

DUKE UNIVERSITY MEDICAL CENTER

CURRICULUM VITAE

**For
Permanent Record
and the
Appointments and Promotions Committee**

Date: September 26, 2025

NAME: Michael Rod Zalutsky, Ph.D.

PRIMARY ACADEMIC APPOINTMENT: Department of Radiology

SECONDARY APPOINTMENT: Department of Biomedical Engineering

PRESENT ACADEMIC RANK AND TITLE:

Jonathan Spicehandler M.D. Professor of Neuro-Oncology
Research

Professor of Radiology
Professor of Biomedical Engineering
Professor of Radiation Oncology
Professor of Pathology

DATE AND RANK OF FIRST DUKE FACULTY APPOINTMENT:

August 5, 1985; Associate Professor of Radiology with tenure

DATE OF BIRTH: January 3, 1949 **PLACE:** Pittsfield, Massachusetts

CITIZEN OF: United States

EDUCATION:

High School	Pittsfield High School Pittsfield, MA	1963-1966	
College	Clark University	1966-1970	A. B.
Graduate	Washington University	1970-1972	M. A.
	Washington University (Nuclear Chemistry)	1972-1974	Ph.D.

PROFESSIONAL TRAINING AND ACADEMIC CAREER:

1974-1977 Research Associate in Nuclear Medicine, Argonne National Laboratory, Argonne, Illinois

Academic Appointments:

1979-1980 Research Associate (Assistant Professor), Nuclear Medicine, University of Chicago, Chicago, Illinois

1980-1982 Principal Associate in Radiology (Nuclear Medicine), Harvard Medical School, Boston, Massachusetts

1981-1985 Research Member, Harvard-MIT Division of Health Sciences and Technology, Cambridge, Massachusetts

1982-1983 Instructor in Radiology, Harvard Medical School, Boston, Massachusetts

1983-1985 Assistant Professor of Radiology (Nuclear Medicine), Harvard Medical School, Boston, Massachusetts

1985-1990 Associate Professor of Radiology (Nuclear Medicine), Duke University Medical Center, Durham, North Carolina

1986-1998 Assistant Professor of Pathology, Duke University Medical Center, Durham, North Carolina

1990-present Professor of Radiology (Nuclear Medicine), Duke University Medical Center, Durham, North Carolina

1993-present Adjunct Associate Professor, Department of Companion Animal and Special Species Medicine, North Carolina State University College of Veterinary Medicine, Raleigh, North Carolina

1994-present Member, University Program in Cell and Molecular Biology, Duke University Medical Center, Durham, North Carolina

1998-present Associate Professor of Pathology, Duke University Medical Center, Durham, North Carolina

1999-present Associate Chief for Radiation Biology and Radioimmunotherapy, Preuss Laboratory for Brain Tumor Research, Duke University Medical Center Comprehensive Cancer Center, Durham, North Carolina

2002-present	Professor of Biomedical Engineering, Duke University, Durham, North Carolina
2005-present	Faculty, Medical Physics Graduate Program, Duke University, Durham, North Carolina
2008-present	Adjunct Professor, Department of Clinical Sciences, North Carolina State University College of Veterinary Medicine, Raleigh, North Carolina
2008-present	Jonathan Spicehandler M.D. Professor of Neuro-Oncology, Duke University School of Medicine, Durham, North Carolina
2009-present	Professor of Radiation Oncology, Duke University Medical Center, Durham, North Carolina
2017-present	Professor of Pathology, Duke University Medical Center, Durham, North Carolina

Hospital Appointments:

1977-1980	Radiochemist, University of Chicago Hospitals, Chicago, Illinois
1980-1985	Radioanalytic Chemist, Children's Hospital Medical Center, Boston, Massachusetts
1981-1985	Associate in Radiology (Nuclear Medicine), Brigham and Women's Hospital, Boston, Massachusetts
1983-1985	Associate Director, Joint Program in Nuclear Medicine Radiopharmacy
1983-1985	Assistant Professor of Oncodiagnostic Radiology and Nuclear Medicine, Dana-Farber Cancer Institute, Boston, Massachusetts
1984-1985	Consultant in Radiochemistry, Department of Radiology, Massachusetts General Hospital, Boston, Massachusetts

Visiting Appointments:

1977-1980	Visiting Scientist, Argonne National Laboratory, Argonne, Illinois
1980	Visiting Fellow, MRC Cyclotron Unit, Hammersmith Hospital, London, England
1980	Visiting Scientist, University of Turku, Turku, Finland

1984	Visiting Lecturer, Beijing Neurosurgical Institute, Beijing, China
1999	Wilhelm Manchot Visting Professor, Technical University of Munich, Munich, Germany
2011-2017	Hogge-Baer Visiting Professor, Department of Radiology and The University of Chicago Comprehensive Cancer Center, University of Chicago, Chicago, IL
2013	Distinguished Visiting Professor, Duke-National University of Singapore, Singapore
2013-2015	Guest Professor, Free University of Brussels, Brussels, Belgium

PUBLICATIONS:

