b></p> <p><b>Beyond Physical dose</b></p> <ul style="list-style-type: none"> <li>- Mathematical Modelling of radiation response: an overview.</li> <li>- Developing metrology support for biologically relevant dosimetry</li> <li>- Understanding biological response</li> <li>- Implementation of nanodosimetric and radiobiological models in treatment planning response modelling.</li> </ul>	<p><b>SYMPOSIUM</b></p> <p><b>Quality in an IGRT</b></p> <ul style="list-style-type: none"> <li>- Education and Training</li> <li>- Continuous Quality Improvement Strategies to Support Volumetric IGRT</li> <li>- Audits in IGRT</li> <li>- Development of standardised image guidance registration documents and workflows</li> <li>- Exploiting IGRT to calculate delivered dose for normal tissue sparing</li> </ul>	POSTER VIEWING 1	
10:00 - 10:30	COFFEE BREAK	COFFEE BREAK	COFFEE BREAK	COFFEE BREAK	COFFEE BREAK	COFFEE BREAK	COFFEE BREAK	COFFEE BREAK	COFFEE BREAK	COFFEE BREAK
10:30 - 11:45	<p><b>SYMPOSIUM</b></p> <p><b>Challenging dose painting: Are we really painting what we aim to or the better outcome is only linked to higher dose spots within the CTV?</b></p> <ul style="list-style-type: none"> <li>- What is left from dose painting when adding all uncertainties</li> <li>- What are the limitations on dose escalation to sub-volumes in head and neck cancer: experience from dose painting</li> </ul>	<p><b>PROFFERED PAPERS</b></p>	<p><b>PROFFERED PAPERS</b></p>	<p><b>PROFFERED PAPERS</b></p>	<p><b>PROFFERED PAPERS</b></p>	<p><b>PROFFERED PAPERS</b></p>	<p><b>PROFFERED PAPERS</b></p>	<p><b>PROFFERED PAPERS</b></p>	<p><b>POSTER VIEWING 2</b></p>	



# SUNDAY 28 APRIL 2019

	TEACHING LECTURE	AUDITORIUM	TEACHING LECTURE	TEACHING LECTURE	TEACHING LECTURE	TEACHING LECTURE	TEACHING LECTURE	TEACHING LECTURE	TEACHING LECTURE	TEACHING LECTURE	POSTER VIEWING 5
08:00 - 08:40	Re-irradiation for breast cancer	Update on the management of SCLC	Extracellular vesicles: are we there yet?	How to combine checkpoint inhibitors with radiotherapy?	How does brachytherapy fit in the modern management of penile cancer?	Detector specific output correction factors: how to use them in practice	Uncertainties in radionomics	New technology and modalities in Radiotherapy - What can the ESTRO School offer?	The digital transformation - oncology / medicine in the 21st century		
08:45 - 10:00	<p><b>SYMPOSIUM</b></p> <p><b>Balancing the risks and benefits of re-irradiation</b></p> <p>Indications for re-irradiation - changes in the era of effective systemic treatment options?</p> <p>Radiobiology of normal tissue repair - what are the implications for reirradiation?</p> <p>Protons, stereotactic radiotherapy and adaptive radiotherapy - what is their value for reirradiation?</p> <p>Brachytherapy in the reirradiation situation - what are benefits and limitations compared to modern EBRT?</p>	<p><b>DEBATE</b></p> <p><b>This house believes that proton-beam be used routinely in the treatment of lung cancer</b></p>	<p><b>SYMPOSIUM</b></p> <p><b>Circulating biomarkers for patient stratification and treatment monitoring</b></p> <p>Blood biomarkers predict lung cancer radiotherapy</p> <p>ctDNA</p> <p>Extracellular vesicles</p> <p>Circulating biomarkers tumour immune response</p>	<p><b>SYMPOSIUM</b></p> <p><b>Radiation-drug combinations on the 2019 horizon</b></p> <p>Barriers and solutions to increase the number of clinical trials of radiation-drug combinations</p> <p>Radiation and TKIs - what is the 2019 evidence?</p> <p>Radiation - DNA damage response inhibitor combinations in 2019; are we any closer to clinical benefit?</p> <p>Cost-estimate models for radiation-drug combinations</p>	<p><b>SYMPOSIUM</b></p> <p><b>Inverse planning in brachytherapy - A one click solution?</b></p> <p>Optimal use of inverse optimisation in brachytherapy</p> <p>Inverse treatment planning in clinical practice, one click and done?</p> <p>Treatment plan optimisation by machine-learning evolutionary algorithms</p>	<p><b>SYMPOSIUM</b></p> <p><b>Reference and non-reference dosimetry - CoP's and beyond</b></p> <p>MV reference dosimetry in TRS-398: State-of-the-art and research supporting an updated code of practice</p> <p>Comparison of measured kQ factors of common ion chambers in flattening filter free (FFF) and conventional flattening filter (cFFF) photon beams</p> <p>TRS 483: past, present and future</p> <p>Reference and relative dosimetry for TRS 483 in non-standard conditions: Tomotherapy</p>	<p><b>SYMPOSIUM</b></p> <p><b>New advances in image reconstruction in CBCT</b></p> <p>Hardware and software improvements for better 3D and 4D cone beam CT image quality</p> <p>Advanced image reconstruction approaches for CBCT</p> <p>Hounsfield units in CBCT and radiotherapy dose calculation</p>	<p><b>SYMPOSIUM</b></p> <p><b>New technology and modalities</b></p> <p>How to secure the right competencies when new modalities are implemented - a clinical aspect in proton therapy</p> <p>Personalise treatment planning and automation in modern radiotherapy</p> <p>Advanced practice role and practice in breast cancer radiation therapy</p>	<p><b>SYMPOSIUM</b></p> <p><b>Combining research and (clinical/professional) training/practice</b></p> <p>Taking time off for full-time research - is it worth it?</p> <p>Why do we need to be trained in statistics?</p> <p>Research and training in medical physics</p> <p>Clinical vs lab research for clinicians</p> <p>Lessons learnt from a young head of department</p>		
10:00 - 10:30	COFFEEBREAK								COFFEEBREAK & SPEED DATING WITH QUIZ		
10:30 - 11:45	<p><b>JOINT SYMPOSIUM</b></p> <p>ESTRO-JASTRO</p> <p><b>Clinical trials for particle therapy: which ones to run and how?</b></p> <p>International collaborations in proton therapy: networks, trials and data collection</p> <p>Trial QA and audits for proton therapy</p> <p>Limitations of current RBE models and their implication for clinical trial design</p> <p>Clinical trials in carbon ion radiotherapy</p>										

