
George Sgouros, Ph.D.

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CURRICULUM VITAE

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Education :

Columbia University,
School of Engineering & Applied Science
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B.S. (Applied Physics)
1980-1984

Cornell University,
Graduate School of Medical Sciences,
New York, New York

Ph.D.
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1986-1991

Postdoctoral Training :

Sloan-Kettering Institute
Memorial Sloan-Kettering Cancer Center
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Post-doctoral Research Fellow
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1991-1993

Positions and Appointments:

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Publications :

A. Peer-reviewed original research articles

1. Bigler RE, **Sgouros G**. Biological analysis and dosimetry for ^{15}O -labeled O_2 , CO_2 , and CO gases administered continuously by inhalation. *J Nucl Med* 1983; 24(5):431-437.
2. Bigler RE, Zanzonico PB, Schmall B, Conti PS, Dahl JR, Rothman L, **Sgouros G**, MacEwen EG. Evaluation of $[1-^{11}\text{C}]$ -alpha-aminoisobutyric acid for tumor detection and amino acid transport measurement: Spontaneous canine tumor studies. *Eur J Nucl Med* 1985; 10:48-55.
3. **Sgouros G**, Barest G, Thekkumthala J, Chui C, Mohan R, Bigler RE, Zanzonico PB. Treatment planning for internal radionuclide therapy: Three-dimensional dosimetry for non-uniformly distributed radionuclides. *J Nucl Med* 1990; 31(11):1884-1891.
4. **Sgouros G**. Plasmapheresis in radioimmunotherapy of micrometastases: A mathematical modeling and dosimetrical analysis. *J Nucl Med* 1992; 33:2167-2179.
5. **Sgouros G**, Graham MC, Divgi CR, Larson SM, Scheinberg DA. Modeling and dosimetry of monoclonal antibody M195 (anti-CD33) in acute myelogenous leukemia. *J Nucl Med* 1993; 34:422-430.
6. **Sgouros G**. Bone marrow dosimetry for radioimmunotherapy: Theoretical considerations. *J Nucl Med* 1993; 34:689-694.
7. **Sgouros G**, Chiu S, Pentlow KS, Brewster LJ, Kalaigian H, Baldwin B, Daghighian F, Graham MC, Larson SM, Mohan R. Three-dimensional dosimetry for radioimmunotherapy treatment planning. *J Nucl Med* 1993; 34:1595-1601.
8. Caron PC, Jurcic JG, Scott AM, Finn RD, Divgi CR, Graham MC, Jureidini IM, **Sgouros G**, Tyson D, Old LJ, Larson SM, Scheinberg DA. A phase 1B trial of humanized monoclonal antibody M195 (anti-CD33) in myeloid leukemia: Specific targeting without immunogenicity. *Blood* 1994; 83(7):1760-1768.
9. Lief EP, **Sgouros G**, Humm JL. General solution of the radioactive parent-daughter relationship. *Med Phys* 1994; 21:1739-1740.
10. Scott AM, Macapinlac H, Zhang J, Kalaigian H, Graham MC, Divgi CR, **Sgouros G**, Goldsmith SJ, Larson SM. Clinical applications of fusion imaging in oncology. *Nucl Med Biol* 1994; 21:775-784.
11. Larson SM, Divgi CR, Scott A, **Sgouros G**, Graham MC, Kostakoglu L, Scheinberg D, Cheung NV, Schlom J, Finn RD. Current status of radioimmunotherapy. *Nucl Med Biol* 1994; 21(5):785-792.
12. Scott AM, Macapinlac H, Divgi CR, Zhang J, Kalaigian H, Welt S, Pentlow K, Hilton S, Graham MC, **Sgouros G**, Pelizzari C, Chen G, Schlom J, Goldsmith SJ, Larson SM. Clinical