Refereed Contributions

1. Macias, E.S., and Zalutsky, M.R.: K-L X-ray angular correlations in Cm, Pu, and Eu. Phys. Rev. A 1974; 9:2356-2364.
2. Zalutsky, M.R., and Macias, E.S.: Measurement of the angular correlation between L-M X-ray cascades. Phys. Lett. A 1974; 49:285-286.
3. Macias, E.S., Head, R.E., Hseuh, H.C., and Zalutsky, M.R.: On line determination of transport time of a helium-jet system. Nucl. Instr. Meth. 1974; 122:365-368.
4. Zalutsky, M.R., and Macias, E.S.: Experimental determination of the L_2 - L_3 X Coster-Kronig transition probability in europium, plutonium and curium. Phys. Rev. A 1975; 11:71-74.
5. Zalutsky, M.R., Macias, E.S., and Catz, A.L.: Angular correlation between K and L X rays in tantalum. Phys. Rev. A 1975; 11:75-78.
6. Zalutsky, M.R., and Macias, E.S.: Comparison of techniques for the determination of the L_2 - L_3 X Coster-Kronig transition probability. Phys. Rev. A 1975; 11:1093-1096.
7. Zalutsky, M.R., and Macias, E.S.: Angular correlation of X rays: L-M cascades of plutonium. Phys. Rev. A 1975; 12:526-530.
8. Zalutsky, M.R., and Macias, E.S.: Search for an anisotropy between L X rays and γ rays in the decay of ^{243}Cm . Phys. Rev. C 1975; 12:1076-1079.
9. Zalutsky, M.R., and Macias, E.S.: Decay 5.8-min ^{140}Pm and 10-sec ^{140}Pm to levels of ^{140}Nd . Phys. Rev. C 1975; 12:997-1002.

10. Zalutsky, M.R., Macias, E.S., and Meyer, R.A. Structure of N=81 nuclei: levels of ^{141}Nd and ^{139}Ce populated in beta decay. *Phys. Rev. C* 1976; 13:1590-1600.
11. Zalutsky, M.R., Sullivan, J.C., Friedman, A.M., Rayudu, G.V.S., and Deutsch, E.: Organ distribution of $^{99\text{m}}\text{Tc}$ -labeled aminethiols. *Int. J. Nucl. Med. Biol.* 1977; 4:53-56.
12. Friedman, A.M., Zalutsky, M.R., Wung, W., Buckinham, F., Harper, P.V., Jr., Scherr, G.H., Wainer, B., Hunter, R.L., Appelman, E.H., Rothberg, R.M., Fitch, F.W., Stuart, F.P., and Simonian, S.J.: Preparation of a biologically stable and immunogenically competent astatinated protein. *Int. J. Nucl. Med. Biol.* 1977; 4:219-224.
13. Zalutsky, M.R., Friedman, A.M., Sullivan, J.C., Ruby, S.L., and Rayudu, G.V.S.: Studies of tumor metabolism--II. Mössbauer spectroscopy of ^{57}Co -bleomycin. *Int. J. Nucl. Med. Biol.* 1977; 4:216-218.
14. Zalutsky, M.R., Rayudu, G.V.S., and Friedman, A.M.: The biological behavior of tin following administration of nine $^{99\text{m}}\text{Tc}$ -Sn complexes. *Int. J. Nucl. Med. Biol.* 1977; 4:224-230.
15. Kirchner, P., Ryan, J., Zalutsky, M.R., and Harper, P.V.: Positron emission tomography for the evaluation of pancreatic disease. *Semin. Nucl. Med.* 1980; 10:374-391.
16. Zalutsky, M.R., Wu, J., Harper, P.V., and Wickland, T.: Synthesis of C-11 DL-tryptophan and its purification using high pressure liquid chromatography. *Int. J. Appl. Radiat. Isot.* 1981; 32:182-184.
17. Gallagher, P.W., and Zalutsky, M.R.: Multilamellar DSPC liposomes: vesicles with improved stability. *J. Labelled Compd. Radiopharm.* 1982; 19:1469-1471.
18. Colcher, D., Zalutsky, M.R., Kaplan, W., Kufe, D., and Schlom, J.: Radiolocalization of human mammary tumors in athymic mice by a monoclonal antibody. *Cancer Res.* 1983; 43:736-742.
19. Bloomer, W.D., McLaughlin, W.H., Lambrecht, R.M., Atcher, R.W., Mirzadeh, S., Madara, J.L., Milius, R.A., Zalutsky, M.R., Adelstein, S.J., and Wolf, A.P.: Astatine-211 radiocolloid therapy: further observations and comparison with radiocolloids of phosphorus-32, dysprosium-165 and yttrium-90. *Int. J. Radiat. Oncol. Biol. Phys.* 1984; 10:341-348.
20. Carroll, A.M., Zalutsky, M.R., Schatten, S., Perry, L.L., Sobotka, C., Benacerraf, B., and Greene, M.: Monoclonal Antibodies to tissue specific cell surface antigens I. Characterization of an antibody to a prostate tissue antigen. *Clin. Immunol. Immunopath.* 1984; 33:268-281.