10:00 - 10:30	COFFEEBREAK								COFFEEBREAK & SPEED DATING WITH QUIZ		
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10:00 - 10:30	COFFEEBREAK								COFFEEBREAK & SPEED DATING WITH QUIZ		
10:30 - 11:45	<p><b>JOINT SYMPOSIUM</b></p> <p>ESTRO-JASTRO</p> <p><b>Clinical trials for particle therapy: which ones to run and how?</b></p> <p>International collaborations in proton therapy: networks, trials and data collection</p> <p>Trial QA and audits for proton therapy</p> <p>Limitations of current RBE models and their implication for clinical trial design</p> <p>Clinical trials in carbon ion radiotherapy</p>										





# MONDAY 29 APRIL 2019

	TEACHING LECTURE	TEACHING LECTURE	TEACHING LECTURE	AUDITORIUM	TEACHING LECTURE	TEACHING LECTURE	TEACHING LECTURE	TEACHING LECTURE	TEACHING LECTURE	TEACHING LECTURE	TEACHING LECTURE	TEACHING LECTURE	
08:00 – 08:40	Extreme hypofractionation in the treatment of localised prostate cancer	Radio-immunotherapy: challenges and opportunities	Tumour metabolism and radiation response	Radioimic machine-learning to predict radiotherapy outcome	Importance of volumetric staging and biological dose inhomogeneity in IMRT	In-vivo dosimetry: possibilities and pitfalls	The vital role of physicists in clinical trials: from design to data analysis	New developments in the treatment of brain metastases: better prognostic tools, improved outcomes					
08:45 – 10:00	<p><b>SYMPOSIUM</b></p> <p><b>Radiotherapy in bladder cancer: Standard of care and future perspectives</b></p> <p>Do we have the evidence for radiation therapy as standard of care in bladder cancer?</p> <p>Brachytherapy in bladder cancer: Undoubted importance of close collaboration</p> <p>Stepwise Development of personalised radiation therapy for bladder cancer</p> <p>Radiosensitisation strategies for the treatment of bladder cancer</p>	<p><b>JOINT SYMPOSIUM</b></p> <p><b>ESTRO-EACR Radio-immunotherapy: from concept to clinical practice</b></p>	<p><b>SYMPOSIUM</b></p> <p><b>Tumour Metabolism and Radiotherapy</b></p> <p>Vitamin C to improve the therapeutic ratio</p> <p>Tumour metabolic gender differences driving treatment response</p> <p>Hypoxia-induced Replication Stress</p> <p>Sensitising hypoxic tumour cells</p>	<p><b>JOINT SYMPOSIUM</b></p> <p><b>ESTRO-ESR Current status and future challenges in MR-integrated radiotherapy</b></p>	<p><b>SYMPOSIUM</b></p> <p><b>Improved outcome by smarter use of radiotherapy</b></p> <p>Towards less radiotherapy in breast cancer treatment</p> <p>Image-guided elective neck irradiation in head and neck cancer</p> <p>Dose reducing strategies in soft tissue sarcoma</p>	<p><b>SYMPOSIUM</b></p> <p><b>Quantitative Imaging for Radiation Oncology</b></p> <p>Quantitative dynamic contrast enhanced MRI: The QIBA guidelines</p> <p>Quality assurance for quantitative MRI in a multicenter trial</p> <p>Quality assurance and validation for quantitative PET in multicenter trials</p>	<p><b>SYMPOSIUM</b></p> <p><b>Advanced methods to account for proton range uncertainties in treatment planning</b></p> <p>Prohabilitative treatment planning</p> <p>Multi-energy CT for improved SPR determination: proposed methods and their experimental validation</p> <p>The potential of treatment planning and pre-treatment imaging with proton CT and proton radiography to reduce range uncertainties in proton therapy</p> <p>Accounting for organ motion in proton therapy at the planning stage</p>	<p><b>SYMPOSIUM</b></p> <p><b>Care, communication and new technology in brain radiotherapy</b></p> <p>Communication care and side effect - brain radiotherapy - What's the role of the RTT?</p> <p>Treating multiple metastases - reducing normal brain tissue</p> <p>Linac isocentric accuracy and its influence on treatment margins</p>					
10:00 – 10:30	COFFEE BREAK												
10:30 – 11:45	<p><b>JOINT SYMPOSIUM</b></p> <p><b>ESTRO-IAEA The role of hypofractionation in current radiotherapy and its impact in planning radiotherapy services</b></p>	<p><b>DEBATE</b></p> <p><b>Which is the best technique for the delivery of APBI?</b></p> <p>This house believes that the EBRT is the best technique</p> <p>This house believes that the multicatheter brachytherapy is the best technique</p> <p>For which patient which technique is the best from the point of view of the physicist?</p> <p>Radiobiology aspects and limitations</p>											
12:00 – 12:30	K. BREUR AWARD LECTURE												
12:30 – 12:40	ACADEMIC AWARD LECTURE: JACK FOWLER UNIVERSITY OF WISCONSIN AWARD												
12:40 – 13:00	COMPANY AWARD LECTURES												

13:00 – 14:30		LUNCH AND INDUSTRY SYMPOSIUM					MULTIDISCIPLINARY TUMOUR BOARD		
SYMPOSIUM		SYMPOSIUM	SYMPOSIUM	JOINT SYMPOSIUM	SYMPOSIUM	PROFFERED PAPERS	SYMPOSIUM	POSTERVIEWING II	
<p><b>Adaptive radiotherapy: reactive or proactive?</b></p> <p>Clinical perspective and evidence on radiotherapy adaptation, has it improved outcome?</p> <p>Physics perspective on radiotherapy adaptation including role of predictive modelling in radiotherapy adaptation</p> <p>Role of the RTT in the clinical implementation of adaptive radiotherapy</p> <p>Adaptive and real-time approaches in brachytherapy</p>		<p><b>Predictive models of toxicity and big data, big open issues</b></p> <p>How to organize your department to have a structured way of collecting toxicity data</p> <p>Dreams and reality of toxicity data-sharing/ farming: quality vs. quantity?</p> <p>Exploiting large data base to build robust predictive models: validation issues</p> <p>Radiogenomics: big data to understand genetic risk factors of toxicity</p>	<p><b>Biological Imaging for Radiotherapy</b></p> <p>Imaging of tumour infiltrating lymphocytes with [18F]FB-IL2 PET</p> <p>Imaging DNA damage response</p> <p>MRI-CEST Imaging of tumor acidosis</p> <p>Tracing hypoxia in tumours</p>	<p><b>New developments for breast cancer irradiation</b></p> <p>Neoadjuvant radiotherapy in breast cancer</p> <p>Response to preoperative therapy - prediction, assessment and indications for adjuvant radiotherapy</p> <p>Nodal irradiation with or instead axillary lymph node dissection</p> <p>Radiotherapy after breast reconstruction</p>	<p><b>ESTRO-EORTC</b></p>	<p><b>Debate: In 10 years physicists will need different training to include more ...</b></p> <p>Imaging</p> <p>Predictive models and big data</p> <p>Deep learning, automation and computing</p> <p>Management and leadership</p> <p>Basic physics skills</p>	<p><b>Education and Advance Practice</b></p> <p>Education programme</p> <ul style="list-style-type: none"> <li>- Defining advanced practice specifically in radiotherapy</li> </ul> <p>Education and advance practice - defining level EQF 7 and 8 competencies</p> <ul style="list-style-type: none"> <li>- Incorporation of radiation therapist to radiation oncologist team</li> </ul>	<p><b>Bladder cancer</b></p>	<p><b>POSTERVIEWING II</b></p>
15:45 – 16:15		COFFEE BREAK							
16:15 – 17:30		DEBATE	SYMPOSIUM	PROFFERED PAPERS	PROFFERED PAPERS	PROFFERED PAPERS	PROFFERED PAPERS	PROFFERED PAPERS	POSTERVIEWING I2
		<p><b>Can early-regression-guided adaptive RT (eRG-ART) improve the pathological response in neo-adjuvant treatments?</b></p>	<p><b>Recent insights into adverse cardiac effects from multimodal radiation therapy</b></p> <p>Multivariable prediction models for adverse cardiac effects to target optimal cardiac radiation dose distributions in breast cancer patients</p> <p>Practical aspects of estimating and measuring of CIED dose in radiotherapy procedures</p> <p>From the biological basis of cardiac toxicity induced by radiation therapy to the new application of SBRT in the cardiovascular field</p> <p>Managing cardiotoxicity in primary care services</p>						
17:40 – 17:50		D. HOLLYWOOD AWARD LECTURE							
17:50 – 18:30		HIGHLIGHTS OF PROFFERED PAPERS							
18:40 – 19:40		GENERAL ASSEMBLY							
22:00		SOCIAL EVENING							



