Contents

Reviews

Genetic and Epigenetic Aspects of Breast Cancer Progression and Therapy. S. BYLER, S. GOLDGAR, S. HEERBOTH, M. LEARY, G. HOUSMAN, K. MOULTON, S. SARKAR (Boston, MA, USA) ...................... 1071


Current Approaches to Managing Partial Breast Defects: The Role of Conservative Breast Surgery Reconstruction. A.M. MUNHOZ, E. MONTAG, J.R. FILASSI, R. GEMPERLI (São Paulo, Brazil) ...... 1099

Predictive and Prognostic Significance of Tumor-infiltrating Lymphocytes in Patients with Breast Cancer Treated with Neoadjuvant Systemic Therapy. B. MELICHAR, H. ŠUDENTOVÁ, H. KALÁBOVÁ, D. VITÁSKOVÁ, P. ČERMÁKOVÁ, H. HORNÝCHOVÁ, A. RYŠKA (Oломouc; Hradec Králové, Czech Republic) ............. 1115

Mapping Oxidative Changes in Breast Cancer: Understanding the Basic to Reach the Clinics. A. MENCALHA, V.J. VICTORINO, R. CECCHINI, C. PANIS (Rio de Janeiro; São Paulo; Londrina, Brazil) ......................... 1127

The Management of Screen-detected Breast Cancer. M. AHMED, M. DOUEK (London, UK) ................... 1141

Contents continued on the back cover
Under the auspices of:

The Union for International Cancer Control (UICC)
The Asian and Pacific Federation of Clinical Biochemistry (APFCB)
The Asian Pacific Organization for Cancer Prevention (APOCP)
The Austrian Society for Radiation Oncology (ÖGRO)
The European Group on Tumor Markers (EGTM)
The Hungarian Society of Epidemiology
The International Cancer Microenvironment Society (ICMS)
The International Geriatric Radiotherapy Group (IGRG)
The International Institute of Anticancer Research (IIAR)
The International Society for Biological and Environmental Repositories (ISBER)
The International Society of Oncology and Biomarkers (ISOBM)
The Italian Society of Uro-Oncology (SIUrO)
The Latinamerican and Caribbean Society of Medical Oncology (SLACOM)
The Lithuanian Society of Radiation Oncology (LSRT)
The North-Eastern German Society of Gynecological Oncology (NOGGO)
The Polish Society of Radiation Oncology (PSTRO)
The Portuguese Society of Radiotherapy - Oncology (SPRO)
The Society of Biotherapeutic Approaches, Japan
The Szeged Foundation for Cancer Research, Hungary
The Turkish Society for Electron Microscopy (TSEM)

Supported by:
The International Institute of Anticancer Research

Deadline for registration: September 26, 2014.
Deadline for submission of abstracts: August 10, 2014.

Dates and Venue

The 9th International Conference of Anticancer Research will be held at the Porto Carras Grand Resort, Sithonia, Halkidiki, Greece, from 6 to 10 October, 2014.

General Policy

The purpose of the Anticancer Research Conferences is to exchange scientific information worldwide and to discuss recent advances in both broad and specialized areas of experimental and clinical cancer research. International Scientific and Medical Societies are invited to participate in the Conference by organizing specialized sessions. This initiative presents a forum for inter-Society communication allowing the organization and coordination of international activities on cancer.

Special sessions will be devoted to the discussion and arrangement of international cooperation projects and activities, encompassing the aims of the International Institute of Anticancer Research.

The Conference is organized and supported by the International Institute of Anticancer Research.

The Scientific Program will comprise of oral (10, 15, 30 or 40 minutes) and poster presentations. Both overviews and original works will be presented. Each oral presentation will be allocated a five-minute discussion-time. Six conference rooms will be used simultaneously. Posters will be exhibited for 1-2 days. Projection facilities for PowerPoint presentations will be provided.