21. Masuho, Y., Zalutsky, M.R., Knapp, R.C., and Bast, R.C.: Interaction of monoclonal antibodies with cell surface antigens of human ovarian carcinoma. *Cancer Res.* 1984; 44:2813-2819.
22. Carroll, A.M., Zalutsky, M.R., Benacerraf, B., and Greene, M.I.: Monoclonal antibodies to tissue-associated antigens as anti-tumor reagents. *Surv. Synth. Path. Res.* 1984; 3:189-200.
23. Carroll, A.M., and Zalutsky, M.R.: Receptor mediated radiopharmaceuticals. *Trends Pharm. Sci.* 1984; 5:57-60.
24. de Sousa, M., Carroll, A.M., Herman, P.G., Kerr, S., Boulton, J., and Zalutsky, M.R.: Distribution and mechanism of uptake of $^{111}\text{InCl}_3$ in a tumor model for lymph node metastases. *Int. J. Nucl. Med. Biol.* 1985; 12:89-96.
25. Zalutsky, M.R., Colcher, D., Kaplan, W., and Kufe, D.: Radioiodinated B6.2 monoclonal antibody: further characterization of a potential radiopharmaceutical for the identification of breast tumors. *Int. J. Nucl. Med. Biol.* 1985; 12:227-233.
26. Zalutsky, M.R., Magistretti, P.L., Gallagher, P., and Ghidoni, R.: Radioiodinated ganglioside GM_1 : a potential tool for the investigation of ganglioside function in vivo. *Pharmacol. Res. Comm.* 1985; 17:897-912.
27. Kilbourn, M.R., and Zalutsky, M.R.: Research and clinical potential of receptor-based radiopharmaceuticals. *J. Nucl. Med.* 1985; 26:655-662.
28. Sledge, C.B., Zuckerman, J.D., Zalutsky, M.R., Atcher, R.W., Shortkroff, S., Lionberger, D.R., Rose, H.A., Hurson, B.J., Lankenar, P.A., Anderson, R.J., and Bloomer W.D. Treatment of rheumatoid synovitis of the knee with intra-articular dysprosium-165 ferric hydroxide macroaggregates. *Arthritis Rheum.* 1986; 29:153-159.
29. Zalutsky, M.R., Venkatesan, P.P., English, R.J., Sledge, C.B., and Adelstein, S.J.: Radiation synovectomy with ^{165}Dy -FHMA: lymph node uptake and radiation dosimetry calculations. *Int. J. Rad. Appl. Instrum. [B]* 1986; 12:457-465.
30. Zalutsky, M.R., Noska, M.A., and Gallagher, P.W.: Properties of multilamellar liposomes containing $^{99\text{m}}\text{TcO}_4$: effect of distearoylphosphatidylcholine to sphingomyelin ratio. *Int. J. Rad. Appl. Instrum. [B]* 1986; 13:269-276.
31. Hayes, D.F., Zalutsky, M.R., Kaplan, W., Noska, M., Thor, A., Colcher, D., Schlom, J., and Kufe, D.: Pharmacokinetics of radiolabeled monoclonal antibody B6.2 in patients with metastatic breast cancer. *Cancer Res.* 1986; 46:3157-3163.
32. English, R.J., Zalutsky, M.R., Venkatesan, P.P., and Sledge, C.B.: Therapeutic application of Dy-165-FHMA in the treatment of rheumatoid knee effusions. *J. Nucl. Med. Tech.* 1986; 14:18-20.

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34. Zalutsky, M.R., Noska, M.A., and Seltzer, S.E.: Characterization of liposomes containing ¹²⁵I-labeled x-ray contrast agents. *Invest. Radiol*. 1987; 22:141-148.
35. Sledge, C.B., Zuckerman, J.D., Shortkroff, S., Zalutsky, M.R., Venkatesan, P., and Snyder, M.A.: Synovectomy of the rheumatoid knee using intra-articular dysprosium-165-ferric hydroxide macroaggregates. *J. Bone Joint Surg*. 1987; 69-A:970-975.
36. Letvin, N.L., Zalutsky, M.R., Lambert, J.M., Chalifoux, L.V., Nadler, L.M., Schlossman, S.F., and Atkins, H.L.: Use of radiolabeled anti-B1 antibody for B lymphocyte imaging in rhesus monkeys. *Int. J. Rad. Appl. Instrum. [B]* 1987; 14:99-105.
37. Wikstrand, C.J., McLendon, R.E., Carrel, S., Kemshead, J.T., Mach, J.-P., Coakham, H.B., de Tribolet, N., Bullard, D.E., Zalutsky, M.R., and Bigner, D.D.: Comparative localization of glioma-reactive monoclonal antibodies in vivo in an athymic mouse human glioma xenograft model. *J. Neuroimmunol*. 1987; 15:37-56.
38. Lee, Y., Bullard, D.E., Wikstrand, C.J., Zalutsky, M.R., Muhlbaier, L.H., and Bigner, D.D.: Comparison of monoclonal antibody delivery to intracranial glioma xenografts by intravenous (I.V.) and intracarotid (I.C.) administration. *Cancer Res*. 1987; 47:1941-1946.
39. Zalutsky, M.R., de Sousa, M., Venkatesan, P., Shortkroff, S., Zuckerman, J., and Sledge, C.B.: Evaluation of Indium-111 chloride as a radiopharmaceutical for joint imaging in a rabbit model of arthritis. *Invest. Radiol*. 1987; 22:733-740.
40. Zalutsky, M.R., and Narula, A.S.: A method for the radiohalogenation of proteins resulting in decreased thyroid uptake of radioiodine. *Int. J. Rad. Appl. Instrum. [A]* 1987; 38:1051-1055.
41. Zalutsky, M.R., Noska, M.A., Gallagher, P.W., Shortkroff, S., and Sledge, C.B.: Use of liposomes as carriers for radiation synovectomy. *Int. J. Rad. Appl. Instrum. [B]* 1988; 15:151-156.
42. Zalutsky, M.R., and Narula, A.S.: Astatination of proteins using an *N*-succinimidyl tri-*n*-butylstannyl benzoate intermediate. *Int. J. Rad. Appl. Instrum. [A]* 1988; 39:227-232.
43. Hayes, D.F., Noska, M., Kufe, D., and Zalutsky, M.: Effect of radioiodination on the binding of monoclonal antibody DF3 to breast carcinoma cells. *Int. J. Rad. Appl. Instrum. [B]* 1988; 15:235-241.