# ESTRO 38 APP

## NO PRINTED PROGRAMME BOOK ON SITE AVAILABLE

We encourage you to download the ESTRO 38 app a couple of weeks before the congress.

Download the free ESTRO 38 mobile and tablet app and take advantage of the full event schedule, as well as the personalised agenda, exhibition listings, voting and networking functions. Wifi will be available in the main auditoriums.



DOWNLOADABLE IN APRIL 2019



### SESSIONS

You can check out the sessions you wish to attend, view their summary and add them to your personal agenda.



### SPEAKERS

You can view biographies, select congress speakers, send them messages and add them to your own personal agenda.



### EVALUATION

You can rate speakers and sessions.



### MY EVENT

This is your personal agenda, displaying your selected sessions, speakers, exhibitors and much more.



### EXHIBITION

Thanks to the interactive floor plan, you can easily access the information on the booths and exhibitors you wish to visit and save them to your personal agenda.



### NETWORKING

Interact with other attendees at the event via the messaging service. You can send messages privately and arrange meetings that will be scheduled in your personal agenda.



### SOCIAL MEDIA

Stay up-to-date with the latest congress news by using Twitter (#ESTRO38), LinkedIn and Facebook.



### ABSTRACT BOOK

The abstract book will be directly downloadable from the app.

# ESTRO FINANCIAL SUPPORT AND AWARDS



## AMBASSADOR SOLIDARITY FUND

The Ambassador Solidarity Fund is generously financed by part of the membership fee paid by the Supporting Ambassador members and enables sponsorship of individual in training membership and registrations to ESTRO 38 to help young Radiation Oncology professionals from European economically challenged countries. More information on our webpage: [www.estro.org/members/individual-membership/supporting-ambassador](http://www.estro.org/members/individual-membership/supporting-ambassador)

10 sponsored registrations and in training memberships are available for ESTRO 38.

### CRITERIA FOR ELIGIBILITY

- Applicants should be below 40 years old
- Applicants should currently be in training
- Applicants who have already attended past ESTRO events thanks to the solidarity fund are not eligible
- Candidates should be active in the field of radiotherapy, radiobiology, radiation physics, or radiation technology
- Applicants should come from one of the below European countries.

**Eligible countries:** Albania, Belarus, Bosnia and Herzegovina, Bulgaria, Croatia, Cyprus, Czech Republic, Estonia, Greece, Hungary, Italy, Latvia, Lithuania, Macedonia, Moldova, Montenegro, Poland, Portugal, Romania, Russian Federation, Serbia, Slovak Republic, Slovenia, Spain, Turkey, Ukraine.

### HOW TO APPLY

Candidates should submit a curriculum vitae and a recommendation letter from their department head stating they are currently in training and that financial support is essential to register for membership and benefit from a sponsored registration.

**Deadline for submission: 15 November 2018**

**Applications for the solidarity fund are to be addressed to:**

Myriam Lybeer  
Membership Manager  
E-mail: [mlybeer@estro.org](mailto:mlybeer@estro.org)

## ESTRO MEMBERS FROM EMERGING COUNTRIES

ESTRO members from emerging countries can benefit from reduced registration fees to attend the conference. The list of eligible countries applies to individuals from low-income and lower-middle-income economies according to the World Bank listing available at: [data.worldbank.org/about/country-and-lending-groups](http://data.worldbank.org/about/country-and-lending-groups).

## POSTER AWARDS

ESTRO sponsors four poster awards of € 1,000 each for a clinician, a physicist, radiation therapist (RTT) and a radiobiologist (respectively).

### CRITERIA FOR SELECTION

- Only abstracts accepted for poster presentation for ESTRO 38 will be considered for the award.
- Posters are evaluated on (in decreasing order of importance): the scientific value of the data; the clarity of the presentation; and the visual quality of the poster layout.
- Priority will be given to posters from young investigators.

### HOW TO APPLY

No application is needed. You are automatically considered if your abstract is accepted. Prizes will be handed out at the ESTRO 38 Poster Reception on **Saturday 27 April**.



## ESTRO - JACK FOWLER UNIVERSITY OF WISCONSIN AWARD 2019

A prize of € 1,000 will be given for the best abstract in the field of radiation physics or radiation technology, submitted for ESTRO 38.

### CRITERIA FOR ELIGIBILITY

- Candidates should be ESTRO members,
  - Applicant should be a member for the year 2019
  - All ESTRO members under 36 (with the exception of Corporate members) are eligible to apply. For more information visit the ESTRO website: [estro.org/members](http://estro.org/members).
- Candidates should be younger than 36. Exceptions will be made for female applicants who had to interrupt their research for pregnancy/maternity reasons; for them the maximum age is fixed at 40.

### HOW TO APPLY

Candidates should submit one PDF file by email to Eralda Azizaj (contact details below) containing in this order:

- A curriculum vitae (maximum 4 pages)
- A letter from their department head stating that the work has been done by the applicant
- A copy of the abstract on radiation physics or radiation technology which should have been submitted for ESTRO 38 (indicate abstract number, abstract title and submitting author with your application).

**Deadline to apply: 24 October 2018 (23:59 CET).**



# COMPANY FINANCIAL SUPPORT AND AWARDS



## ESTRO-ELEKTA BRACHYTHERAPY AWARD

By submitting a brachytherapy abstract for ESTRO 38, you are automatically being considered for the “ESTRO-Elekta Brachytherapy Award”. Abstracts accepted for oral presentation for the brachytherapy track of ESTRO 38 will be considered for the award. Since the selection of the winner will be based only on the data provided in the abstract (and not on the presentation) it is advisable that you draft your abstract with extreme care, providing sufficient data for the evaluation by the jury.