- validation of SPECT and CT/MRI registration in radiolabeled monoclonal antibody studies of colorectal carcinoma. *J Nucl Med* 1994; 35:1976-1984.
13. Scott AM, Macapinlac H, Zhang J, Daghighian F, Montamayor N, Kalaigian H, **Sgouros G**, Graham MC, Yeh SDJ, Lai E, Goldsmith SJ, Larson SM. Image registration of SPECT and CT images using an external fiducial band and 3-D surface fitting in a case of metastatic thyroid cancer. *J Nucl Med* 1995; 36:100-103.
 14. Willins J, **Sgouros G**. Modeling analysis of Platinum-195m for targeting individual blood-borne cells in adjuvant radioimmunotherapy. *J Nucl Med* 1995; 36:315-319.
 15. Ugur O, Scott AM, Kostakoglu L, Hui TE, Masterson ME, Febo R, **Sgouros G**, Rosa E, Mehta B, Fisher DR, Cheung NV, Larson SM. Calculated and TLD-based absorbed dose estimates for I-131-labeled 3F8 monoclonal antibody in a human neuroblastoma xenograft nude mouse model. *Nucl Med Biol* 1995; 22(1):87-93.
 16. Nikula TK, Bocchia M, Curcio MJ, **Sgouros G**, Ma Y, Finn RD, Scheinberg DA. Impact of the high tyrosine fraction in complementarity determining regions: Measured and predicted effects of radioiodination on IgG immunoreactivity. *Molecular Immunol* 1995; 32:865-872.
 17. **Sgouros G**, Jureidini IM, Scott AM, Graham MC, Larson SM, Scheinberg DA. Bone marrow dosimetry: Regional variability of marrow-localizing antibody. *J Nucl Med* 1996; 37:695-698.
 18. Furhang EE, **Sgouros G**, Chui C-S. Radionuclide photon dose kernels for internal emitter dosimetry. *Med Phys* 1996; 23:759-764.
 19. Furhang EE, Chui C-S, **Sgouros G**. A Monte Carlo approach to patient-specific dosimetry. *Med Phys* 1996, 23:1523-1529.
 20. Kolbert KS, **Sgouros G**, Scott AM, Bronstein JE, Malane RA, Zhang J, Kalaigian H, McNamara S, Schwartz L, Larson SM. Implementation and evaluation of patient-specific three-dimensional internal dosimetry. *J Nucl Med* 1997; 38:301-308.
 21. Furhang EE, Chui C-S, Kolbert KS, Larson SM, **Sgouros G**. Implementation of a Monte Carlo dosimetry method for patient-specific internal emitter therapy. *Med Phys* 1997, 24:1163-1172.
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25. **Sgouros G**. Yttrium-90 biodistribution by yttrium-87 imaging: A feasibility analysis. *Med. Phys.* 1998; 25:1487-1490.
26. Agus DB, Golde DW, **Sgouros G**, Ballangrud A, Cordon-Cardo C, Scher HI. Positron emission tomography of a human prostate cancer xenograft: Association of changes in deoxyglucose accumulation with other measures of outcome following androgen withdrawal. *Cancer Res*, 1998; 58:3009-3014.
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29. McDevitt MR, Finn RD, **Sgouros G**, Ma D, Scheinberg DA. An ²²⁵Ac/²¹³Bi generator system for therapeutic clinical applications: construction and operation. *Appl. Radiat. Isotopes* 1999; 50:895-904.
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- radiation-induced myelotoxicity in therapy with beta-, Auger/conversion electron-, or alpha-emitters. *Clin Cancer Res.* 1999 Oct;5(10 Suppl):3031s-3043s
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 40. McDevitt MR, Barendswaard E, Ma D, Lai L, Curcio MJ, **Sgouros G**, Ballangrud AM, Yang W, Finn RD, Pellegrini V, Geerlings MW, Jr., Lee M, Brechbiel MW, Bander NH, Cordon-Cardo C, Scheinberg DA. An alpha-particle emitting antibody (J591) for radioimmunotherapy of prostate cancer. *Cancer Res* 2000; 60:6095-6100.
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 43. Hamacher KA, Den RB, Den EI, **Sgouros G**. Cellular dose conversion factors for alpha-particle emitting radionuclides of interest in radionuclide therapy. *J Nucl Med* 2001; 42:1216-1221.
 44. Emfietzoglou D, Kostarelos K, **Sgouros G**. An analytical dosimetry study for the use of radionuclide-liposome conjugates in internal radiotherapy. *J Nucl Med* 2001; 42:499-504.
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56. Palm S, Enmon RM, Matei C, Kolbert KS, Xu S, Pellegrini V, Zanzonico PB, Finn RL, Koutcher JA, Larson SM, **Sgouros G**. Pharmacokinetics and biodistribution of ⁸⁶Y-Trastuzumab for ⁹⁰Y dosimetry in an ovarian carcinoma model: Correlative microPET and MRI. *J Nucl Med* 2003; 44:1148-1155.

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58. Enmon R, Yang W, Ballangrud ÅM, Solit DB, Heller G, Rosen N, Scher HI, **Sgouros G**. Combination treatment with 17AAG and acute irradiation produces supra-additive growth suppression in human prostate carcinoma spheroids. *Cancer Res* 2003; 63: 8393-8399.
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61. Ballangrud ÅM, Yang W-H, Palm S, Enmon R, Borchardt PE, Pellegrini VA, McDevitt MR, Scheinberg DA, **Sgouros G**. Alpha-particle emitting atomic generator (^{225}Ac)-labeled Trastuzumab (Herceptin) targeting of breast cancer spheroids: Efficacy versus HER2/*neu* expression. *Clin Cancer Res*, 2004; 10:4489-97.
62. **Sgouros G**, Kolbert KS, Sheikh A, Pentlow KS, Mun EF, Barth A, Robbins RJ, Larson SM. Patient-specific dosimetry for ^{131}I thyroid cancer therapy using ^{124}I -PET and 3D-ID. *J Nucl Med*, 2004; 45:1366-72.
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65. Emfietzoglou D, Kostarelos K, Papakostas A, Yang W-H, Ballangrud ÅM, Song H, **Sgouros G**. Liposome mediated radiotherapeutics using avascular tumor spheroids: Comparative dosimetry study for various radionuclides, liposome systems and a targeting antibody. *J Nucl Med* 2005; 46:89-97.
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69. Kostarelos K, Emfietzoglou D, Papakostas A, Yang WH, Ballangrud AM, **Sgouros G**. Engineering lipid vesicles of enhanced intratumoral transport capabilities: Correlating liposome characteristics with penetration into human prostate tumor spheroids. *J Liposome Res* 2005; 15:15-27.
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74. Prideaux AR, Song H, Hobbs RF, He B, Frey EC, Ladenson PW, Wahl RL, **Sgouros G**. Three-Dimensional Radiobiological Dosimetry (3D-RD): Application of radiobiological modeling to patient-specific, 3-D imaging-based internal dosimetry. *J Nucl Med*, 2007; 48:1008-1016.
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76. Singh Jaggi J, Carrasquillo JA, Seshan SV, Zanzonico P, Henke E, Nagel A, Schwartz J, Beattie B, Kappel BJ, Chattopadhyay D, Xiao J, **Sgouros G**, Larson SM, Scheinberg DA. Improved tumor imaging and therapy via i.v. IgG-mediated time-sequential modulation of neonatal Fc receptor. *J Clin Invest*. 2007 Sep 4;117(9):2422-2430.
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B. Books and Other Monographs

Books:

1. Zaidi H, **Sgouros G**, Ed. Monte Carlo calculations in nuclear medicine: Therapeutic applications. Institute of Physics Publishing, 2002.