44. Zalutsky, M.R., and Narula, A.S.: Radiohalogenation of a monoclonal antibody using an *N*-succinimidyl 3-(tri-*n*-butylstannyl) benzoate intermediate. *Cancer Res.* 1988; 48:1446-1450.
45. Lee, Y., Bullard, D.E., Zalutsky, M.R., Coleman, R.E., Wikstrand, C., Friedman, H.S., Colapinto, E.V., and Bigner, D.D.: Therapeutic efficacy of anti-glioma mesenchymal extracellular matrix ¹³¹I radiolabeled murine monoclonal antibody in a human glioma xenograft model. *Cancer Res.* 1988; 48:559-566.
46. Zalutsky, M.R., Knapp, R.C., and Bast, R.C.: Influence of circulating antigen on blood pool activity of a radioiodinated monoclonal antibody. *Int. J. Rad. Appl. Instrum. [B]* 1988; 15:431-437.
47. Colapinto, E.V., Lee, Y.-S., Humphrey, P.A., Zalutsky, M.R., Friedman, H.S., Bullard, D.E., and Bigner, D.D.: The localization of radiolabeled murine monoclonal antibody 81C6 and its Fab fragment in human glioma xenografts in athymic mice. *Br. J. Neurosurg.* 1988; 2:173-186.
48. Lee, Y.-S., Bullard, D.E., Humphrey, P.A., Colapinto, E.V., Friedman, H.S., Zalutsky, M.R., Coleman, R.E., and Bigner, D.D.: Treatment of intracranial human glioma xenografts with ¹³¹I anti-tenascin monoclonal antibody (Mab) 81C6. *Cancer Res.* 1988; 48:2904-2910.
49. Colapinto, E.V., Humphrey, P.A., Zalutsky, M.R., Groothuis, D.R., Friedman, H.S., de Tribolet, N., Carrel, S., and Bigner, D.D.: Comparative localization of murine monoclonal antibody Me1-14 F(ab')₂ fragment and whole IgG_{2a} in human glioma xenografts. *Cancer Res.* 1988; 48:5701-5707.
50. Narula, A.S., and Zalutsky, M.R.: Synthesis of *N*-succinimidyl-2,4-dimethoxy-3-(tri-*n*-butylstannyl)benzoate via regio-specifically generated lithium 2,4-dimethoxy-3-lithiobenzoate. *Tetrahedron Lett.* 1988; 29:4385-4388.
51. Zalutsky, M.R., Moseley, R.P., Coakham, H.B., Coleman, R.E., and Bigner, D.D.: Pharmacokinetics and tumor localization of ¹³¹I-labeled anti-tenascin monoclonal antibody 81C6 in patients with gliomas and other intracranial malignancies. *Cancer Res.* 1989; 49:2807-2813.
52. Zalutsky, M.R., Bast, R.C., Jr., and Knapp, R.C.: Pharmacokinetics of a radioiodinated monoclonal antibody F(ab')₂ fragment in a xenograft model with circulating antigen. *Int. J. Rad. Appl. Instrum. [B]* 1989; 16:405-411.
53. Garg, P.K., Archer, G.E., Jr., Bigner, D.D., and Zalutsky, M.R.: Synthesis of radioiodinated *N*-succinimidyl iodobenzoate: optimization for use in antibody labeling. *Int. J. Rad. Appl. Instrum. [A]* 1989; 40:485-490.

54. Zalutsky, M.R., Garg, P.K., Friedman, H.S., and Bigner, D.D.: Labeling monoclonal antibodies and F(ab')₂ fragments with the alpha particle emitting nuclide astatine-211: preservation of immunoreactivity and in vivo localizing capacity. *Proc. Natl. Acad. Sci. USA* 1989; 86:7149-7153.
55. Zalutsky, M.R., Noska, M.A., Colapinto, E.V., Garg, P.K., and Bigner, D.D.: Enhanced tumor localization and in vivo stability of a monoclonal antibody radioiodinated using *N*-succinimidyl-3-(tri-*n*-butylstannyl)benzoate (ATE). *Cancer Res.* 1989; 49:5543-5549.
56. Narula, A., and Zalutsky, M.R.: No-carrier-added astatination of *N*-succinimidyl 3-(tri-*n*-butylstannyl) benzoate (ATE) via electrophilic destannylation. *Radiochim. Acta* 1989; 47:131-135.
57. Garg, P.K., Slade, S.K., Harrison, C.L., and Zalutsky, M.R.: Labeling proteins using aryl iodide acylation agents: influence of *meta* versus *para* substitution on *in vivo* stability. *Int. J. Rad. Appl. Instrum. [B]* 1989; 16:669-674.
58. Garg, P.K., Friedman, H., Slade, S., Bigner, D.D., and Zalutsky, M.R.: Astatine-211 labeled monoclonal antibody: a potential agent for radioimmunotherapy. *Nuklearmedizin. Suppl.* 1989; 25:663-666.
59. Colapinto, E.V., Zalutsky, M.R., Archer, G.E., Noska, M.A., Friedman, H.S., and Bigner, D.D.: Radioimmunotherapy of intracerebral human glioma xenografts with ¹³¹I-Labeled F(ab')₂ fragments of monoclonal antibody Me1-14. *Cancer Res.* 1990; 50:1822-1827.
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65. Vaidyanathan, G., and Zalutsky, M.R.: Protein radiohalogenation: observations on the design of *N*-succinimidyl ester acylation agents. *Bioconjugate Chem.* 1990; 1:269-273.
66. Moseley, R.P., Davies, A.G., Richardson, R.B., Zalutsky, M., Carrell, S., Fabre, J., Slack, N., Bullimore, J., Pizer, B., Papanastassiou, V., Kemshead, J.T., Coakham, H.B., and Lashford, L.S.: Intrathecal administration of ¹³¹I radiolabelled monoclonal antibody as a treatment for neoplastic meningitis. *Br. J. Cancer.* 1990; 62:637-642.
67. Zalutsky, M.R., Garg, P.K., and Narula, A.S.: Labeling monoclonal antibodies with halogen nuclides. *Acta Radiol. Supp.* 1990; 374:141-145.
68. Vaidyanathan, G., and Zalutsky, M.R.: Radioiodination of antibodies via *N*-succinimidyl-2,4-dimethoxy-3-(trialkylstannyl)benzoates. *Bioconjugate Chem.* 1990; 1:387-393.
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246. Vaidyanathan, G., Alston, K.L., Peixoto, K.C., and Zalutsky, M.R.: Enhanced cellular retention of an internalizing anti-EGFRvIII monoclonal antibody radioiodinated using Lys⁵-[*I]iodobenzoyl Gly¹-maleimido GEEEEK ([*I]IB-MAL-D-GEEEEK), a prosthetic group containing negatively charged D-glutamates. Fifty-Second Annual Meeting of the Society of Nuclear Medicine, Toronto, Canada, 2005.
247. Pozzi, O.R. and Zalutsky, M.R.: Radiolytic effects of Astatine-211 α -particles on *N*-succinimidyl 3-[^{211}At]astatobenzoate synthesis. Fifty-Second Annual Meeting of the Society of Nuclear Medicine, Toronto, Canada, 2005.