The award will be given to the most innovative paper submitted for presentation in the brachytherapy track of ESTRO 38. The winning abstract will be selected by the ESTRO 38 Scientific Advisory Group (SAG) for brachytherapy. The winner will be notified by email and announced in the ESTRO 38 Programme Book and Exhibition Guide. The award amounts to € 2,000.

## GEC-ESTRO BEST JUNIOR PRESENTATION

Sponsored by Elekta Brachytherapy

Applicants should be ‘in training’ members of ESTRO. If you meet this criterion, please send a copy of the abstract submitted for the brachytherapy track of ESTRO 38 and, a covering letter from the Head of Department stating that the work has been done by the ‘in training’ member, to [eralda.azizaj@estro.org](mailto:eralda.azizaj@estro.org).

This award amounts to € 1,500 and is sponsored by Elekta Brachytherapy. The winning abstract will be selected by the ESTRO 38 Scientific Advisory Group (SAG) for brachytherapy. The winner will be notified by email and announced in the ESTRO 38 Programme Book and Exhibition Guide.

**Deadline to apply: 24 October 2018 (23:59 CET).**

## JUNIOR BRACHYTHERAPY TRAVEL GRANTS

Sponsored by Elekta Brachytherapy

ESTRO members currently in training who need support to attend the meeting may apply for the Junior Brachytherapy Travel Grants sponsored by Elekta Brachytherapy. Five grants of € 1,000 are available.

### CRITERIA FOR ELIGIBILITY

- Applicant should be an ESTRO member for the year 2019
- Only ESTRO members currently in training are eligible to apply

### HOW TO APPLY

Candidates should submit one PDF file by email to Eralda Azizaj (contact details below) containing in this order:

- A motivation letter indicating their interest in brachytherapy and reasons why you should be considered for this grant. Please indicate your full name, age and ESTRO membership type in your letter.
- A cover letter from the department head stating that the applicant is in training

Priority will be given to applicants who have an abstract accepted for the conference and, to the presentation type for the accepted abstract in this order: oral communication (proffered paper); poster viewing; poster; e-poster.

**Deadline to apply: 24 October 2018 (23:59 CET).**





## ESTRO - VARIAN AWARD

A prize of € 7,500 will be given to a radiotherapy professional for research in the field of radiobiology, radiation physics, clinical radiotherapy or radiation technology.

### CRITERIA FOR ELIGIBILITY

Candidates should:

- Be 2019 ESTRO members
- Be under the age of 36 (with the exception of Corporate members) are eligible to apply. Exceptions will be made for female applicants who had to interrupt their research for pregnancy/maternity reasons; for them the maximum age is fixed at 40.
- Have completed the submitted work in the previous year.

Submissions should be brought forward by the candidates or their department heads and may be work done as an individual piece of research or as a thesis complete in the field of biological, physical and clinical research.

For more information visit the ESTRO website:  
[estro.org/members](http://estro.org/members).

### HOW TO APPLY

Candidates should submit one PDF file by email to Eralda Azizaj (contact details below) containing in this order:

- A curriculum vitae and a list of publications (maximum 4 pages)
- A copy of the abstract on the project which should have been submitted for ESTRO 38 (indicate abstract number, abstract title and submitting author with your application)
- A summary (in English) of their work (max 2 pages)

Candidates should commit themselves to write an original paper in English on (part of) the scientific work carried out. This paper should be based on previously unpublished data and should be written according to the "Instructions to authors" of the Journal "Radiotherapy and Oncology" in which it will be published if accepted.

**Deadline to apply: 24 October 2018 (23:59 CET).**

**Applications for the above listed awards are to be addressed to:**

ESTRO Office  
Attn: Eralda Azizaj,  
Scientific Programme Manager  
Rue Martin V 40  
1200 Brussels, Belgium  
Tel: +32 2 775 93 40 | Fax: +32 2 779 54 94  
E-mail: [eralda.azizaj@estro.org](mailto:eralda.azizaj@estro.org)

**If you wish to apply for more than one award, you need to indicate the primary award that you are applying for. The Scientific Programme Committee will consider you for the subsequent awards that you apply for if your application for the primary award is not accepted.**

# GENERAL INFORMATION

## UPDATED INFORMATION

Please consult the ESTRO website on a regular basis for updated information.

## CALL FOR ABSTRACTS

Abstracts must be submitted online through the ESTRO website which hosts an electronic abstract submission form.

**Deadline for abstract submission is 22 October 2018.**

## ONLINE REGISTRATION

Registration to the conference will be exclusively through our online registration form via the ESTRO website.

## VENUE

MiCo  
Viale Ludovico Scarampo - Fieramilanocity  
Milan – Italy

## ACCOMMODATION

For your hotel reservation in Milan, MiCo dmc is appointed as Official Housing Bureau of ESTRO 38.

A number of hotel rooms at preferential rates in different price categories has been reserved in Milan and surrounding areas for ESTRO 38.

Due to limited room availability in Milan, it is advised that you make your reservation as early as possible in order to have the best choice of available hotels.

Online booking is now available for individual reservations.

For any information and/or group reservations please contact us at:

### MiCodmc

Piazzale Carlo Magno 1 - 20149 Milan – Italy  
Tel. +39 02 87255050 | Fax +39 02 43426274  
E-mail: [estro2019.hotel@micodmc.it](mailto:estro2019.hotel@micodmc.it)

## CURRENCY

The currency in Italy is the EUR.

## OFFICIAL LANGUAGE

The official language of the congress is English. No simultaneous translation will be provided.

## POSTERS

Electronic poster stations will allow you to view the virtual displays at your leisure and to correspond with presenters or forward a presentation to a colleague or home office. A limited number of posters will also be displayed in the poster area during the whole congress.

## EXHIBITION

An exhibition featuring equipment and medical publishers will be held in the exhibition area. The exhibition will open on Friday evening with the networking evening and will remain open from Saturday to Monday. Entrance is free for all registered participants. Companies and publishers who would like to participate in the exhibition may obtain more detailed information from the ESTRO Office.

## Contact person

Valerie Cremades,  
Corporate Relations Manager  
Tel.: +32 2 775 93 41 | Fax.: +32 2 779 54 94  
E-mail: [vcremades@estro.org](mailto:vcremades@estro.org)

## INSURANCE

ESTRO does not accept liability for individual medical, travel or personal insurance. In the event of unforeseen or serious circumstances beyond its control, ESTRO shall be entitled to cancel or modify the dates of the event. Delegates shall not be entitled to compensation for any costs or damages incurred as a consequence of such a cancellation or change. All delegates are urged to take personal travel insurance.