The Conference website (www.iiar-anticancer.org/conference) will be consistently updated announcing new titles of accepted abstracts, new special symposia and social events.
Organizing Committee

P.A. Abrahamsson, Malmö, Sweden
N. Agnantis, Ioannina, Greece
F.E. Ahmed, Greenville, NC, USA
C. Alexiou, Erlangen, Germany
L. Amaral, Lisbon, Portugal
F.L. Ampil, Shreveport, LA, USA
R. Andersson, Lund, Sweden
S. Arbak, Istanbul, Turkey
V. Barak, Jerusalem, Israel
D.-T. Bau, Taichung, Taiwan
G. Bauer, Freiburg, Germany
A. Bishayee, Signal Hill, CA, USA
R. Bjerkvig, Bergen, Norway
G. Broich, Monza, Italy
C. Carlberg, Kuopio, Finland
J. Carlsson, Uppsala, Sweden
D. Characiejus, Vilnius, Lithuania
C.J. Chen, Taipei, Taiwan
G. Clariимвoli, Münster, Germany
B.F.C. Clark, Aarhus, Denmark
R. Clarke, Washington, DC, USA
P. Collery, Bastia, France
H. Cross, Vienna, Austria
M. De Braekeleer, Brest, France
K. De Meirleir, Brussels, Belgium
M. de Braekeleer, Brest, France
P.M. Kumar, Manchester, UK
O.D. Laerum, Bergen, Norway
S.A. Lamprecht, Beer-Sheva, Israel
W. Lichtenerger, Berlin, Germany
D. Lincoln, Chapel Hill, QLD, Australia
B. Littlefield, Andover, MA, USA
F. Lumachi, Padova, Italy
S. Mitra, Galveston, TX, USA
R. Molina, Barcelona, Spain
J. Molnár, Szeged, Hungary
N. Motohashi, Tokyo, Japan
N. Nguyen, Tucson, AZ, USA
C. Nicolini, Genova, Italy
C. Pace-Ascià, Toronto, ON, Canada
S. Pathak, Houston, TX, USA
G.J. Pilkington, Portsmouth, UK
C.D. Pliatsoucas, Norfolk, VA, USA
A. Pollia, Jerusalem, Israel
J.W. Greiner, Bethesda, MD, USA
F. Guadagni, Rome, Italy
C. Hastie, Guildford, Surrey, UK
J. Hau, Copenhagen, Denmark
R. Hoffman, San Diego, CA, USA
S. Holdeneried, Bonn, Germany
T. Ibris, Istanbul, Turkey
M. Janhwar, New York, NY, USA
M. Janhwar-Uniyal, New York, NY, USA
B. Kaina, Mainz, Germany
E. Kandil, New Orleans, LA, USA
D.G. Kieback, Riesa (Dresden), Germany
I. Kiss, Pécs, Hungary
R. Klapper, Hamburg, Germany
R. Knecht, Hamburg, Germany
M. Kohonen-Corish, Sydney, NSW, Australia
M. Koutsilieri, Athens, Greece
K. Kubota, Mibu, Tochigi, Japan
S. Kumar, Manchester, UK
O.D. Laerum, Bergen, Norway
S.A. Lamprecht, Beer-Sheva, Israel
W. Lichtenecker, Berlin, Germany
D. Lincoln, Chapel Hill, QLD, Australia
B. Littlefield, Andover, MA, USA
F. Lumachi, Padova, Italy
S. Mitra, Galveston, TX, USA
R. Molina, Barcelona, Spain
J. Molnar, Szeged, Hungary
N. Motohashi, Tokyo, Japan
N. Nguyen, Tucson, AZ, USA
C. Nicolini, Genova, Italy
C. Pace-Ascia, Toronto, ON, Canada
S. Pathak, Houston, TX, USA
G.J. Pilkington, Portsmouth, UK
C.D. Pliatsoucas, Norfolk, VA, USA
A. Pollia, Jerusalem, Israel
J. Reichrath, Homburg/Saar, Germany
D.A. Ribeiro, Santos, SP, Brazil
M. Rigaud, Limoges, France
F.M. Robertson, Houston, TX, USA
M. Roselli, Rome, Italy
G.R. Rutten, Utrecht, Netherlands
C. Sansom, London, UK
S. Sarkar, Boston, MA, USA
A. Schauer, Göttinngen, Germany
D. Schiffer, Verceil, Italy
J. Schneider, Alcórcon (Madrid) Spain
M. Schneider, Wuppertal, Germany
O.J. Semmes, Norfolk, VA, USA
A. Seth, Toronto, ON, Canada
G. Sica, Rome, Italy
J. Slansky, Denver, CO, USA
K. Smetana, Prague, Czech Republic
S.S. Smith, Duarte, CA, USA
R.M. Snapka, Columbus, OH, USA
J. Sterling, Nashville, TN, USA
T. Stigbrand, Umeå, Sweden
K. Syrjänen, Helsinki, Finland
R.T. Todorova, Sofia, Bulgaria
O. Topolcan, Pilsen, Czech Republic
G.C. Torre, Finale Ligure (SV), Italy
V. Treska, Pilsen, Czech Republic
M. de L. Trigo, Porto, Portugal
G. Tsangaris, Athens, Greece
E. Vairaktaris, Athens, Greece
D. Vesely, Tampa, FL, USA
D. Vetticka, Prague, Czech Republic
J.K. Vishwanatha, Fort Worth, TX, USA
G. Vollmer, Dresden, Germany
I. G. Wany, Columbus, OH, USA
S. Yip, Petaling Jaya, Malaysia
A. Zoras, Heraklion, Greece

