

# ESTRO 38 CONTENT

27 APRIL 2019

## Teaching Lecture

Artificial Intelligence Applications in Radiation Oncology .....	Abs. 1
Using mice to model normal tissue responses to thoracic radiation .....	Abs. 2
State of the art in definitive treatment of locally advanced NSCLC .....	Abs. 3
New ILROG radiotherapy guidelines for haematological malignancies .....	Abs. 4
The role of postoperative radiotherapy in endometrial cancer: what have we learned of the PORTEC trials? .....	Abs. 5
Gating and breath-hold techniques in Radiation Therapy .....	Abs. 6
Technology for precision small animal radiotherapy research: Optimal use and challenges .....	Abs. 7
Ensuring Quality in an Image Guidance Era .....	Abs. 8

## Symposium

Artificial intelligence in Radiation Oncology .....	Abs. 9-12
Mouse models: Animal models the next step for RT .....	Abs. 13-16
Optimal management of patients with unresectable stage 3 NSCLC .....	Abs. 17-20
Combined modality treatment vs chemotherapy alone in lymphoma patients? .....	Abs. 21-24
Image guided adaptive brachytherapy IGABT for primary vaginal cancer in Europe and North America .....	Abs. 25-28

## Joint Symposium

ESTRO-AAPM: QA of on-line adaptive radiotherapy .....	Abs. 29-33
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## Symposium

Beyond Physical dose .....	Abs. 34-37
Quality in an IGRT .....	Abs. 38-40

## Poster Viewing

Poster viewing 1 : Breast and Skin .....	Abs. 41-49
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## Symposium

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? .....	Abs. 50-53
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## Proffered Papers

RB 1: Pre-clinical models is the next step for radiotherapy .....	Abs. 54-58
CL 1: Proffered papers : Lung .....	Abs. 59-65
CL 2: Proffered papers Haematology, Sarcoma and oligometastases .....	Abs. 66-72
BT 1: Treatment verification .....	Abs. 73-79
PH 1: Adaptive radiotherapy: tools and technologies .....	Abs. 80-86
PH 2: Applications of dose modelling and calculation .....	Abs. 87-93
RTT 1: Motion management and adaptive strategies .....	Abs. 94-98

## Poster Viewing

Poster viewing 2: Advanced technologies .....	Abs. 99-107
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## Award Lecture

Emmanuel van der Schueren Award Lecture .....	Abs. 108
Iridium Award Lecture .....	Abs. 109

## Symposium

MR-guided radiation therapy: hybrid machines and treatment adaptation .....	Abs. 110-113
How to exploit Immunogenic cell death Mechanism in Radiotherapy .....	Abs. 114-117
Oligo-metastatic prostate cancer – shedding light in a quickly emerging field .....	Abs. 118-121
New developments in gynaecological cancers .....	Abs. 122-124
Real time navigation technologies in brachytherapy .....	Abs. 125-127
Automatic / Knowledge based treatment planning:open issues .....	Abs. 128-131

## Joint Symposium

ESTRO-EFOMP: Multi-disciplinary working in Radiotherapy ..... Abs. 132-135

## Symposium

Younger people and radiotherapy ..... Abs. 136-138

## Poster Viewing

Poster viewing 3: Brachytherapy ..... Abs. 139-147

## Multidisciplinary Tumour Board

Soft tissue sarcomas

## Proffered Papers

RB 2: How to exploit immunogenic cell death mechanisms in radiotherapy ..... Abs. 151-157

CL 3: Proffered papers : Prostate and Bladder ..... Abs. 158-164

CL 4: proffered papers : CNS and Paediatrics ..... Abs. 165-171

BT 2: Cervix brachytherapy ..... Abs. 172-178

PH 3: Proffered paper: New developments in automated treatment planning ..... Abs. 179-185

PH 4: Proffered paper: New technologies ..... Abs. 186-192

RTT 2: A patient centered approach to follow up ..... Abs. 193-199

## Poster Viewing

Poster viewing 4: Head-Neck and Lung ..... Abs. 200-208

## Award Lecture

Honorary Members award lectures ..... Abs. 209-211

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## Teaching Lecture

Re-irradiation for breast cancer ..... Abs. 212

Extracellular vesicles; are we there yet? ..... Abs. 213

Update on the management of SCLC ..... Abs. 214

How to combine checkpoint inhibitors with radiotherapy? ..... Abs. 215

How does brachytherapy fit in the modern management of penile cancer? ..... Abs. 216