ESTRO will not be liable for any theft or damage to property and/or persons caused on site during the Congress, by any factor whatsoever, unless there has been a fault, intent or deliberate recklessness on the part of ESTRO. ESTRO shall not be held responsible in the event of poisoning or food intoxication during the event.

## LUNCHEONS AND REFRESHMENTS

The registration fee for the conference includes coffee breaks to all participants and company delegates wearing their conference badges. Lunch will be available for purchase in the exhibition area and is not included in the registration.

## OPENING CEREMONY AND NETWORKING EVENING

All participants and company delegates are invited to the official opening ceremony which will be held in the plenary room on Friday 26 April 2019 main auditorium. The opening ceremony will be followed by the networking evening which will take place in the exhibition area.

## SATELLITE SYMPOSIA

Commercial satellite symposia will be held during lunch breaks. The programmes of the symposia will be published in the official programme book and on the ESTRO website. For additional information, please do not hesitate to contact:

Valerie Cremades,  
Corporate Relations Manager  
Tel.: +32 2 775 93 41 | Fax.: +32 2 779 54 94  
E-mail: vcremades@estro.org

## SOCIAL ACTIVITIES

### Friday 26 April 2019

All registered participants and all company delegates are invited to the networking evening which will take place in the exhibition area.

### Saturday 27 April 2019

All participants and company delegates are invited to the poster awards ceremony, which will be held in the poster area. You can also meet your Twitter friends there at the special Tweet-up.

### Sunday 28 April 2019

The 5th Super Run will take place on Sunday 28 April 2019. With more than 500 runners, including patients, the Super Run is the opportunity to share the same effort in the fight against cancer.

### Monday 29 April 2019

All participants are invited to the afterdinner evening which will take place in an exclusive venue in Milan.

## HOW TO REACH MILAN FROM THE AIRPORT

### BY AIR

#### Linate Airport

Take bus no. 73 in the "National Arrivals Exit" area all the way to the terminal in Via Gonzaga / Piazza Diaz.

Go down into the Metro station "Duomo". Here take the Red Line 1 (Rho Fiera Milano direction).

- for the "viale Eginardo / viale Scarampo" entrance: get off at the "Amendola" stop – 700 m from the Congress Centre, or at "Lotto" approx. 800 m.
- for the "piazzale Carlo Magno / via Gattamelata" entrance: get off at the "Cadorna" stop, exit the subway and go to the railroad station above: take the first train departing and get off at the "Domodossola" stop – just 600 m from the Congress Centre.

#### Malpensa Airport

The "MALPENSA EXPRESS" train service will take you directly from the airport to the centre of Milan in 40 minutes, arriving at the Ferrovie Nord "Cadorna" station. Here take the Red Metro Line 1 (Rho Fiera Milano direction).

- for the "viale Eginardo / viale Scarampo" entrance: get off at the "Amendola" stop – 700 m from the Congress Centre, or at "Lotto" approx. 800 m.
- for the "piazzale Carlo Magno / via Gattamelata" entrance: get off at the "Cadorna" stop, exit the subway and go to the railroad station above: take the first train departing and get off at the "Domodossola" stop – just 600 m from the Congress Centre.

#### Orio al Serio Airport

The "AUTOSTRADALE" or "AIR PULLMAN" bus service will take you directly from the airport to Milan Central Station in 60 minutes: then take the Metro Green Line 2 (Abbiategrosso direction) and get off at "Cadorna". Here take the Red Line 1 (Rho Fiera Milano direction).

- for the "viale Eginardo / viale Scarampo" entrance: get off at the "Amendola" stop – 700 m from the Congress Centre, or at "Lotto" approx. 800 m.
- for the "piazzale Carlo Magno / via Gattamelata" entrance: get off at the "Cadorna" stop, exit the subway and go to the railroad station above: take the first train departing and get off at the "Domodossola" stop – just 600 m from the Congress Centre.

### BY TRAIN

#### Central Station – Garibaldi Station

Take the Metro Green Line 2 (Abbiategrosso direction) and get off at "Cadorna". Here take the Metro Red Line 1 (Rho Fiera Milano direction).

- for the "viale Eginardo / viale Scarampo" entrance: get off at the "Amendola" stop – 700 m from the Congress Centre, or at "Lotto" approx. 800 m.
- for the "piazzale Carlo Magno / via Gattamelata" entrance: get off at the "Cadorna" stop, exit the subway and go to the railroad station above: take the first train departing and get off at the "Domodossola" stop – just 600 m from the Congress Centre.

#### Cadorna Station

Here take the Metro Red Line 1 (Rho Fiera Milano direction). for the "viale Eginardo / viale Scarampo" entrance: get off at the "Amendola" stop – 700 m from the Congress Centre, or at "Lotto" approx. 800 m.

- for the "piazzale Carlo Magno / via Gattamelata" entrance: get off at the "Cadorna" stop, exit the subway and go to the railroad station above: take the first train departing and get off at the "Domodossola" stop – just 600 m from the Congress Centre.



### Domodossola Trenord Station

Here take Metro Lilac Line 5 (heading for San Siro) and get off at "Portello" stop. Exit the subway just a few feet walk from the "viale Eginardo / viale Scarampo" entrance. For the "piazzale Carlo Magno / via Gattamelata" entrance: you are just 600 m from the Congress Centre.

### BY CAR

From any of the ring roads circling Milan follows the signs to Fieramilanocity, or to any of the large Park & Ride car parks located close to these Metro stops:

- Cascina Gobba (1800 cars), Green Line
- San Donato (1800 cars), Yellow Line
- Famagosta (3000 cars), Green Line
- Bisceglie (1900 cars), Red Line
- Lampugnano (2000 cars), Red Line

### PUBLIC TRANSPORT

#### BUSES AND TRAMS

For the "viale Eginardo / viale Scarampo" entrance:

- Bus No. 78 – Eginardo/Colleoni stop

For the "piazzale Carlo Magno / via Gattamelata" entrance:

- Bus no. 78 – get off at Colleoni/Gattamelata
- Tram no. 19 - get off at Boezio
- Tram no. 27 - get off at Piazza 6 Febbraio

### METRO

#### Liliac Line 5:

- for the "viale Eginardo / viale Scarampo" entrance: get off at the "Portello" stop – 80 m from the Congress Centre.
- for the "piazzale Carlo Magno / via Gattamelata" entrance: get off at the "Portello" stop, walk along via

Colleoni and, on the right, via Gattamelata for approx. 450 m, otherwise get off at the "Domodossola FNM" stop, and walk about 600 m towards the Congress Centre.

#### Red Line 1:

- for the "viale Eginardo / viale Scarampo" entrance: get off at the "Amendola" stop – 700 m from the Congress Centre, or at "Lotto" approx. 800 m.
- for the "piazzale Carlo Magno / via Gattamelata" entrance: get off at the "Cadorna" stop, exit the subway and go to the railroad station above: take the first train departing and get off at the "Domodossola" stop – just 600 m from the Congress Centre.