Scientific Program

Experimental Research Sessions

1. Oncogenes; tumor suppressor genes; growth factors; signal transduction.
3. Cancer stem cells.
7. Cancer systems biology and signaling.
11. Invasion and metastasis.
12. Cytogenetics and genetics.
13. Epigenetics.
14. Tumor angiogenesis and anti-angiogenesis.
17. Tumor microenvironment; cell–cell interactions; adhesion; stroma; cancer-associated fibroblasts.
20. Natural products in cancer drug development.
21. Experimental chemotherapy.
22. Immunobiology of cancer.
23. Gene therapy.

Clinical Research Sessions

25. Diagnosis and prognosis of cancer.
27. Serum markers in diagnosis and therapy.
28. Clinical chemotherapy.
29. Immunotherapy, biotechnology, vaccines.
30. Hormone therapy.
31. Radiotherapy.
32. Hyperthermia.
33. Personalized medicine in cancer.
34. Advances in breast cancer.
35. Advances in gynecological cancer.
36. Advances in prostate cancer.
37. Advances in neurooncology.
38. Advances in colorectal cancer.
40. Advances in stomach and esophageal cancer.
41. Advances in hematologic cancer.
42. Melanoma: New therapies and biomarkers.
44. Epidemiology.
Special Symposia

1. PKC signaling in cancer. Organized by A.P. Fields (Jacksonville, FL, USA)
2. Hepatocellular carcinoma. Organized by Keichi Kubota (Mibu, Tochigi, Japan) - (Wednesday, 8 October 2014)
3. Cancer Prevention in Asia Pacific Countries. Organized by C.H. Yip (Petaling Jaya, Malaysia), C.J. Chen (Taipei, Taiwan) (APOCP) – (Thursday, 9 October 2014)
4. Invasion and carcinomas of the GI tract. Organized by O.D. Laerum (Bergen, Norway)
5. Toxicology and cancer aetiology. Organized by C.H. Yip (Petaling Jaya, Malaysia), C.J. Chen (Taipei, Taiwan) (APOCP) – (Thursday, 9 October 2014)
6. Genomic instability and cancer (DNA repair). Organized by A. Wani (Columbus, OH, USA)
7. Drug resistance in cancer and targeting DNA repair pathways. Organized by S. Mitra (Galveston, TX, USA)
8. Image-guided radiotherapy. Organized by Nam Nguyen (Tucson, AZ, USA)
9. Circulating tumor cells. Organized by M. Rigaud (Limoges, France)
11. Regulation of efflux pumps of mdr cancer by phenothiazine derivatives and natural products. Organized by L. Amaral (Lisbon, Portugal), J. Molnár (Szeged, Hungary)
12. Drug delivery. Organized by D. Vetvicka (Prague, Czech Republic)
13. Genomics and clinical management of ovarian cancer. Organized by R. Ganapathi (Charlotte, NC, USA)
15. Hox genes in cancer. Organized by C. Aukim-Hastie (Guildford, Surrey, UK)
16. Application of RT-qPCR in Biomedicine. Organized by F.E. Ahmed (Greenvale, NC, USA)
17. Vitamin D and Cancer. Organized by M. Friedrich (Krefeld, Germany), J. Reichrath (Homburg/Saar, Germany)
20. Micro RNAs in cancer. Organized by A. Seth (Toronto, ON, Canada)
21. Next generation sequencing for cancer drug development and diagnostics. Organized by A. Seth (Toronto, ON, Canada)
22. Transporters as mediators of uptake of chemotherapeutic drugs in target and non-target cells. Organized by G. Ciarimboli (Minster, Germany)
23. Metal-based drugs and cancer. Organized by P. Collery (Bastia, France)