Detector specific output correction factors: How to use them in practice ..... Abs. 217

Uncertainties in Radiomics ..... Abs. 218

New technology and modalities in Radiotherapy - What can the ESTRO School offer? ..... Abs. 219

Precision medicine and systems biology - transforming cancer research in the 21st century ..... Abs. 220

## Symposium

Balancing the risks and benefits of re-irradiation ..... Abs. 221-224

Circulating biomarkers for patient stratification and treatment monitoring ..... Abs. 225-228

## Debate

This house believes that Proton-beam be used routinely in the treatment of lung cancer

## Symposium

Radiation-drug combinations on the 2019 horizon ..... Abs. 229-232

Inverse planning in brachytherapy - A one click solution? ..... Abs. 233-235

Reference and non-reference dosimetry - CoPs and beyond ..... Abs. 236-239

New advances in image reconstruction in CBCT ..... Abs. 240-242

New technology and modalities ..... Abs. 243-245

Combining research and clinical/ professional training/ practice ..... Abs. 246-250

## Poster Viewing

Poster viewing 5: Health Services Research and Health-Related Quality of Life ..... Abs. 251-259

## Networking session

Speed Dating with Quiz

## Joint Symposium

ESTRO-JASTRO: Clinical trials for particle therapy: which ones to run and how? ..... Abs. 260-263

## Proffered Papers

RB 3: Tumour sensitization ..... Abs. 264-268

CL 5: Proffered papers : Randomised Clinical Trials ..... Abs. 269-274

CL 6: Proffered papers Radiation and Targeted Agents ..... Abs. 275-281

BT 3: Prostate HDR brachytherapy ..... Abs. 282-288

PH 5: Proffered paper: Innovations in dosimetry and dose measurements ..... Abs. 289-295

PH 6: Proffered paper: X-ray guided tumour tracking ..... Abs. 296-302

RTT 3: Impact of variations on treatment planning ..... Abs. 303-307

## Poster Viewing

Poster viewing 6 : Radiobiological modelling and quantitative imaging ..... Abs. 308-316

## Proffered Papers

BT 4: Breast and Skin brachytherapy ..... Abs. 317-323

## Presidential Symposium

Presidential symposium ..... Abs. 324

## Award Lecture

Claudius Regaud Award Lecture ..... Abs. 325

## Symposium

How to prevent burnout? ..... Abs. 326-330

The microbiome, inflammation and radiotherapy response ..... Abs. 332-334

Reducing the normal tissue effects of RT ..... Abs. 335-338

Radiotherapy in the era of the Silver Tsunami ..... Abs. 339-342

## Debate

This house believes that margin reduction is the key to improved outcome

Which is the best brachytherapy technique to deliver partial breast irradiation? Pitfalls, results and current recommendations ..... Abs. 343-346

## Symposium

Big data – big problems? ..... Abs. 347-349

From grid therapy to microbeam radiotherapy ..... Abs. 350-353

Focus on the lung ..... Abs. 354-356

Stronger together - news and projects in the young national societies ..... Abs. 357-360

## Poster Viewing

Poster viewing 7: CNS, Paediatrics, Haematology and Gynaecology ..... Abs. 361-369

## Multidisciplinary Tumour Board

Prostate cancer

## Networking session

Quiz and Young networking cocktail

## Joint Symposium

ESTRO-ASTRO: Translating discovery to cure ..... Abs. 370-373

## Proffered Papers

RB 4: Normal tissue effects of radiotherapy ..... Abs. 374-379

CL 7 :Proffered papers: GI ..... Abs. 380-386

CL 8: Proffered papers : Head and Neck ..... Abs. 387-393

BT 5: Optimising dose distribution ..... Abs. 394-400

PH 7: Proffered paper: Outcome modelling .....	Abs. 401-407
PH 8: Proffered paper: Handling intra-fraction motion in MR guided RT .....	Abs. 408-414
RTT 4: Reducing uncertainties in volume definition .....	Abs. 415-421

### Poster Viewing

Poster viewing 8: TP Developments .....	Abs. 422-430
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### Proffered Papers

BT 6 : Innovative and uncommon indications .....	Abs. 431-437
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### Award Lecture

Jens Overgaard Legacy Award Lecture	
Honorary Physicist Award Lecture .....	Abs. 438