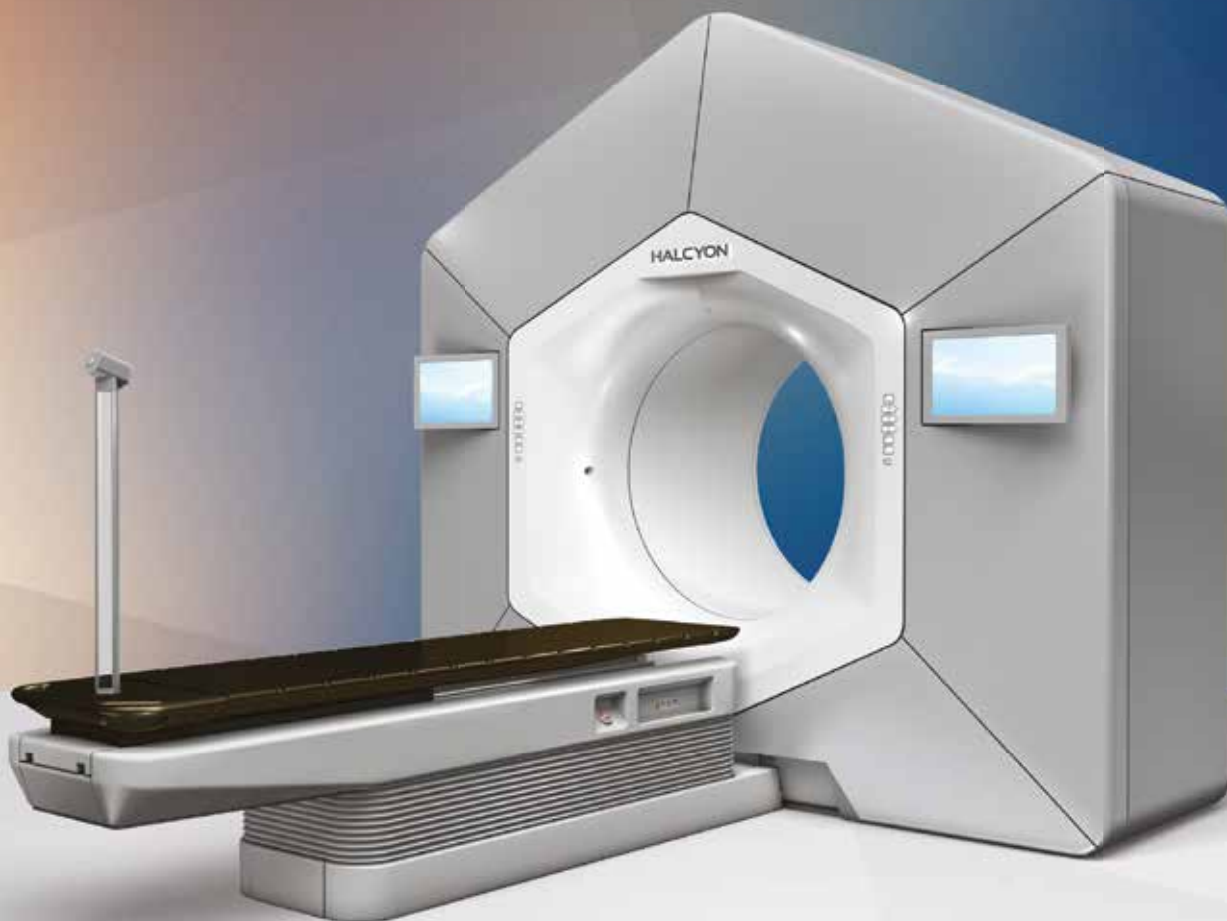
#### Green Line 2: get off at "Cadorna".

- for the "viale Eginardo / viale Scarampo" entrance: take Red Line 1 (going to RHO Fiera Milano) and get off at the "Amendola" stop – 700 m from the Congress Centre, or at "Lotto" approx. 800 m.
- for the "piazzale Carlo Magno / via Gattamelata" entrance: exit the subway and go to the railroad station above: take the first train departing and get off at the "Domodossola" stop – just 600 m from the Congress Centre.

#### Yellow Line 3: Get off at "Duomo", switch to the Red Line 1 (RHO Fiera Milano direction).

- for the "viale Eginardo / viale Scarampo" entrance: get off at the "Amendola" stop – 700 m from the Congress Centre, or at "Lotto" approx. 800 m.
- for the "piazzale Carlo Magno / via Gattamelata" entrance: get off at the "Cadorna" stop, exit the subway and go to the railroad station above: take the first train departing and get off at the "Domodossola" stop – just 600 m from the Congress Centre.

# THIS CHANGES EVERYTHING



Varian is transforming radiotherapy from every perspective. With the Halcyon™ system, we designed a radiotherapy treatment platform that combines high quality of care, operational excellence, and human-centered design into one compact yet powerful device. That means it's envisioned to be comfortable for patients, intuitive for caregivers, and transformative for clinics.

Learn more at [Varian.com/Halcyon](http://Varian.com/Halcyon)

Safety information: Radiation may cause side effects and may not be appropriate for all cancers.

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**varian**

# REGISTRATION

## ONLINE REGISTRATION

Registering through the ESTRO website is simple and will only take a few minutes. The ESTRO website can be consulted at [www.estro.org](http://www.estro.org) (click “Congresses and Meetings”, “ESTRO 38” and then “registration”). Please follow the instructions included on the electronic registration form before submitting your registration and do not send it again by fax or post. Receipt of registration will be acknowledged electronically.

## PAYMENT INFORMATION

Payments can be made by credit card through our secured website. For all questions concerning registration and payments, please contact: [events@estro.org](mailto:events@estro.org)

## REGISTRATION FEE

Reduced fees apply when the payment is received before specific deadlines:

- Early registration rate deadline: **16 January 2019**
- Late registration rate deadline: **26 March 2019**
- Desk registration rate: **as of 27 March 2019**

*Please note that in order to benefit from the member price, you must renew your membership for 2019 before registering to the conference. The membership renewal should be done at least 3 days before the early or late deadlines. The membership internal processing and approval process might take up to maximum 3 working days.*

The registration fee to the conference includes access to the scientific sessions and exhibition area, coffee breaks, the invitation to the opening ceremony and networking evening. The fee does not include lunch. Lunch will be available for purchase in the exhibition area.

Registration to ESTRO 38 **does not** give access to the pre-congress courses and the contouring workshops. For these separate registrations are required.

## CONFIRMATION OF REGISTRATION

Upon receipt of your registration form, a confirmation of your registration will be forwarded to you electronically.

## CANCELLATION OF REGISTRATION

In case of cancellation, a full refund of the registration fee minus handling charges of 15% may be obtained up to 3 months before the meeting. Between 3 months and 1 month before the meeting, the refund will amount to 50% of the fee. No refund will be possible if the cancellation is postmarked after 26 March 2019.