248. Akabani, G., Carlin, C., Welsh, M.S., and Zalutsky, M.R.: Cytotoxicity of Astatine-211-labeled trastuzumab in human breast cancer cell lines: effects of specific activity and HER2 receptor heterogeneity. Fifty-Second Annual Meeting of the Society of Nuclear Medicine, Toronto, Canada, 2005.
249. Akabani, G., Reardon, D.A., Coleman, R.E., Wong, T.Z., Metzler, S.D., Bowsher, J.E., Barboriak, D.P., Provenzale, J.M., Friedman, H.S., Friedman, A.H., McLendon, R.E., Zalutsky, M.R., and Bigner, D.D.: A phase II study of ¹³¹I-labeled anti-tenascin 81C6 murine monoclonal antibody in newly diagnosed patients with malignant gliomas: dosimetry and radiographic analysis. Fifty-Second Annual Meeting of the Society of Nuclear Medicine, Toronto, Canada, 2005.
250. Vaidyanathan, G., Alston, K.L., and Zalutsky, M.R.: Radiohalogenation methods for labeling antibodies and peptides reactive with internalizing receptors. 2005 Pacificchem National Meeting, Honolulu, Hawaii, 2005.
251. Reardon, D., Akabani, G., Friedman, A., Friedman, H., McLendon, R., Quinn, J., Rich, J., Vredenburgh, J., Zalutsky, M., and Bigner, D.D.: An update of phase 2 trial results: patients with recurrent malignant glioma treated with iodine-131-labeled murine antitenascin monoclonal antibody 81C6 into the resection cavity. Second Quadrenial Meeting of the World Federation of NeuroOncology, Edinburgh, Scotland, 2005.
252. Vaidyanathan, G., Olafsen, T., Wu, A.M., and Zalutsky, M.R.: Increased cellular retention by MCF7/HER2 breast cancer cells of an anti-p185^{HER2} scFv-Fc double mutant radioiodinated with a residualizing label. European Symposium on Radiopharmacy and Radiopharmaceuticals, Lucca, Italy, 2006.
253. Barrett, J.A., Joyall, J.L., Maresca, K.P., Hillier, S., Keith, D., Femia, F.J., Mairs, R.J., Boyd, M., Zalutsky, M.R., and Babich, J.W.: Impact of cold carrier MIBG on pharmacokinetics, tissue distribution, tumor uptake and efficacy of ¹³¹I-MIBG. Fifty-Third Annual Meeting of the Society of Nuclear Medicine, San Diego, CA, 2006.
254. Reardon, D., Akabani, G., Friedman, A., Friedman, H., Herndon, J., McLendon, R., Quinn, I., Rich, J., Vredenburgh, J., Dejdardins, A., Sampson, J., Guruangan, S., Kirkpatrick, J., Wong, T., Dowell, J., Dunn, R., Sathornsumetee, S., Boulton, S., Coleman, R., Zalutsky, M., and Bigner, D.: Results of a phase II study of 131-Iodine-labeled anti-tenascin murine monoclonal antibody administered to deliver a targeted radiation boost of 44 Gy to the surgically created cystic resection cavity perimeter in the treatment of patients with newly diagnosed primary and metastatic brain tumors. Sixteenth International Conference on Brain Tumor Research and Therapy, Napa, CA, 2006.
255. Kuan, C.T., Wakiya, K., Herndon II, J.E., Reardon, D.A., Graner, M.W., Riggins, G.J., Wikstrand, C.J., Zalutsky, M.R., and Bigner, D.D.: Recombinant antibody-based molecular therapeutics for brain tumor immunotherapy. Sixteenth International Conference on Brain Tumor Research and Therapy, Napa, CA, 2006.