Chapters/Review Articles:

1. **Sgouros G**, Scheinberg DA. The treatment of leukemia with radiolabeled monoclonal antibodies. In: Steven T. Rosen, Timothy M. Kuzel, Editors. *Immunoconjugate Therapy of Hematologic Malignancies*. Kluwer Academic Press, 23-64, 1993.
2. **Sgouros G**, Scheinberg DA. Treatment of leukemia with radiolabeled monoclonal antibodies. *Cancer Treat Res* 1993;68:23-64
3. Larson SM, **Sgouros G**, Cheung NKV. Monoclonal Antibodies in Cancer Therapy: Radioisotope conjugates. In: DeVita VT, Hellman S, Rosenberg SA, Editors. *Biologic Therapy of Cancer (2nd Edition)*, Lippincott, 534-552, 1995.
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7. McDevitt MR, **Sgouros G**, Finn RD, Humm JL, Jurcic JG, Larson SM, Scheinberg DA. Radioimmunotherapy with alpha-emitting nuclides. *Eur J Nuc Med*, 25:1341-1351, 1998.
8. Larson SM, Divgi C, **Sgouros G**, Cheung NV, Scheinberg DA. Principles and Practice of Monoclonal Antibody Therapy: Radioisotope Conjugates. In: Rosenberg SA, Editor. *Principles and Practice of the Biologic Therapy of Cancer*, 3rd Edition, Lippincott, 396-412, 2000.
9. Scheinberg DA, **Sgouros G**, Junghans RP,. Antibody-based Immunotherapies for Cancer. In: Chabner B and Longo DL, Eds. *Cancer Chemotherapy and Biotherapy: Principles and Practice*, 3rd Edition, Lippincott, 850-860, 2001.
10. **Sgouros G**. Radiolabeled Antibodies: Overview. In: Bertino J, Ed. *Encyclopedia of Cancer*, 2nd Edition, Academic Press, 29-39, 2002.
11. **Sgouros G**, Yang W-H, Enmon R. Spheroids of Prostate Tumor Cell Lines. In: Jackson P, Russell P, Eds. *Prostate Cancer: Methods and Protocols*, The Humana Press, Inc., 2003.
12. Manuel B, Kwok C, **Sgouros G**. Dose point-kernels for radionuclide dosimetry. In: Zaidi H, **Sgouros G**, Ed. *Monte Carlo calculations in nuclear medicine: Therapeutic applications*. Institute of Physics Publishing, 158-174, 2002.
13. **Sgouros G**, Kolbert KS. The three-dimensional internal dosimetry software package, 3D-ID. In: Zaidi H, **Sgouros G**, Ed. *Monte Carlo calculations in nuclear medicine: Therapeutic applications*. Institute of Physics Publishing, 249-261, 2002.

14. Ljungberg M, Dewarja Y, **Sgouros G**, Strand S. Evaluation and validation of dose calculation procedures in patient-specific radionuclide therapy. In: Zaidi H, **Sgouros G**, Ed. Monte Carlo calculations in nuclear medicine: Therapeutic applications. Institute of Physics Publishing, 262-285, 2002.
15. **Sgouros G**. Dosimetric and radiobiological considerations: Patient-specific dosimetry. In: Peter Ell, Sanjiv S. Gambhir, Eds. Nuclear Medicine in Clinical Diagnosis and Treatment, Volume 1, 3rd Edition. Elsevier Science, 375-382, 2004.
16. **Sgouros G**. Dosimetry of Internal Emitters. J Nucl Med 2005;46:18S-27S
17. Scheinberg DA, Mulford DA, Jurcic JG, **Sgouros G**, Junghans RP. Antibody therapies of cancer. In: Chabner BA, Longo DL, Eds. Cancer Chemotherapy and Biotherapy: Principles and Practice, 4th Edition, Lippincott Williams and Wilkins, 667-698, 2006.
18. **Sgouros G**, Knox SJ, Joiner MC, Morgan WF, Kassis AI. MIRD continuing education: Bystander and low dose-rate effects: are these relevant to radionuclide therapy? J Nucl Med 2007 Oct;48(10):1683-91.
19. Sofou S, **Sgouros G**. Antibody-targeted liposomes in cancer therapy and imaging. Expert Opin Drug Deliv. 2008 Feb;5(2):189-204.
20. **Sgouros G**. Alpha particles for targeted therapy. Adv Drug Deliv Rev. 2008; 60(12):1402-6,
21. **Sgouros G**, Frey E, Wahl R, He B, Prideaux A, Hobbs R. Three-dimensional imaging-based radiobiological dosimetry. Semin Nucl Med 2008; 38(5):321-34.
22. **Sgouros G**. Update: molecular radiotherapy: survey and current status. Cancer Biother Radiopharm, 2008; 23(5):531-40.
23. **Sgouros G**. High-LET-Emitting Radionuclides for Cancer Therapy. In: Stigbrand T, Carlsson J, Adams GP, Eds. Targeted Radionuclide Tumor Therapy, Biological Aspects, Springer Science+Business Media B.V., 175-181, 2008.
24. **Sgouros G**. Radionuclides for Therapy. In: Wagner H, Pomper M, Eds. Textbook of Molecular Imaging in Oncology, In press.

C. Other

Conference Proceedings:

1. Bigler RE, **Sgouros G**. Radiation Dosimetry of ¹⁵O-labeled O₂, CO₂, and CO gases administered continuously in the breath. Nuclear Medicine and Biology, Vol II, p. 2000-2003, C. Raynaud, Ed. Pergamon Press, New York, 1982.