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### Teaching Lecture

Extreme hypofractionation in the treatment of localized prostate cancer .....	Abs. 439
Radio-immunotherapy: challenges and opportunities .....	Abs. 440
Tumor metabolism and radiation response .....	Abs. 441
Radiomic machine-learning to predict radiotherapy outcome .....	Abs. 442
Importance of volumetric staging and biological dose inhomogeneity in IMRT .....	Abs. 443
In-vivo dosimetry : Possibilities and Pitfalls .....	Abs. 444
The vital role of physicists in clinical trials: from design to data analysis .....	Abs. 445
New developments in the treatment of brain metastases: better prognostic tools, improved outcomes .....	Abs. 446

### Symposium

Radiotherapy in bladder cancer: Standard of care and future perspectives .....	Abs. 447-450
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### Joint Symposium

ESTRO-EACR: Radio-immunotherapy: from concept to clinical practice .....	Abs. 451-454
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### Symposium

Tumor Metabolism and Radiotherapy .....	Abs. 455-458
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### Joint Symposium

ESTRO-ESR: Current status and future challenges in MR-integrated radiotherapy .....	Abs. 459-462
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### Symposium

Improved outcome by smarter use of radiotherapy .....	Abs. 463-465
Quantitative Imaging for Radiation Oncology .....	Abs. 466-468
Advanced methods to account for proton range uncertainties in treatment planning .....	Abs. 469-472
Care, communication and new technology in brain radiotherapy .....	Abs. 473-475

### Poster Viewing

Poster viewing 9: Applied dosimetry .....	Abs. 476-484
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### Joint Symposium

ESTRO-IAEA: The role of hypofractionation in current radiotherapy and its impact in planning radiotherapy services .....	Abs. 485-488
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### Debate

Which is the best technique for the delivery of APBI? .....	Abs. 489-492
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### Proffered Papers

Biomarkers and bioimaging in radiotherapy .....	Abs. 493-499
CL 9: Proffered papers : Late breaking abstracts .....	Abs. 500-505
CL 10: Proffered papers : Pelvic Tumours .....	Abs. 506-512
PH 9: Proffered paper: Artificial intelligence and novel imaging approaches .....	Abs. 513-519
PH 10: Proffered paper: Treatment planning innovations .....	Abs. 520-526

RTT 5: Improving accuracy in patient positioning ..... Abs. 527-532

### Poster Viewing

Poster viewing 10: Radiobiology ..... Abs. 533-541

### Award Lecture

Klaus Breur Award Lecture ..... Abs. 542

Academic award: Jack Fowler University of Wisconsin Award ..... Abs. 543

Company Award Lectures ..... Abs. 544

### Symposium

Adaptive RT: reactive or proactive? ..... Abs. 545-548

Predictive models of toxicity and big data, big open issues ..... Abs. 549-552

Biological Imaging for Radiotherapy ..... Abs. 553-556

New developments for breast cancer irradiation ..... Abs. 557-560

### Joint Symposium

ESTRO-EORTC: Moving radiation oncology forward to improve patient outcomes ..... Abs. 561-563

### Debate

In 10 years physicists will need different training to include more ...

### Proffered Papers

PH 11: Proffered paper: Proton range and dose verification ..... Abs. 564-570

### Symposium

Education and Advance Practice ..... Abs. 571-573

### Poster Viewing

Poster viewing 11: Novel strategies in IGRT ..... Abs. 574-581

### Multidisciplinary Tumour Board

Bladder cancer

### Debate

Can early-regression-guided adaptive RT eRG-ART improve the pathological response in neo-adjuvant treatments?

### Symposium

Recent insights into adverse cardiac effects from multimodal radiation therapy ..... Abs. 582-585

### Proffered Papers

RB 6: Pre-clinical research in particle therapy ..... Abs. 586-590

CL 11: Proffered papers : Breast ..... Abs. 591-596

CL 12: Proffered papers : Health Economics and Health services research ..... Abs. 597-602

PH 12: Proffered paper: Multi centre analysis of quality ..... Abs. 603-609

PH 13: Proffered paper: Modelling toxicity ..... Abs. 610-616

RTT 6: Education and quality management for optimising patient care ..... Abs. 617-621