Publications

Abstracts of all contributed papers will be published in a special issue of ANTICANCER RESEARCH, which will be distributed to registrants during the Conference, as well as to all subscribing libraries and indexing services (print and online through the Stanford University HighWire Press). After recommendation by the Organizing Committee, selected contributions will be invited as complete original papers or reviews to be submitted for publication in ANTICANCER RESEARCH. Paper submissions will also be welcome during the Conference.

Abstracts (titles and authors) will be announced in www.iiar-anticancer.org/conference upon acceptance. The final conference program will be published on September 10, 2014.

Registration

- **Registration is required of all participants.**
- **Registration deadline:** 26 September, 2014.
- **Deadline for submission of abstracts:** 10 August, 2014.
- **Registration fee:** EURO 260.00; Students, Euro 100.00; accompanying person, EURO 100.00 (each); Children, no fee.
- The registration fee for the Conference participants partially covers: attendance at the scientific sessions; all Conference material and documentation (final program, list of participants, book of Abstracts, Conference folder, Certificate of attendance and registration badge) from the Conference Secretariat; participation in all social events (social dinners, music recital, coffee breaks, closing gala dinner), and conference gifts.
- The registration fee for accompanying persons covers: participation in all social events; eligibility for special accommodation fees (the same offer applies to Conference participants).
- The registration fee for the Members of the auspicious societies is waived.
- Registration will be regarded as final only after all forms and registration plus accommodation fees have been received by the Editorial Office of Anticancer Research.

Accommodation

Hotel reservation requests should be submitted directly to the Editorial Office of Anticancer Research. Porto Carras Grand Resort (**★★★★★**) is located in a beautiful, peaceful setting by the sea and will provide excellent service and quality half-board accommodation for all participants.

- **Accommodation fees:**
  - Double room: EURO 132.00 for 2 persons, per night.
  - Single room: EURO 98.00 per person, per night.
  - Children 2-12 years old as 3rd person in double room: EURO 35.00.
  - Triple room: EURO 180.00 for 3 persons, per night.

The fee covers: accommodation in A (**★★★★★**) type rooms (bath, balcony, radio, TV, telephone), breakfast, dinner and transportation from and to the Airport of Thessaloniki on October 5 and October 11, 2014, respectively.

- **Service hours:** Breakfast (buffet): 7.30 – 10.00 a.m.; Dinner (formal club style) 19.00 – 22.30 p.m.; Self-service restaurant for lunch: 12.30 – 14.00 p.m.
- **Accommodation requests are valid if made through the official conference Registration Form.** For accommodation & registration to be secured all fees need to have been paid in advance.
- **Cancellations:** Abstract and registration plus accommodation fees will be returned if participation is cancelled before August 10, 2014. No refunds will be offered past this date.