2. Bigler RE, Zanzonico PB, Cosma M, **Sgouros G**. Adjuvant radioimmunotherapy for micrometastases: A strategy for cancer cure. In Radiolabeled Antibodies for Imaging and Therapy, NATO Advanced Study Institute, Barga, Italy, July 20 - August 1, 1986. Srivastava SC (Ed), Plenum Press, New York, pp 409-429, 1988.
3. Zanzonico PB, Bigler RE, **Sgouros G**, Strauss A. Quantitative SPECT in radiation dosimetry. Sem Nucl Med 19:47-61, 1989.
4. Zanzonico PB, Edwards C, **Sgouros G**, Strauss A, Bigler RE, Hurley JR, Becker DV. Practical dosimetry: Quantitative imaging in radionuclide therapy. In: Dosimetry of Administered Radionuclides. Eds: Adelstein SJ, Kasis AI, Burt RW. American College of Nuclear Physicians and Society of Nuclear Medicine. Washington DC, 1989. p 275-294
5. Fisher DR, **Sgouros G**. Dosimetry of radium-223 and progeny. Proceedings of the 6th International Radiopharmaceutical Dosimetry Symposium, May 7-10, 1996, Gatlinburg, TN; Pgs. 375-391.
6. Behr TM, **Sgouros G**, Sharkey RM, Dunn RM, Blumenthal RD, Kolbert KS, Juweid ME, Siegel JA, Goldenberg DM. ⁹⁰Y-Dosimetry in the nude mouse: Evaluation of three dosimetry models in relation to the observed biological effects in the radioimmunotherapy of human colon cancer xenografts. Proceedings of the 6th International Radiopharmaceutical Dosimetry Symposium, May 7-10, 1996, Gatlinburg, TN.
7. **Sgouros G**. Treatment planning for internal emitter therapy: Methods, applications and clinical implications. Proceedings of the 6th International Radiopharmaceutical Dosimetry Symposium, May 7-10, 1996, Gatlinburg, TN; pgs. 13-24.
8. **Sgouros G**. Alpha Particle Emitters in Cancer Therapy: Establishing the Rationale and Overcoming the Difficulties. Proceedings of EPSMH '96, Engineering & the Physical Sciences in Medicine & Health Conference, October 21-24, 1996, Canberra, Australia.
9. **Sgouros G**. Internal Emitter Dosimetry: Are Patient-Specific Calculations Necessary? Proceedings of EPSMH '96, Engineering & the Physical Sciences in Medicine & Health Conference, October 21-24, 1996, Canberra, Australia.
10. **Sgouros G**. Mathematical Models of Tumour Growth: Translating Absorbed Dose to Tumour Control Probability Proceedings of EPSMH '96, Engineering & the Physical Sciences in Medicine & Health Conference, October 21-24, 1996, Canberra, Australia.
11. Larson SM, El-Shirbiny AM, Divgi CR, **Sgouros G**, Finn RD, Tschmelitsch J, Picon A, Whitlow M, Schlom J, Zhang J, Cohen AM. Single chain antigen binding protein (sFv CC 49): First human studies in colorectal cancer metastatic to liver. Cancer 1997;80(12 Suppl):2458-2468
12. Behr TM, Sharkey RM, **Sgouros G**, Blumenthal RD, Dunn RM, Kolbert KS, Griffiths GL, Siegel JA, Becker WS, Goldenberg DM. Overcoming nephrotoxicity of radiometal-labeled immunoconjugates: Improved cancer therapy in a nude mouse model in relation to the internal radiation dosimetry. Cancer 1997; 80(12 Suppl):2591-2610.

13. **Sgouros G.** Introduction to kidney dose-response for radionuclide therapy. *Cancer Biother Radiopharm* 2004; 19:357 In: Sgouros, G. Wessels B., Guest Editors. *Kidney Dose-Response for Radionuclide Therapy. Cancer Biother Radiopharm* 2004; 19:355-390.

Editorial/Commentary:

1. DeNardo GL, Maddock SW, **Sgouros G**, Scheibe PO, DeNardo SJ. Immunoabsorption: An enhancement strategy for radioimmunotherapy. *J Nucl Med* 1993; 34:1020-1027.
2. **Sgouros G.** Radioimmunotherapy of micrometastases: Side-stepping the solid tumor hurdle. *J Nucl Med* 1995; 36:1910-1912.
3. Zanzonico P, **Sgouros G.** Prediction of myelotoxicity in radioimmunotherapy: What does dosimetry contribute? *J Nucl Med* 1997; 38:1753-1754.
4. **Sgouros G.** Long-lived Alpha Emitters in Radioimmunotherapy: The Mischievous Progeny. *Cancer Biother & Radiopharm* 2000; 15:219-221.
5. Behr TM, Behe M, Jungclas H, Jungclas H, Becker W, **Sgouros G.** Higher relative biological efficiency (RBE) of alpha-particles for acute effects: *in vitro veritas, in vivo vanitas?* *Eur J Nucl Med* 2001; 28:1435-6.
6. **Sgouros G.** Blood and bone marrow dosimetry in radioiodine therapy of thyroid cancer *J Nucl Med* 2005; 46:899-900.
7. **Sgouros G.** Towards patient-friendly cell-level dosimetry. *J Nucl Med* 2007; 48:496-497.
8. **Sgouros G.** Molecular radiotherapy: Targeting cancer at the cellular level. *MI Gateway, Newsletter of the SNM Molecular Imaging Center of Excellence. J Nucl Med* 2007, Dec issue.

Patents and Software Copyrights:

"Parametric image representation of imaging agent kinetics,"
Patent No.: 5684889, 11/4/1997.

"Alpha-Emitting Constructs & Uses Thereof,"
PCT application: PCT/US/99/11673

"Liposomal encapsulation of alpha-particle emitters and uses thereof,"
PCT Application: WO0197859

"Analysis and display software for multi-modality, longitudinal imaging studies: Multi-modality Image Analysis Utility (MIAU),"
Copyright filed February 8, 2002

"Use of histone deacetylase inhibitors in combination with radiation for the treatment of cancer,"
Provisional patent application: 60/373,033

"Method for in vivo rapid absorption and splenic sequestration of circulating toxins and other agents,"
First filing date: February 2, 2005.