### Poster Viewing

Poster viewing 12: GI and Urological Cancers ..... Abs. 622-629

### Award Lecture

Donald Hollywood award lecture ..... Abs. 631

Highlights of proffered papers ..... Abs. 632-635

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### Teaching Lecture

The DNA damage response to radiotherapy: mechanisms and therapeutic opportunities ..... Abs. 636

Are adolescents and young adults AYA a specific patients' population? .....	Abs. 637
Hypofractionation; Is there rationale from biology a/b ratio? .....	Abs. 638
Recent insights into radiotherapy tolerance from the REQUITE Consortium .....	Abs. 639
Integration of PET imaging in radiation treatment planning .....	Abs. 640
Implementation and practice of SRS and SBRT: Consensus guidelines and protocols .....	Abs. 641
How to select patients for radiotherapy with protons instead of photons .....	Abs. 642
MR-guided radiotherapy in the pelvic region .....	Abs. 643

### **Symposium**

Radiotherapy biomarkers: a confluence of imaging, genetics and pathology .....	Abs. 644-647
Palliation in RT - How much is enough? .....	Abs. 648-651
Mechanisms of treatment resistance in glioma .....	Abs. 652-655

### **Debate**

This house believes that there is still a role for radiotherapy in pancreatic cancer .....	Abs. 656-659
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### **Symposium**

New developments in Head and Neck Cancer treatment .....	Abs. 660-662
New detector developments .....	Abs. 663-666

### **Proffered Papers**

PH 14: Proffered paper: Treatment planning of proton therapy .....	Abs. 667-673
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### **Symposium**

Focus on the Pelvic Region .....	Abs. 674-676
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### **Joint Symposium**

ESTRO-RANZCR: Radiotherapeutical management of oligometastatic disease .....	Abs. 677-680
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### **Symposium**

Plan of the day - present status and future aims .....	Abs. 681-684
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### **Debate**

This house believes that immunotherapy is really changing radiation oncology .....	Abs. 685-688
This house believes that patients with squamous cell cancer of the esophagus no longer need surgery .....	Abs. 689-692

### **Symposium**

Controversies in the management of brain metastases .....	Abs. 693-696
Improving delineation in RT: not only for the doctor .....	Abs. 697-700
A new era for radiotherapy anthropomorphic phantoms .....	Abs. 701-704

### **Debate**

Workload/clinic logistics, and not technical uncertainties, are the main barrier to widespread implementation of adaptive RT practice .....	Abs. 705-706
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### **Closing debate**

Data mining or data farming? .....	Abs. 707-708
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## **POSTER**

Clinical track: Head and Neck .....	Abs. 709-733
Clinical track: CNS .....	Abs. 734-757
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Clinical track: Breast .....	Abs. 759-767
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Clinical track: Upper GI oesophagus, stomach, pancreas, liver .....	Abs. 786-813
Clinical track: Lower GI colon, rectum, anus .....	Abs. 814-821
Clinical track: Gynaecological endometrium, cervix, vagina, vulva .....	Abs. 822-833
Clinical track: Prostate .....	Abs. 834-862
Clinical track: Urology-non-prostate .....	Abs. 863-864