## ESTRO 38 - MILAN 2019 ROUND FEES

### FEES INCLUDING 22% VAT

DEADLINES	EARLY 16/01/2019	LATE 26/03/2018	DESK As of 27/03/2018
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#### Full congress

In-training member/Student <sup>1</sup> /RTT <sup>2</sup>	€ 305		
ESTRO members from emerging countries <sup>3</sup>	€ 370		-
Member	€ 435	€ 660	€ 840
Non-member	€ 735	€ 955	€ 1,175

#### 1 Day

1 day in-training member/Student <sup>1</sup> /RTT <sup>2</sup>	€ 250		
1 day ESTRO member	€ 250	€ 365	
1 day non-member	€ 510		

#### Pre-Congress courses

In-training member/Student <sup>1</sup> /RTT <sup>2</sup>	€ 165		
Member	€ 195	€ 250	€ 310
Non-member	€ 250	€ 300	€ 365

#### Contouring workshop

In-training member/Student <sup>1</sup> /RTT <sup>2</sup>	€ 95		
Member	€ 125		
Non member	€ 185		

#### Each additional contouring workshop

In-training member/Student <sup>1</sup> /RTT <sup>2</sup>	€ 30		
Members	€ 50		
Non-members	€ 60		

<sup>1</sup> To register as a student you should be an ESTRO member and send your valid student card to [events@estro.org](mailto:events@estro.org) BEFORE completing the registration. Institute letters are not accepted.

<sup>2</sup> Members with speciality RTT may register at the In-training fee.

<sup>3</sup> Participants from emerging countries may register at a preferential rate BEFORE 26 March 2019. After this date the desk fee will apply. Emerging country rate applies to individuals from low-income and lower-middle-income economies according to the World Bank listing available at: <http://data.worldbank.org/about/country-classifications/country-and-lending-groups>.

# NOT TO BE MISSED...

## 2019 ESTRO COMMUNITIES PAVILION

*The other place for networking...*



At ESTRO 38, all delegates will be invited to the Communities Pavilion. Designed to foster exchanges about science, projects, collaborations, and why not, job opportunities, the Communities Pavilion provides a networking forum for the wide range of stakeholders in radiation oncology.

Launched in 2017, the Communities Pavilion welcomes institutions, national societies as well as patient associations, each represented within one booth. The ESTRO Communities Pavilion is open to all ESTRO 38 participants. The following organisations may participate as exhibitors:

- All institutes
- National societies
- International radiotherapy societies
- Patients associations
- Other oncology associations

### Opening hours:

Friday 26 April during the networking evening and Saturday 27 April to Monday 29 April from 09:30 - 17:00.

For more information, please contact: Valérie Cremades ([vcremades@estro.org](mailto:vcremades@estro.org))

## 2019 START-UP CORNER

Start-up companies will be invited to the Start-up Corner located in the exhibition area. The Start-up Corner is a dedicated area where start-up companies can present their new concepts and products and benefit from the visibility offered by our industrial exhibition.

The Start-up Corner is open to all ESTRO 38 participants.

### Opening hours:

Friday 26 April during the networking evening and Saturday 27 April to Monday 29 April from 09:30 - 17:00.

To book a space in the Start-up Corner, please contact: Valérie Cremades ([vcremades@estro.org](mailto:vcremades@estro.org))

## SUPER RUN



**28 April 2019, Milan**

The Super Run has now become a not-to-be-missed event at the ESTRO annual meetings. The initiative brings together congress participants and cancer patients to run to raise awareness of radiotherapy, and also to underline the importance of sport for good health.

## TWEET-UP



Meet your Twitter friends and network at the Tweet up taking place on Saturday 27 April in the poster area.

Let's Tweet-up there!



# ESTRO MEMBERSHIP

Discover the opportunities that only the ESTRO membership can bring to you, your career, your practice, your profession, and ultimately, your patients.

ESTRO contributes to the day-to-day practice and career advancement of oncology professionals. In all its activities, ESTRO is dedicated to promoting radiation oncology in the European and international arena for the benefit of all cancer patients.

ESTRO members are professionals of radiation oncology and beyond: radiation and clinical oncologists, medical physicists, radiobiologists, radiation therapists (RTTs), dosimetrists, medical oncologists, surgeons, industry representatives, organ specialists, other medical and non-medical professions, coming from more than 100 countries spread all over the world.

In a nutshell, the ESTRO membership benefits include:

- Belonging to a community of around 7,300 radiation oncology professionals
- Online subscription to *Radiotherapy & Oncology*, the Society's journal
- Networking opportunities and reduced fees for attending ESTRO teaching courses, online courses, workshops and conferences
- Unlimited online access to scientific material, including event webcasts and delineation cases through the ESTRO electronic library (DOVE)
- Eligibility for grants and awards
- Eligibility for ESTRO faculties and governance positions.

ESTRO offers several levels of membership, with benefits tailored to the needs of each member and their level of involvement within the Society.

## INDIVIDUAL MEMBERSHIP

### FULL MEMBERSHIP

**ACTIVE | € 95 for one year and € 170 for two consecutive years** (21% VAT incl.)

This category of membership gives access to all the services ESTRO has on offer: subscription to *Radiotherapy & Oncology* (electronic and printed upon request), discount on the article publication charge related to the new open access journals (*ctRO*, *phiRO*, *tipsRO*), discounted online subscription to the AAPM publication *Medical Physics*, reduced fees for attending ESTRO conferences and teaching courses, online access to contouring cases, scientific material through our e-library (DOVE), access to the ROESIS (*Radiation Oncology Safety Education Information System*) platform, eligibility for grants, awards, working groups, governance positions, voting rights and much more.

**SUPPORTING AMBASSADOR | € 250 for one year and € 450 for two consecutive years** (21% VAT incl.)

This category is for those who also wish to express their commitment to the aims of the Society by contributing to ESTRO's Ambassador Solidarity Fund. You will enjoy all the benefits of an Active member and will in addition have access to educational materials produced by the ESTRO School, immediate access to the ESTRO events webcasts, as well as VIP facilities at the ESTRO annual congress (use of the VIP lounge and a dedicated VIP registration desk).

### ASSOCIATE MEMBERSHIP

**IN TRAINING | € 75** (21% VAT incl.)

In training members can benefit from specific reduced fees for attending ESTRO conferences and teaching courses. To be eligible, members should be under the age of 40, have a relevant university diploma awarded within the last ten years and currently be in training or enrolled in a full time PhD programme in a European institute.

**AFFILIATE | € 55** (21% VAT incl.)

This category is suitable for members who wish to enjoy some of the basic benefits on offer, including online access to *Radiotherapy & Oncology*, discounted online subscription to the AAPM publication *Medical Physics* and one reduced fee per year for an ESTRO event or teaching course.

**CORPORATE REPRESENTATIVE | € 55** (21% VAT incl.)

This category is reserved for individual members working for a company and offers them online access to *Radiotherapy & Oncology*, discounted online subscription to the AAPM publication *Medical Physics* and one reduced fee per year for an ESTRO event or teaching course.