"Immunoliposomal delivery of vaccine to the spleen,"
First filing date: April 2005.

Imaging-based, Three-dimensional Internal Dosimetry with Radiobiological Modeling
(JHU Ref.: 5116)

A Dose-rate Method For Prescribing Radioiodine Treatment In Thyroid Cancer Patients With Lung Metastases
(JHU Ref.: 5056)

Research Support (PI or Co-PI) :

CURRENT

- | | |
|--------------------|--|
| 2/9/05-11/30/09 | Targeted Alpha-Particle Therapy of Metastases
NIH/NCI R01 CA113797
total direct costs: \$700,000
PI, 25% effort |
| 5/1/06-4/30/11 | Dose-Response in Radionuclide Therapy
NIH/NCI R01 CA116477
total direct costs: \$1,582,889
PI, 40% effort |
| 7/1/06 – 6/30/09 | Liposomal Delivery of High LET Emitters to Cell Nuclei
Ruth L. Kirstein National Research Service Award (NRSA) 1F32CA12365
-Fellowship in Nanotechnology for Medicine
total direct costs: \$143,000
PI: Yah-el Har-el
Role: Mentor, 5% effort (no salary) |
| 12/1/05 – 11/30/10 | Quantitative SPECT for Targeted Radionuclide Therapy
NIH R01CA109234
total direct costs: \$1,461,211
PI: Eric Frey |

Role: Co-Inv, 10% effort

12/1/07 – 11/30/11 Antitumor Immunization by Liposomal Delivery of Vaccine to the Spleen
DOD BCRP USARMC BC062968– Multidisciplinary Fellowship
total direct costs \$267,510
PI: Mohanambe Lingappa
Role: Mentor, 10 % effort (no salary)

PREVIOUS

3/1/05-2/28/08 Combination Treatment of Her2/Neu Expressing Breast Cancer
Metastasis by Targeted Alpha-Particle Radioimmunotherapy And
Cancer Vaccine
DOD BCRP USARMC W81XWH05010290– Multidisciplinary
Fellowship
total direct costs \$368,786
PI: Hong Song
Role: Mentor, 10 % effort (no salary)

5/1/92 - 4/30/93 Pilot-Mechanisms of Radiation Induced Activation of the Pentose
Phosphate Pathway in Rat Brain
NIH P01-CA29502 (sub-project)
PI (of P01): Richard Rivlin
Total direct costs:, \$10,800
Role:PI of sub-project

4/1/95 – 3/31/03 Modeling and Dosimetry for Radiolabeled Antibody Therapy
NIH R01-CA62444
Total direct costs: \$2,319,458
PI

10/1/92 - 9/30/96 Radioimmunotherapy of CML
NIH U01-CA58260
Total direct costs:
PI: David A. Scheinberg
Role: Leader, Modeling and Dosimetry

6/14/95 - 6/14/97 Pharmacokinetics of Genetically Engineered Ab forms using PET
DOE 94-015
Total direct costs:
PI: Steven M. Larson
Role: Co-Inv

7/1/97 – 4/30/01 Antibody Therapy of Micrometastases
NIH R01 CA72683
Total direct costs: \$674,253

PI,

- 1/1/00-12/31/04 Biological Approaches to the Treatment of Cancer; Biophysics/Nuclear
Medicine Core
NIH/NCI P01 CA33049
total direct costs: \$686,500 (Core)
PI: Alan Houghton
Role: Co-PI of Core
- 3/1/00-3/1/03 NIH/NCI (P50) RFA CA-99-004
In Vivo Cellular and Molecular Imaging Centers (ICMICs); Imaging
Spheroid Growth and Vascularization, In Vivo
Total direct costs:
PI: Ronald Blasberg/Steven Larson
Role: PI of sub-project
- 12/1/00-11/31/02 Targeted Delivery of Alpha Particle-Emitting Radionuclides and Their
Alpha-Emitting Progeny: Breast Cancer Therapy Using Liposome-
Encapsulated Alpha-Emitters Army Breast Cancer Research Program –
Concept Award BC996563
Total direct costs: \$83,250
PI
- 11/1/2000-
10/31/2003 Radiolabeled Herceptin to Increase Treatment Efficacy in Breast Cancer
Patients with Low Tumor HER2/neu Expression
Army Breast Cancer Research Program – Idea Award BC990927total
direct costs: \$361,375
PI
- 1/1/2001-
12/31/2002 Combined Targeted Radionuclide Therapy and Chemotherapy of Prostate
Cancer CaP CURE Award
total direct costs:, \$100,000
PI
- 12/1/2004-
11/30/2007 Patient-Specific Dosimetry and Radiobiological Modeling of Targeted
Radionuclide Therapy
Department of Energy, Office of Science (BER), - Grant No. DE-FG02-
05ER63967
total direct costs:\$226,611 (funding terminated after 6 mos because DOE
program supporting grant was eliminated)
PI
- 9/30/03-10/31/06 Therapy of Ovarian Carcinoma by Targeted Delivery of Alpha-Particles
using Immunoliposomes Capable of Retaining Alpha-Emitting Daughters
DOD OCRP – IDEA Award DOD OC02009
total direct costs: \$355,222

5/1/03 – 1/31/07 PI
Advances in Skeletal Dosimetry Through Microimaging
NIH R01 CA096441
PI Wesley Bolch, U. Florida
total direct costs \$52,656
Role: PI of sub-contract

7/1/06-6/30/07 Enhanced Anti-Tumor Immunization by Liposomal Delivery of Vaccine
to the Spleen
DOD BCRP –USAMRMC Concept Award BC052595
total direct costs: 75,000
PI, 5% effort

PENDING

4/1/09-3/31/2013 Modeling and Dosimetry of Enzymatically Targeted Radionuclide Therapy
NIH/NCI R01
total direct costs: \$225,000
PI, 5% effort