256. Boyd, M., Ross, S.C., Dorrens, J., Mairs, R.J., and Zalutsky, M.R.: Killing of human glioma cells with targeted radiotherapeutics via radiation induced biological bystander effect. Sixteenth International Conference on Brain Tumor Research and Therapy, Napa, CA, 2006.
257. Boskovitz, A., Ochiai, H., Okamura, T., Akabani, G., Carlin, S., Bigner, D.D. and Zalutsky, M.R.: ^{211}At -labeled trastuzumab: evaluation of an alpha-particle emitted targeted radiotherapeutic for the treatment of breast cancer carcinomatous meningitis. Annual Congress of the European Association of Nuclear Medicine, Athens, Greece. Eur. J. Nucl. Med. Mol. Imaging 2006; 33(Suppl):S378.
258. Laznickova, A., Petrik, M., Melicharova, L., Laznicek, M., and Zalutsky, M.R.: Preclinical pharmacokinetic comparison of glucose-125I-Tyr3-octreotate with DOTA-125I-Tyr3-octreotate. Annual Congress of the European Association of Nuclear Medicine, Athens, Greece. Eur. J. Nucl. Med. Mol. Imaging 2006; 33(Suppl):S307-S308.
259. Reardon, D.A., Zalutsky, M.R., Akabani, G., Coleman, R.E., Friedman, A. H., McLendon, R.E., Friedman, H.S., Herndon II, J.E., Kirkpatrick, J., and Bigner, D.D.: Radioimmunotherapy of patients with malignant brain tumors: patient-specific dosing of ^{131}I -labeled anti-tenascin antibody to achieve 44 Gy boost dose to resection cavity margins. Annual Congress of the European Association of Nuclear Medicine, Athens, Greece. Eur. J. Nucl. Med. Mol. Imaging 2006; 33(Suppl):S194.
260. Zalutsky, M.R., Reardon, D.A., Quinn, J.A., Coleman, R.E., Akabani, G., Friedman, A. H., Friedman, H.S., Herndon II, J.E., McLendon, R.E., Wong, T.Z., and Bigner, D.D.: Chimeric murine/human IgG₂ anti-tenascin antibody: phase 1 trial in patients with malignant glioma of a construct with improved stability. Annual Congress of the European Association of Nuclear Medicine, Athens, Greece. Eur. J. Nucl. Med. Mol. Imaging 2006; 33(Suppl):S194.
261. Pruszyński, M., Bilewicz, A., and Zalutsky, M.R.: Rh[16aneS4] ^{211}At and Ir[16aneS4] ^{211}At complexes as possible precursors for astatine radiopharmaceuticals. 17th International Symposium of Radiopharmaceutical Science, Aachen, Germany, 2007.
262. Hens, M., Welch, P., Vaidyanathan, G., Bigner, D.D., and Zalutsky, M.R.: An internalizing anti-EGFRvIII monoclonal antibody labeled with ^{177}Lu : effect of chelating agent on intracellular retention. 17th International Symposium of Radiopharmaceutical Science, Aachen, Germany, 2007.
263. Vaidyanathan, G., Olafsen, T., Wu, A.M., and Zalutsky, M.R.: An anti-p185^{HER2} scFv antibody fragment radioiodinated with residualizing labels. 17th International Symposium of Radiopharmaceutical Science, Aachen, Germany, 2007.

264. Pruszyński, M., Bilewicz, A., and Zalutsky, M.R.: Synthesis of Rh[16aneS4]²¹¹At and Ir[16aneS4]²¹¹At complexes – new prosthetic groups for labelling with astatine. Annual Congress of the European Association of Nuclear Medicine, Copenhagen, Denmark. Eur. J. Nucl. Med. Mol. Imaging 2007; 34(Suppl):S210.

265. Chin, B.B., Storms, R.W., Base, K., Lascoloa, C., Haystead, T., Zalutsky, M.R., and Vaidyanathan, G.: [¹²⁵I]iodoquine uptake in tumor cell lines with high ALDH expression. Annual Congress of the European Association of Nuclear Medicine, Copenhagen, Denmark. Eur. J. Nucl. Med. Mol. Imaging 2007; 34(Suppl):S222.

INVITED PRESENTATIONS:

1. "Radiochemistry of Astatine." University of Illinois, Urbana, Illinois, School of Veterinary Medicine. 1977.
2. "Positron-Emitting Radiopharmaceuticals for Imaging the Brain and Pancreas." University of California, Berkeley, California, Donner Laboratory. 1978.
3. "Recent Perspectives in Nuclear Medicine at the University of Chicago." Harvard Medical School, Joint Program in Nuclear Medicine. 1979.
4. "Radiochemistry of Astatine." Hammersmith Hospital, MRC Cyclotron Unit, London, England, Symposium on Radiohalogenation. 1980.
5. "Positron-Emitting Radiopharmaceuticals." University of Turku, Turku, Finland, Department of Medicine. 1980.
6. "Ultra-Short Lived Radionuclides for Single Photon Tomography." Symposium: "Single Photon Emission Computed Tomography: The State of the Art." Massachusetts Institute of Technology, Cambridge, Massachusetts. 1980.
7. "Tumor Imaging with Radiolabeled Monoclonal Antibodies." Harvard Medical School, Joint Program in Nuclear Medicine. 1981.
8. "Astatine: A Potential Isotope for Use in Radioimmunotherapy." Centocor, Inc., Malvern, Pennsylvania. 1981.
9. "Tumor Imaging with Radiolabeled Monoclonal Antibodies." Squibb, Inc., New Brunswick, New Jersey, Radiopharmaceutical Division. 1982.
10. "Potential Use of Radiolabeled Monoclonal Antibodies as Imaging Agents." New England Nuclear Corporation, Billerica, Massachusetts, Radiopharmaceutical Group. 1982.
11. "Potential of Radiolabeled Monoclonal Antibodies for Diagnosis and Therapy." Harvard Medical School, Joint Program in Nuclear Medicine. 1982.
12. "Radiolabeled Monoclonal Antibodies." Cambridge University Medical Center, Cambridge, England, Department of Surgery. 1982.
13. "Tumor Imaging with Radiolabeled Antibodies." Northeastern University, Boston, Massachusetts, Department of Medicinal Chemistry. 1982.
14. "Tumor Imaging with Radiolabeled Antibodies." University of Geneva Medical School, Geneva, Switzerland, Department of Radiology. 1982.