Travel Arrangements

The Conference will officially commence on the morning of October 6, 2014. Therefore, participants should preferably arrive on October 5, 2014. The conference will conclude with the closing gala dinner on October 10, 2014. Participants are advised to finalize their travel plans at the earliest possible date. Details of date, flight number and time of arrival at Thessaloniki Airport should be given to the Editorial Office not later than September 26, 2014.

Aegean Airlines: www.aeganair.com
Olympic Airways: www.olympicairlines.com
Instructions for Submitting an Abstract

1. Only abstracts containing new results (original research work or overviews) will be accepted. Abstracts should clearly and adequately describe the objectives and results of the research. All abstracts must be submitted in English.

2. All abstracts need to be accompanied by a completed Conference Registration Form made out in the name of the Author presenting the paper.
   a. Each abstract should include a title (in capital letters), names of all authors (with the name of the author who will be presenting the paper underlined), as well as complete address(es).
   b. Two types of abstracts may be submitted:
      ● Short abstract, not exceeding 300 words.
      ● Long abstracts not exceeding 1500 words, with 1-2 figures or tables (max size 8 cm width x 12 cm height), including abstract, introduction, materials and methods, results, discussion, acknowledgements, references. Color figures will be charged 180.00 EURO per page.
   c. Careful typing and proof-reading are essential.
   d. Abstract forms will not be provided.

3. Abstracts and a completed Conference Registration Form should be sent to: Dr. John G. Delinasios, International Institute of Anticancer Research, 1st km Kapandritiou-Kalamou Rd, P.O. Box 22, Kapandriti 19014, Greece. E-mail: conference@iiar-anticancer.org.

   Abstracts must arrive at our offices by August 10, 2014, at the latest.

4. A reply (regarding decision, acceptance or revision) will reach the author within 5-12 days from submission.

Instructions for Poster Presentations

Abstracts scheduled for presentation in poster sessions will be grouped by topic, numbered and listed in the program, and published in the Abstract Book, as well as in ANTICANCER RESEARCH. Posters will be exhibited for 1-2 days and program listings will specify the time for poster discussion.

The original abstract of each poster presentation should arrive by August 10, 2014, at the latest at our offices. For the preparation of the abstract, please follow the Instructions for Submitting an Abstract.

The poster board surface area is 0.64 m² [0.8 m (31.5 inches) high and 0.8 m (31.5 inches) wide]. Poster presentations should include: title, authors, institutional affiliation, abstract, short introduction, methods, results, discussion, references and conclusion.

Social Program

- Opera Evening.
  DIMITRA THEODOSSIOU, soprano.
  DIMITRIS YAKAS, piano.
  Arias by Verdi, Puccini, Mascagni.
  No fee (date to be announced).
- Classical Guitar Recital. No fee (date to be announced).
- Greek songs recital. No fee (date to be announced).
- Greek traditional dances. No fee (date to be announced).
- Closing ceremony and Gala Dinner on Friday, October 10, 2014. No fee.
- A special program of visits to archaeological sites, visits to museums, excursions, and tours will also be available.

The program includes: The Holy Monasteries of Mount Athos (excursion and cruise); Alexander the Great tour (Pella, Vergina, Veroia); Dion; Amphipolis, Filippoi, Kavala; Thessaloniki tour, Byzantine and Archaeological Museums, etc. Tickets can be ordered at the desk of the Conference Secretariat.

Sithonia

Sithonia, the central peninsula of Chalkidiki, is varnished with unique, virgin bays and plenty of serene and natural beaches. The place that hosted both Aristotle and Alexander the Great has succeeded in keeping a low profile in mass tourism campaigns and maintaining its cultural uniqueness and natural beauty. Situated right next to Thessaloniki, voted best of the world places by National Geographic, it dazzles the international traveler with an interminable list of archaeological sights of great magnitude. The museum of Vergina hosts immaculate gold treasuries from the burial site of King Philip II, Alexander the Great’s father. The ancient Kavala aqueduct, the ancient theatre of Filippoi, the archaeological areas of Vergina, Dion and Pella, and countless byzantine monuments and churches are only a few of the nearby sites that inspire a great historical time travel experience.