Clinical Trials:

JHOC-NA_00001712 / NCT00416312 Dose-Response in Radioimmunotherapy of
Lymphoma, PI 7/06-

JHOC- NA_00002264 / NCT00416949 Dose-Response in Radionuclide Therapy of Thyroid
Cancer, PI 4/06-

Teaching:

Imaging Physics Lecture and Problem Course, MSKCC 1995-2003 – “Radionuclides for Nuclear Medicine,” “Single-Photon Emission Computed Tomography (SPECT),”

Physics Lectures for Nuclear Medicine Residents and Fellows, MSKCC 1995-2003 – “Introduction to Tracer Kinetic Modeling,” “Internal Radionuclide Radiation Dosimetry”

Lectures for Nuclear Medicine Residents and Fellows, Johns Hopkins University, School of Medicine, Radiology 2003-2005 – “Internal Radionuclide Radiation Dosimetry,” “Introduction to Radiobiology I and II”

"Modeling and Dosimetry of Radiolabeled Antibody Therapy" Seminar in Medical Physics, Columbia University, Dept. of Applied Physics, New York NY, 1995

“Dosimetry and Treatment Planning for Radioimmunotherapy: Future Directions” Refresher Course, Annual Meeting of the American Association of Physicists in Medicine, Boston, MA, 1995

"Radioimmunotherapy of Micrometastases: Alpha Particle Targeting of Multicellular Spheroids" Columbia University, Seminar in Medical Physics, Dept. of Applied Physics, New York NY, 1998

"Dosimetry of Alpha Particles in Pre-Clinical and Clinical Studies" Categorical Seminar, Speaker Annual Meeting, Society of Nuclear Medicine, St. Louis MO, 2000.

“Kidney Dose-Response for Radionuclide Therapy” Continuing Education Session, Organizer/Moderator, Society of Nuclear Medicine New Orleans, LO., 2003

“Bystander and low-dose rate effects” Continuing Education Session, Organizer/Moderator, Society of Nuclear medicine San Diego, CA, 2006

Mentoring:

John D. Willins, Post-doctoral fellow, Mem. Sloan-Kettering Cancer Ctr, Medical Physics Co-advisor (w/ Clift Ling, Ph.D., MSKCC); ‘93-‘94, 1st prize Young Investigator, AAPM, 2000 Present position: Chief Medical Physicist, Dept. of Rad. Onc., Boston Medical Center, Boston, MA

Eli E. Furhang, Columbia University Grad Student, Applied Physics Co-Ph.D. Advisor (w/ Chen Chui, Ph.D., MSKCC); ‘95-‘97, Ph.D. awarded in ‘97 Present position: Medical Physicist, St. Lukes – Roosevelt Hospital, New York, NY

Åse M. Ballangrud, Post-doctoral fellow, Mem. Sloan-Kettering Cancer Ctr, Medical Physics
Advisor 6/97 – 8/00, received Army IDEA award in 2000
Present position: Assistant Attending Physicist, Assistant Member, Medical Physics, MSKCC,
New York, NY

Klaus A. Hamacher, Post-doctoral fellow, Mem. Sloan-Kettering Cancer Ctr, Medical Physics
Advisor 12/97 – 5/01,
Present position: Medical Physicist, Nuclear Med, NY & Presbyterian Hospital, New York, NY

Stig Palm, Post-doctoral fellow, Mem. Sloan-Kettering Cancer Ctr, Medical Physics
Advisor 3/01 – 3/03, 1st prize, Med Phys young investigator NY RAMPS, 2002
Present position: Assist. Prof., Dept. of Radiation Physics, Göteborg University, Sweden.

Richard Enmon, Post-doctoral fellow, Mem. Sloan-Kettering Cancer Ctr, Medical Physics
Advisor 6/01 – 3/03,
Present position: Jones Day Associate-Patent/Biotech. law, attending law school, New York.

Stavroula Sofou, Post-doctoral fellow, Mem. Sloan-Kettering Cancer Ctr, Medical Physics
Advisor 10/01 – 3/03, Graduate Research Grant, Hellenic Univ. Club of New York
Present position: Assist. Prof., Dept. of Chem. Engineering, Polytechnic University, New York

Hong Song, Post-doctoral fellow, Johns Hopkins University, School of Medicine, Radiology
Awarded Multidisciplinary Post-Doctoral Fellowship Award from Department of Defense Breast
Cancer Research Program (BCRP). The proposed project he is currently working on is titled
“Combination Treatment of HER2/neu Expressing Breast Cancer Metastasis by Targeted alpha-
Particle Radioimmunotherapy and Cancer Vaccine”.
Advisor 12/03 –

Yah-el Har-el, Post-doctoral fellow, Johns Hopkins University, School of Medicine, Radiology
Awarded the Ruth L. Kirstein National Service Award Fellowship (NIH), Project title:
“Liposomal Delivery of High LET Emitters to Cell Nuclei”
Advisor 6/05 –

Andrew Prideaux, Post-doctoral fellow, Johns Hopkins University, SOM, Radiology
Advisor 5/05 –6/08
Present position: Clinical Applications Specialist, Hermes Medical Solutions, Stockholm,
Sweden

Mohanambe Lingappa, Post-doctoral fellow, Johns Hopkins University, SOM, Radiology
Awarded the Multidisciplinary Post-Doctoral Fellowship Award from the Department of Defense
Breast Cancer Research Program (BCRP), Project title: “Anti-tumor immunization by liposomal
delivery of vaccine to the spleen”
Advisor 4/06 –

Robert Hobbs, Post-doctoral fellow, Johns Hopkins University, SOM, Radiology
Advisor 5/06 –

Sebastien Baechler, Visiting fellow, University Institute of Radiation Physics, Lausanne University, Lausanne, Switzerland. Recipient of a Swiss National Science Foundation: fellowship No. PBFR2-115886.
Advisor 3/07-3/08

Senthamizhchelvan Srinivasan, Post-doctoral fellow, Johns Hopkins University, SOM, Radiology
Advisor 10/08 –

Ph.D. Thesis committees:

Kristina Norrgren, “Radiolabeled Monoclonal Antibodies, Development of a New Method to Remove Circulating Activity – Diagnostic Applications and Implications for Therapy,” Guest opponent, oral defense, Lund, Sweden, 1993.