15. "Antibody Labeling." Lecturer, Continuing Education Session, 29th Annual Meeting, Society of Nuclear Medicine, Miami, Florida. 1982.
16. "Potentials of Monoclonal Antibodies for Radioimmunodiagnosis." Massachusetts General Hospital, Boston, Massachusetts, Physics Research Group. 1983.
17. "Radiochemistry of Astatine." American Chemical Society National Meeting, Seattle, Washington, Symposium on Radiohalogenation. 1983.
18. "Development of an Antibody Directed Against Human Breast Cancer as an Imaging Agent." NATO Advanced Study Institute on Receptor-Mediated Targeting of Drugs, Sounion, Greece. 1983.
19. "Development of Radiolabeled Antibodies for Imaging and Diagnosis." Mallinckrodt, Inc., St. Louis, Missouri, Symposium on the Use of Radiolabeled Antibodies for Imaging and Therapy. 1983.
20. "Development of Monoclonal Antibodies as Carriers for Radiodiagnostic and Radiotherapeutic Applications." Brookhaven National Laboratory, Upton, New York, Medical Department. 1983.
21. "Tumor Imaging Using Monoclonal Antibodies." Lecturer, Continuing Education Session, 30th Annual Meeting, Society of Nuclear Medicine, St. Louis, Missouri. 1983.
22. "Monoclonal Antibodies." W.H. Conklin Medical Society, Albany, New York. 1984.
23. "Development of Monoclonal Antibodies as Carriers for Radio-immunodiagnosis and Therapy." Harvard Medical School-Brigham and Women's Hospital, Boston, Massachusetts, Radiology Grand Rounds. 1984.
24. "Immunological Considerations of Radiolabeling." Society of Nuclear Medicine, Technologist Section. Orlando, Florida, Symposium on Monoclonal Antibodies. 1984.
25. "Radiolabeled Monoclonal Antibodies." Clinical Nuclear Medicine Course, Harvard Medical School, Boston, Massachusetts. 1984.
26. "Development of Radiolabeled Monoclonal Antibodies." Society of Nuclear Medicine, New England Regional Meeting, Cambridge, Massachusetts, Symposium on Immunoscintigraphy. 1984.
27. "Recent Advances in PET Instrumentation." Beijing Neurosurgical Institute, Beijing, China. 1984.
28. "Recent Advances in PET Radiopharmaceuticals." Beijing Neurosurgical Institute, Beijing, China. 1984.

29. "Radiopharmaceuticals for PET Brain Studies." Shanghai First Medical College, Shanghai, China. 1984.
30. "Development of Radiolabeled Monoclonal Antibodies for Imaging and Therapy." Franklin McClean Institute, Chicago, Illinois. 1984.
31. "The Potential of Radiolabeled Monoclonal Antibodies for Diagnosis and Therapy." Duke University, Durham, North Carolina. 1984.
32. "Monoclonal Antibodies in Tumor Imaging." Portuguese Oncology Institute, Porto, Portugal. 1985.
33. "Future Developments in Radiopharmaceuticals." Abel Salazar Institute of Biomedical Sciences. Department of Nuclear Medicine, Porto, Portugal. 1985.
34. "Radiohalogenation of Monoclonal Antibodies." NATO Advanced Study Institute on Radiolabeled Monoclonal Antibodies for Imaging and Therapy, Castelveccchio Pascoli, Italy. 1986.
35. "Radiohalogenation of Antibodies and Their Analysis by Binding Assays." NeoRx Corporation, Seattle, Washington. 1986.
36. "Development of Radiolabeled Monoclonal Antibodies for Imaging Breast Cancer." Second International Workshop on Monoclonal Antibodies and Breast Cancer, San Francisco, California. 1986.
37. "Radiopharmaceutical Chemistry of Monoclonal Antibodies." Lecturer, Continuing Education Session, 34th Annual Meeting, Society of Nuclear Medicine, Toronto, Canada. 1987.
38. "Radiohalogenation of Antibodies." Sigrid Juselius Foundation, Symposium on Tracers in Diagnostic Imaging, Helsinki, Finland. 1988.
39. "Imaging Glioma Patients with Monoclonal Antibodies." Preuss Foundation, San Diego, California. Symposium on Monoclonal Antibodies. 1988.
40. "Radiohalogenation of Monoclonal Antibodies." RSPC Categorical Seminar, Society of Nuclear Medicine Annual Meeting, San Francisco, California. 1988.
41. "Monoclonal Antibodies: Imaging and Therapy." DOE Workshop on the Role of a High Current Accelerator in the Future of Nuclear Medicine, Los Alamos, New Mexico. 1988.
42. "Antibody Radiohalogenation." Preuss Foundation, San Diego, California. Symposium on Monoclonal Antibodies. 1989.