Weather

October is a very pleasant month in Sithonia, Greece. The average temperature is 24°C (range 20-30°C).

The Previous Conferences of Anticancer Research

<table>
<thead>
<tr>
<th>Location &amp; Year</th>
<th>Number of Participants</th>
<th>Total Number of Papers</th>
<th>(Original / Reviews)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1st Loutraki, 1985</td>
<td>450</td>
<td>285</td>
<td>(234 / 51)</td>
</tr>
<tr>
<td>2nd Saronis, 1988</td>
<td>550</td>
<td>339</td>
<td>(299 / 40)</td>
</tr>
<tr>
<td>3rd Marathon, 1990</td>
<td>580</td>
<td>332</td>
<td>(287 / 45)</td>
</tr>
<tr>
<td>4th Crete, 1992</td>
<td>650</td>
<td>402</td>
<td>(347 / 55)</td>
</tr>
<tr>
<td>5th Corfu, 1995</td>
<td>860</td>
<td>555</td>
<td>(460 / 95)</td>
</tr>
<tr>
<td>6th Halkidiki, 1998</td>
<td>640</td>
<td>450</td>
<td>(405 / 45)</td>
</tr>
<tr>
<td>7th Corfu, 2004</td>
<td>1,190</td>
<td>616</td>
<td>(552 / 64)</td>
</tr>
<tr>
<td>8th Kos, 2008</td>
<td>1,212</td>
<td>760</td>
<td>(692 / 68)</td>
</tr>
</tbody>
</table>
CONFERENCE REGISTRATION FORM

☐ Please reserve my place at the 9th International Conference of Anticancer Research.

☐ I shall be accompanied by ........... adults and .......... children.

   (Please complete separate forms for each accompanying person.)

☐ I plan to present .............. poster(s). Topic number ..............

☐ I plan to present .............. oral communication(s): .............. minutes. Topic Number ..............

☐ Abstract is attached. (Please follow the instructions for submitting an abstract).

☐ I shall require accommodation in single [ ] or double [ ] room;

   Accommodation fees: Double room, EURO 132.00 for 2 persons per night; Single room, EURO 98.00 per person per night; Children 2-12 years old, as 3rd person in the same room, EURO 35.00 (per child). Triple room, EURO 180.00 for 3 persons per night. The fee covers accommodation in 5*-type rooms, breakfast, dinner, transportation from and to Thessaloniki Airport (5-11 October 14).

Registration fee: EURO 260.00; Students, EURO 100.00; Accompanying person, EURO 100.00; Children: No fee.

☐ Registration fee is enclosed. Accommodation fee for ........... nights is also enclosed.

   (Cheques should be made payable to Delinasios G.J. & CO G.P., Athens, Greece. Credit cards are NOT accepted.)

☐ Please send an invoice for EURO .............. (and instructions for payment).

   Please provide VAT number and billing address for European invoices.

☐ I am a student (certificate enclosed).

☐ I will require transportation between Thessaloniki Airport and the Porto Carras Hotels on October 5 and 11, 2014.


☐ Please enter my personal subscription to Anticancer Research/IN VIVO/2015, at the special conference rate: ☐ online (EURO 200.00); ☐ print & online (EURO 300.00).

Title: ........................................................................................................................ ................................

Name: ................................................................................................... Sex: male ☐ or female ☐

Institution (or Company): ..........................................................................................................

Address: ......................................................................................................................

Tel: .......................................... Fax: .......................................... E-mail: ..........................

Deadline for registration: September 26, 2014.

Deadline for submission of abstracts: 10 August, 2014.

Please send completed form and Registration & Accommodation fees to:

Dr. John G. Delinasios, International Institute of Anticancer Research,

1st km Kapandritiou-Kalamou Rd., P.O. Box 22, Kapandriti 19014, Greece.

Tel. / Fax : +30 22950 53389; e-mail: conference@iiar-anticancer.org. Website: www.iiar-anticancer.org/conference

Please photocopy for additional forms.
BREAST CANCER

Experimental and Clinical Research
Reviews