Eli Furhang, “A Monte Carlo-Based Dosimetry Method For Patient-Specific Internal Emitter Therapy” Columbia University Grad Student, Applied Physics
Co-Ph.D. Advisor (w/ Chen Chui, Ph.D., MSKCC); ‘95-‘97, Ph.D. awarded in ‘97

Peter S. Kim, “Characterization of the Biophysical, Molecular, and Immunological Consequences of Antibody-Tumor Interaction on the Development of Potent Antitumor Immunity,” Johns Hopkins University, School of Medicine, Department of Pharmacology and Molecular Sciences
Thesis Advisory Committee Member 2005-2007

Bin He, Medical Imaging Physics Division, Department of Radiology
Examining Committee Member, 2005-2006

Chris Watchman, “Alpha Particle Dosimetry: 3D Image based Models of Normal Bone for use in Radionuclide Therapy,” University of Florida, Department of Nuclear and Radiological Engineering.
Thesis Advisory Committee Member 2003-2005

Andrew L. DuFresne Johns Hopkins University, School of Medicine, Biochemistry, Cellular, and Molecular Biology Program
Thesis Advisory Committee Member 2008-

Editorial Activities:

Reviewer: Cancer Biotherapy and Radiopharmaceuticals, Cancer Research, Clinical Cancer Research, International Journal of Cancer, Journal of Nuclear Medicine, Medical Physics, Physics in Medicine and Biology, International Journal of Radiation Biology, PLoS

Guest Editor: Medical Physics, Cancer Biotherapy and Radiopharmaceuticals, Journal of Nuclear Medicine

Scientific and Medical Societies :

Society of Nuclear Medicine
American Association of Physicists in Medicine
American Association for Cancer Research
American Association for the Advancement of Science

Committees/Review Panels:

Steering Committee Member (1995-2000),
American Association of Physicists in Medicine (AAPM),
Task Group on Internal Emitter Dosimetry

Chairman (1996), Dosimetry, Physics and Radiobiology Panel,
Department of Energy,
Alpha-Emitters for Medical Therapy Workshop

Chairman (1997-2003), Sub-Committee on Non-Human Use,
Committee on Radiation,
Memorial Sloan-Kettering Cancer Center

Study Section Member ('97, '98),
Biomedical Research Technology Special Emphasis Panel
National Center for Research Resources, National Institutes of Health

NCI Study Section Site Visit, City of Hope National Medical Center ('99)

Study Section member, Advanced Nuclear Medicine Initiative, Dept. of Energy ('00)

Member (2000 -), Vice Chairman (2006 - 2008), Chairman (2008 -)
Medical Internal Radionuclide Dose (MIRD) Committee,
Society of Nuclear Medicine

Oncological Sciences IRG Study Section Boundaries Team member (2001),
NIH, Center for Scientific Review
"develop recommendations for ... study sections that will be responsible for
reviewing grant applications in the oncological sciences"

Member, National Council on Radiation Protection and Measurements (NCRP), Scientific
Committee 6-3, Uncertainties in Internal Radiation Dosimetry (2005-)

Member, Board of Directors, Molecular Imaging, Center of Excellence,
Society of Nuclear Medicine (2007)

DOD Breast Cancer Research Program (2007, 2008)
Member, Breast Cancer Review Training Panel

Study Section Member (2008)
NIH, National Institute of Allergy and Infectious Diseases, Special Emphasis Panel
Mechanisms, Diagnosis, and Treatment of Radiation Injury
from Nuclear Accident or Terrorist Attack

Honors & Awards :

National Physics Honor Society	1983
National Engineering Honor Society	1983
Departmental nomination for George Vincent Wendell Award Columbia University, Applied Physics Dept.	1984
Cancer Research Institute/Jesselson Foundation Fellowship	1991
First Prize, American Association of Physicists in Medicine, Young Investigator Award - John Willins Awardee George Sgouros - senior author and supervisor.	1993
Louise and Allston Boyer Young Investigator Award, Memorial Sloan-Kettering Cancer Center,	1998
CaP CURE Award	2001

Invited Talks, Panels :

"Radiation Effects on Brain Glucose Metabolism: Potential for Early Prediction of Damage using PET and MRS," Nuclear Medicine Seminar, Memorial Sloan-Kettering Cancer Center, New York, 1989.

"Conformal Treatment Planning for Radioimmunotherapy" Nuclear Medicine Seminar, Memorial Sloan-Kettering Cancer Center, New York, 1992

"Conformal Treatment Planning for Radioimmunotherapy" Center for Molecular Medicine and Immunology, Garden State Cancer Center, Newark, New Jersey, 1993

"Physicists Role in Clinical Radioimmunodiagnosis and Therapy" Scientific Symposium, Annual Meeting of the American Association of Physicists in Medicine, Washington, D.C., 1993

"The Role of Modeling and Dosimetry in Achieving Success with Radioimmunotherapy" Nuclear Medicine Seminar, Memorial Sloan-Kettering Cancer Center, New York, 1993

"Modeling and Dosimetry for Radiolabeled Antibody Therapy" Rheumatology Grand Rounds, Hospital for Special Surgery, New York, 1994

"Modeling and Dosimetry of Radiolabeled Antibodies: Identifying the Optimal Parameters for Radioimmunotherapy" Brookhaven National Laboratory, Upton, New York 1995

"Treatment Planning for Internal Emitter Therapy: Methods, Applications, and Clinical Implications" Invited Paper, 6th International Radiopharmaceutical Dosimetry Symposium, Gatlinburg TN 1996

"Alpha Particle Emitters in Cancer Therapy: Establishing the Rationale and Overcoming the Difficulties," "Internal Emitter Dosimetry: Are Patient-Specific Calculations Necessary?"
"Mathematical Models of Tumour Growth: Translating Absorbed Dose to Tumour Control

Probability" Keynote Speaker, Engineering & Physical Sciences in Medicine & Health Conference, Canberra, Australia, 1996

"Patient-Specific Dosimetry," invited presentation, International Research Group in Immunoscintigraphy and Immunotherapy, Barcelona, Spain, May 1998.