More information on [estro.org/members](http://estro.org/members) | You can become a member or renew your membership online

## INSTITUTIONAL MEMBERSHIP

ESTRO offers European institutes the possibility to pay collectively for the membership of their department employees (minimum of 5), who will enjoy all the usual advantages of individual membership. This is the most cost-effective option for institutes. Other advantages of institutional membership include: increased visibility thanks to a dedicated promotional webpage on the ESTRO website and in the newsletter, an ESTRO institutional member logo to be used in individual communications, monthly ESTRO public affairs newsletter, free online job postings, and the privilege to book a free exhibitor booth at the ESTRO Communities Pavilion during the annual conference.

More information on [estro.org/members](http://estro.org/members) | To register, please contact [institutional-membership@estro.org](mailto:institutional-membership@estro.org)

## CORPORATE MEMBERSHIP

ESTRO has a membership programme dedicated for companies who can opt for either regular or gold membership. Gold membership gives the right to a seat on the ESTRO corporate council that serves to facilitate the collaboration and coordination between the industries' research and development activities and the academic and scientific developments within ESTRO.

More information on [estro.org/members](http://estro.org/members) | To register, please contact [corporate@estro.org](mailto:corporate@estro.org)

## JOINT MEMBERSHIP

### DUAL & YOUNG DUAL MEMBERSHIP

€ 55 (21% VAT incl.)

This category can be granted to individual members who benefit from a joint membership agreement, signed on a case by case basis between ESTRO and a non-European national society or a European young national society. We invite you to check with your national society whether it has an agreement with ESTRO.

More information on [estro.org/members](http://estro.org/members) | To register, please contact [membership@estro.org](mailto:membership@estro.org)

### RTT ALLIANCE MEMBERSHIP

€ 15 (21% VAT incl.)

This category can be granted to individual RTT members who benefit from a joint RTT Alliance membership agreement, signed on a case by case basis between ESTRO and an RTT National Society. We invite you to check with your RTT National Society whether it has an agreement with ESTRO.

*The ESTRO membership year runs from 1 January to 31 December and full members have the option every year to become members for two consecutive years with a final discount of 10%. Radiation therapists (RTTs), dosimetrists, radiation therapy technologists, radiotherapy nurses will benefit from the "in training" rate when registering for ESTRO events. The members' rates will only be applied once the payment has been activated. For any question, please contact [membership@estro.org](mailto:membership@estro.org).*



7-9 December 2018  
Singapore



## First ESTRO meets Asia congress will focus on three areas:

### RADIOBIOLOGY:

Combined RT and chemotherapy, volume and dose-rate effect, protons...

### INTERDISCIPLINARY:

Head and neck, rectal and lung cancers, gynae and rare tumours, advocacy and education

### MEDICAL PHYSICS AND RTT:

Treatment planning, QA, IGRT, patient positioning and immobilisation, dosimetry, audit and risk assessment, brachytherapy...

In scientific  
collaboration  
with:

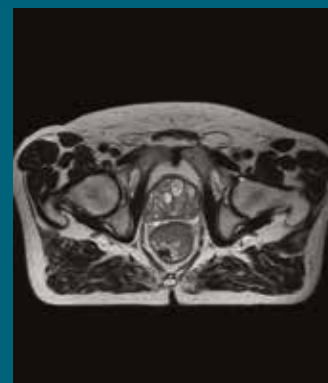
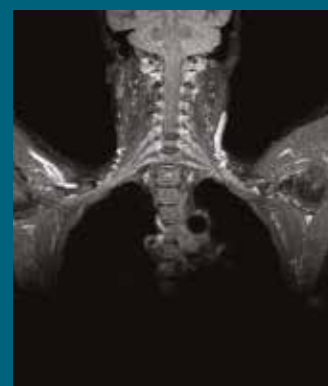
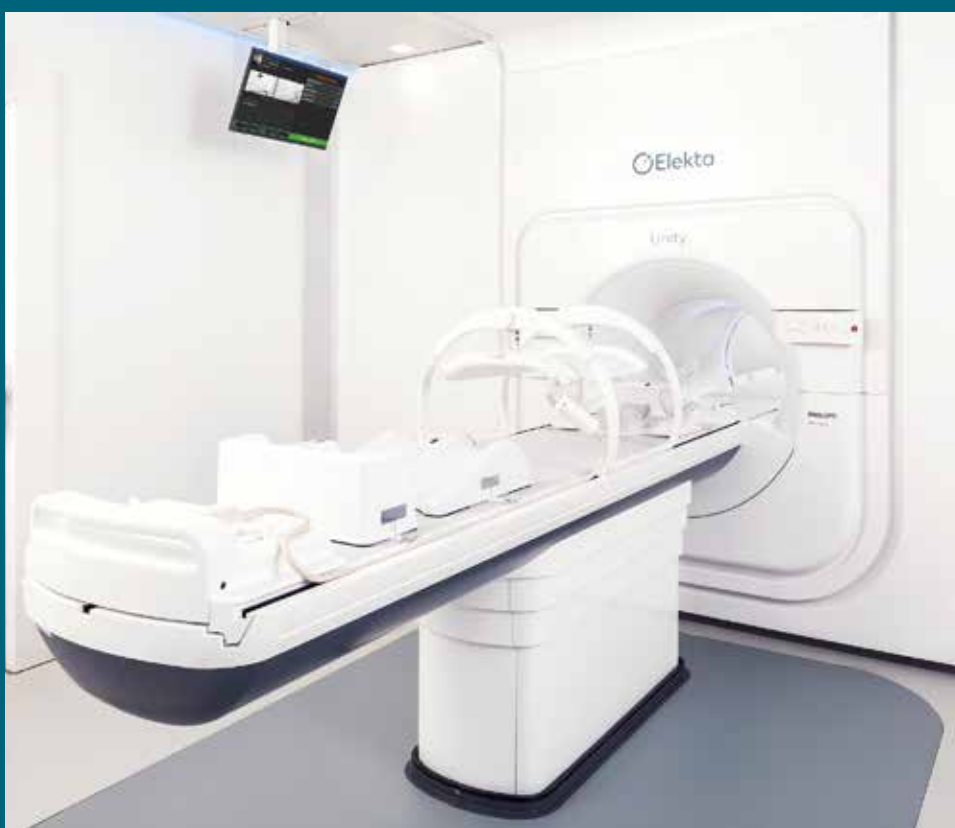


# ESTROAsia  
[WWW.ESTRO.ORG](http://WWW.ESTRO.ORG)



# Elekta Unity Uncompromised.

See clearly during treatment to attack  
the tumor and protect the patient.  
Two worlds, one future.



Captured on Elekta Unity during  
2018 imaging studies

**Elekta Unity**

Celebrating **CE mark**

[elekta.com/unity](http://elekta.com/unity)

Elekta Unity has a CE mark but is not available  
for commercial distribution or sale in the U.S.  
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 **Elekta**