

Spiral and Multislice CT: Physical Principles and Medical Physics Responsibilities

SEAAPM Spring Symposium

Gary Barnes, Ph.D. and Jon Trueblood, Ph.D., Co-Directors

March 16-17, 2000

*Grove Park Inn Resort
Asheville, North Carolina*

Sponsored by
ADAC Laboratories

Wednesday, March 15, 2000

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| 6:00 PM - 8:00 PM | Symposium Registration & Ice Breaker |
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Thursday, March 16, 2000

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| 7:00 AM | Registration & Continental Breakfast | |
| 8:15 AM | Welcome & Introduction | <i>Jon Trueblood</i> |
| | Symposium Session I CT Principles and Evolution | |
| 8:30AM-9:00AM | CT Principles and Early Developments 1970-1989 | <i>Gary T. Barnes</i> |
| 9:00AM-9:30AM | Spiral and Multi-Slice CT Principles and Development 1990-2000 | <i>Willi A. Kalender</i> |
| 9:30AM-10:00AM | CT Image Reconstruction Algorithms | <i>Marc Kachelriess</i> |
| 10:00AM-10:30AM | Break sponsored by Siemens Oncology Care Systems, Inc. | |
| 10:30AM-11:00AM | CT Image Quality: Theoretical Considerations | <i>David M. Gauntt</i> |
| 11:00AM-11:30AM | Artifacts in Conventional, Helical, and Multi-Slice CT | <i>Neil Bromberg</i> |
| 11:30AM-12:00PM | Panel Discussion | <i>Session Faculty</i> |
| 12:00PM-1:30PM | Lunch Break | |
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| | Symposium Session II Dosimetry and Performance Evaluation | |
| 1:30PM-2:00PM | Conventional, Spiral, and Multi-Slice CT Dosimetry | <i>Cynthia McCollough</i> |
| 2:00PM-2:30PM | CT Organ and Effective Doses | <i>Willi A. Kalender</i> |
| 2:30PM-3:00PM | Multi-Slice CT Performance Assessment; Acceptance Testing and Routine Quality Control | <i>Frank E. Zink</i> |
| 3:00PM-3:30PM | Break sponsored by Computerized Medical Systems Inc. | |
| | Session III Clinical and 3D Considerations | |
| 3:30PM-4:15PM | Clinical Advantages of Multi-Slice CT | <i>J. Kevin Smith</i> |
| 4:15PM-5:00PM | CT Angiography, 3D Imaging and Display Considerations | <i>Sandy Napel</i> |
| 5:00PM-5:30PM | Panel Discussion | <i>Session Faculty</i> |

Friday, March 17, 2000

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|--------------------------|---|-------------------------------|
| 7:00 AM - 8:00 AM | Continental Breakfast sponsored by Varian Oncology Systems | |
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| | Session IV Medical Physics Practice Considerations | |
| 8:00AM-8:30 AM | Multi-Slice CT Radiation Shielding Design: Implications of Increased Workload and Scatter Volumes | <i>Gary T. Barnes</i> |
| 8:30AM-9:00AM | Measurement of Helical and Multi-Slice CT Slice Widths and Sensitivity Profiles | <i>David R. Pickens</i> |
| 9:00AM-9:30AM | Multi-Slice CT Systems: A Critical Comparison of Scanner Specifications | <i>William J. Davros</i> |
| 9:30AM-10:00AM | Helical and Multi-Slice CT in Radiation Oncology: CT Number Calibrations and Quality Assurance | <i>J. Daniel Bourland</i> |
| 10:00AM-10:30AM | Break sponsored by MDS Nordion Therapy Systems | |
| | Session V Current and Future Developments | |
| 10:30AM-11:00AM | CT Fluoroscopy: Clinical Uses and Dose Considerations | <i>Bryan R. Westerman</i> |
| 11:00AM-12:00PM | Multi-Slice CT: Future Developments | <i>Marc Kachelriess</i> |
| 12:00PM-12:30PM | Panel Discussion | <i>Session Faculty</i> |