"Patient-Specific Dosimetry," invited presentation, International Research Group in Immunoscintigraphy and Immunotherapy, Göttingen, Germany, May 1999.

"Spheroid Studies with Alpha-Emitter Labeled Antibodies" Nuclear Medicine Seminar, Memorial Sloan-Kettering Cancer Center, New York, 2000.

"Preliminary Experience with Three-Dimensional Dose Assessment and Treatment Planning" Continuing Education session, Annual Meeting, Society of Nuclear Medicine, St. Louis MO, 2000.

"Dosimetry for Antibody and Peptide based Radionuclide Therapy"
Invited Presentation, Nuklearmedizinische Klinik und Poliklinik,
Technische Universität München, 2000.

"Patient Dosimetry for ^{213}Bi -HuM195"
Invited Presentation, Medical Internal Radionuclide Dose (MIRD) Committee meeting
Delray Beach, FL, 2000

"Clinical Dosimetry Studies"
Invited Presentation, 7th International Radiopharmaceutical Dosimetry Symposium
Nashville TN 2002

"Radionuclide Therapy and Dosimetry"
Invited Presentation, European Association of Nuclear Medicine Annual Congress
Vienna, Austria 2002

"Alpha-Particle Emitter (^{225}Ac)-labeled Herceptin Antibody Targeting of Breast Cancer: Efficacy Vs. HER-2/neu Expression"
Invited Presentation, Era of Hope, DoD Breast Cancer Research Program Meeting
Orlando, FL, 2002

"The Radiation Physics of Targeted Therapy"
Educational Symposium, Society of Nuclear Medicine mid-winter meeting
Anaheim, CA. 2004

"Predicting Response and Toxicity: The Role of Dosimetry"
2nd International Workshop on Nuclear Oncology
Aventura, FL. 2004

"Innovations in Tumor Dosimetry – Implications for Radioisotope Therapy Treatment Planning"
Categorical Seminar, Society of Nuclear Medicine
Philadelphia, PA. 2004

Panel Discussion: "The Future of Radioimmunotherapy," Panel Member, 10th Conference on Cancer Therapy with Antibodies and Immunoconjugates, Princeton NJ, 2004

"Trends in Dosimetry for Therapy,"
Translational Applications of Molecular Imaging and Radionuclide Therapy
Toronto, Canada. 2005

"Pre-Clinical Model for Targeted Alpha-Emitter Therapy of Early Breast Cancer Metastases,"
Nuclear Medicine Seminar, Memorial Sloan-Kettering Cancer Center,
New York NY 2005

"Radioimmunotherapy and Lack of Dosimetry and Standards,"
14th Annual Meeting Council on Ionizing Radiation and Measurement Standards
Gaithersburg MD 2005

"Skeletal Dosimetry at Johns Hopkins University," Mini-Symposium on Skeletal Dosimetry
Advanced Laboratory for Radiation Dosimetry Studies, Dept. of Nuclear and Radiological
Engineering, University of Florida,
Gainesville FL 2005

"Dosimetry for Radionuclide Therapy,"
Fudan University Hospital,
Shanghai, China 2005

"New Dosimetric Methods: Voxel-based Dosimetry"
European Association of Nuclear Medicine, Annual Meeting; 2nd International Symposium on
Radionuclide Therapy and Radiopharmaceutical Dosimetry
Athens, Greece 2006

"Radiation Biology and Individual Patient Dosimetry in Therapeutic Nuclear Oncology"
World Congress of Nuclear Medicine and Biology
Seoul, S. Korea 2006

"Modeling and Dosimetry for Targeted Radionuclide Therapy"
MD Anderson Cancer Center
Department of Experimental Diagnostic Imaging
Houston TX 2007

"Radioimmunotherapy and Targeted Alpha-Particle Therapy"
The Baltimore-Washington Chapter of the Health Physics Society
and The Mid-Atlantic Chapter of the American Association of Physicists in Medicine
Columbia, MD 2007

"Regional (AFRA) training course on medical internal dosimetry relevant to nuclear medicine."
International Atomic Energy Agency
Technical Cooperation Project

RAF/6/032: Promoting Regional and National Quality Assurance Programmes for Medical Physics in Nuclear Medicine (AFRA II-7)
Tunis, Tunisia, N. Africa Nov. 2007

“Update on Dosimetry-Based Techniques in Thyroid Cancer”
CME course: Nuclear Oncology from Genotype to Targeted Radionuclide Therapy
Johns Hopkins University, Baltimore MD March 2008

“Targeted Therapy with Alpha-Particle Emitters - Dosimetry”
CME course: Nuclear Oncology from Genotype to Targeted Radionuclide Therapy
Johns Hopkins University, Baltimore MD March 2008

“Antibody-Targeted Liposomes in Cancer Therapy and Imaging”
Pfizer, Inc. Cambridge MA April 2008

“The Emerging Role of Radiotherapeutics in Oncology”
Grand Rounds, FDA, Silver Spring MD April 2008