Clinical track: Skin cancer / malignant melanoma .....	Abs. 865-866
Clinical track: Sarcoma .....	Abs. 867-868
Clinical track: Paediatric tumours .....	Abs. 869-875
Clinical track: Palliation .....	Abs. 876-884
Clinical track: Elderly .....	Abs. 885
Clinical track: Other .....	Abs. 886-890
Physics track: Basic dosimetry and phantom and detector development .....	Abs. 891-898
Physics track: Dose measurement and dose calculation .....	Abs. 899-911
Physics track: Radiation protection, secondary tumour induction and low dose .....	Abs. 912-914
Physics track: Treatment plan optimisation: algorithms .....	Abs. 915-919
Physics track: Treatment planning: applications .....	Abs. 920-946
Physics track: Radiobiological and predictive modelling, and radiomics .....	Abs. 947-969
Physics track: Intra-fraction motion management .....	Abs. 970-979
Physics track: Adaptive radiotherapy and inter-fraction motion management .....	Abs. 980-998
Physics track: Quantitative functional and biological imaging .....	Abs. 999-1000
Physics track: Imaging acquisition and processing .....	Abs. 1001-1012
Physics track: Implementation of new technology, techniques, clinical protocols or trials including QA & audit .....	Abs. 1013-1039
Brachytherapy: Breast .....	Abs. 1040
Brachytherapy: Gynaecology .....	Abs. 1041-1043
Brachytherapy: Head and neck .....	Abs. 1044-1045
Brachytherapy: Physics .....	Abs. 1046-1052
Brachytherapy: Prostate .....	Abs. 1053-1059
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Radiobiology track: Radiobiology of normal tissues .....	Abs. 1065
Radiobiology track: Radiobiology of stem cells cancer and normal tissue .....	Abs. 1066-1067
Radiobiology track: Radiobiology of particles and heavy ions .....	Abs. 1068-1069
Radiobiology track: Radiation-induced signalling pathways .....	Abs. 1070-1071
Radiobiology track: Immuno-radiobiology .....	Abs. 1072-1074
Radiobiology track: Radiation and tumour metabolism .....	Abs. 1075-1079
Radiobiology track: DNA damage response .....	Abs. 1080-1085
Radiobiology track: Biological therapies e.g. viruses, vaccines .....	Abs. 1086
Radiobiology track: Radiation response biomarkers .....	Abs. 1087-1090
RTT track: Patient preparation, positioning and immobilisation .....	Abs. 1091-1095
RTT track: Imaging acquisition and registration, OAR and target definition .....	Abs. 1096-1105
RTT track: Treatment planning and dose calculation / QC and QA .....	Abs. 1106-1111
RTT track: Image guided radiotherapy and verification protocols .....	Abs. 1112-1116
RTT track: Motion management and adaptive strategies .....	Abs. 1117-1121
RTT track: Patient care, side effects and communication .....	Abs. 1122-1125
RTT track: Education and training/role development .....	Abs. 1126-1130
RTT track: Risk management/quality management .....	Abs. 1131-1132

## **ELECTRONIC POSTER**

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Clinical track: CNS .....	Abs. 1206-1263
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Clinical track: Lung .....	Abs. 1334-1391
Clinical track: Upper GI oesophagus, stomach, pancreas, liver .....	Abs. 1392-1445
Clinical track: Lower GI colon, rectum, anus .....	Abs. 1446-1474
Clinical track: Gynaecological endometrium, cervix,vagina,vulva .....	Abs. 1475-1511
Clinical track: Prostate .....	Abs. 1512-1584
Clinical track: Urology-non-prostate .....	Abs. 1585-1592
Clinical track: Skin cancer / malignant melanoma .....	Abs. 1593-1600
Clinical track: Sarcoma .....	Abs. 1601-1608
Clinical track: Paediatric tumours .....	Abs. 1609-1614

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Clinical track: Elderly .....	Abs. 1636-1652
Clinical track: Health services research / health economics .....	Abs. 1653-1660
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Physics track: Radiation protection, secondary tumour induction and low dose incl. imaging .....	Abs. 1682-1691
Physics track: Basic dosimetry and phantom and detector development .....	Abs. 1692-1719
Physics track: Dose measurement and dose calculation .....	Abs. 1720-1807
Physics track: Treatment plan optimisation: algorithms .....	Abs. 1808-1823
Physics track: Treatment planning: applications .....	Abs. 1824-1891
Physics track: Radiobiological and predictive modelling, and radiomics .....	Abs. 1892-1942
Physics track: Intra-fraction motion management .....	Abs. 1943-1981
Physics track: Adaptive radiotherapy and inter-fraction motion management .....	Abs. 1982-2021
Physics track: Quantitative functional and biological imaging .....	Abs. 2022-2032
Physics track: Imaging acquisition and processing .....	Abs. 2033-2070
Physics track: Implementation of new technology, techniques, clinical protocols or trials including QA & audit .....	Abs. 2071-2117
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Brachytherapy: Anorectal .....	Abs. 2148
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RTT track: Patient preparation, positioning and immobilisation .....	Abs. 2169-2177
RTT track: Imaging acquisition and registration, OAR and target definition .....	Abs. 2178-2180
RTT track: Treatment planning and dose calculation / QC and QA .....	Abs. 2181-2189
RTT track: Image guided radiotherapy and verification protocols .....	Abs. 2190-2195
RTT track: Motion management and adaptive strategies .....	Abs. 2196-2197
RTT track: Patient care, side effects and communication .....	Abs. 2198-2208
RTT track: Education and training/role development .....	Abs. 2209-2213
RTT track: Risk management/quality management .....	Abs. 2214