43. "Radiohalogenation of Antibodies." American Chemical Society National Meeting, Dallas, Texas. Symposium on the Therapeutic Applications of Radionuclides. 1989.
44. "Radiohalogenation of Monoclonal Antibodies for Diagnostic and Therapeutic Applications." Franklin McLean Institute, University of Chicago, Chicago, Illinois. 1989.
45. "Applications of Monoclonal Antibodies to the Diagnosis and Treatment of Cancer." Johnson Matthey Corporation, West Chester Pennsylvania. 1989.
46. "Conjugation Methods for Monoclonal Antibodies." Eighth Conference on Brain Tumor Research and Therapy, Zermatt, Switzerland. 1989.
47. "Radioiodination and Astatination of Monoclonal Antibodies." American Chemical Society National Meeting, Boston, Massachusetts. Symposium on the Application of Nuclear Chemistry to Biomedical Research. 1990.
48. "Enhancing Tumour Dose via Improved Antibody Radiohalogenation and Alpha-emitting Astatine-211." International Meeting on the Advances in the Applications of Monoclonal Antibodies in Clinical Oncology, London, England. 1990.
49. "Enhancing Tumor Dose with Radiolabeled Monoclonal Antibodies via Novel Radiohalogenation Technology." Burroughs-Wellcome Company, Research Triangle Park, North Carolina. 1990.
50. "Radiohalogenated Monoclonal Antibodies." Grand Rounds, Department of Radiology, Duke University Medical Center, Durham, North Carolina. 1991.
51. "Techniques for the Halogenation of Antibodies." Industry-University Cooperative Chemistry Program Symposium, Texas A & M University, College Station, Texas. 1991.
52. "Radioimmunotherapy: Enhancing Tumor Dose Using Improved Radiolabeling and the Alpha Emitter Astatine-211." Department of Radiation Oncology, East Carolina University Medical Center, Greenville, North Carolina. 1991.
53. "Methods for Radiohalogenation of Monoclonal Antibodies." Department of Chemistry, University of Oslo, Oslo, Norway. 1991.
54. "New Strategies for Radioimmunotherapy." Norwegian Radium Hospital, Oslo, Norway. 1991.
55. "Radioimmunotherapy with Anti-tenascin Monoclonal Antibodies." Ninth International Conference on Brain Tumor Research and Therapy, Asilomar, California. 1991.
56. "Radiolabeled Monoclonal Antibodies for the Diagnosis and Therapy of Cancer." Twenty-Third Annual Conference of The Society of Nuclear Medicine of India, Agra, India. 1991.

57. "Methods for Labeling Antibodies." Radiation Medicine Centre, Bhabha Atomic Research Centre, Bombay, India. 1991.
58. "Radioimmunotherapy of CNS Malignancies Using Monoclonal Antibodies." University of Alabama Medicine Center, Birmingham, Alabama. 1992.
59. "Positron Emission Tomography and Monoclonal Antibodies: A New Approach for Developing Cell-Specific Agents." Creative Biomolecules, Inc., Hopkinton, Massachusetts. 1992.
60. "Radionuclide Needs for Monoclonal Antibody Labeling." National Biomedical Tracer Facility Workshop, Purdue University, Lafayette, Indiana. 1992.
61. "Radioiodination Methods for Protein Labeling." Dupont-New England Nuclear, Billerica, MA. 1992.
62. "Radiolabeled Monoclonal Antibodies for Medical Applications." American Nuclear Society Annual Meeting, Boston, MA. 1992.
63. "Targeted Radiotherapy Using Astatine-211." International Symposium on Comparative Osteosarcoma, Eidsbugarden, Norway. 1992.
64. "PET Scanning Using F-18 Monoclonal Antibodies." International Symposium on Comparative Osteosarcoma, Eidsbugarden, Norway. 1992.
65. "Development of Radiotherapeutic Agents Using Astatine-211 and Halobenzylguanidine Analogs." Department of Radiation Oncology, University of Glasgow, Glasgow, Scotland. 1992.
66. "Two Approaches for Enhancing Tumor Dose: The Use of Alpha Emitters and Hyperthermia." International Workshop on Radioimmunotherapy, Stuttgart, Germany. 1992.
67. "Monoclonal Antibody Radiohalogenation." Department of Radiology, Harvard Medical School, Boston, MA. 1992.
68. "Advances in the Use of Monoclonal Antibodies in Oncology." Roussel Symposium on Frontiers in Medicine, Porto, Portugal. 1993.
69. "Pharmacokinetics of Astatine-211 Labeled Compounds." PET Center, National Institutes of Health, Bethesda, MD. 1993.
70. "Radionuclide Therapy: A Review." International Symposium on Hadron Therapy, Como, Italy. 1993.

71. "Fluorine-18 Labeled Antibodies for Combining Immunoscintigraphy with PET." Department of Radiology, University of Pennsylvania, Philadelphia, PA. 1993.
72. "No-Carrier-Added MIBG and Other Halobenzylguanidines Labeled with At-211 and F-18." International Meeting on MIBG and New Horizons in Neuroblastoma Treatment. Sylt, Germany. 1994.
73. "Astatine-211 Labeled Compounds for Radiotherapy." Department of Radiation Oncology, University of Glasgow, Glasgow, Scotland. 1994.
74. "Radiopharmaceutical Chemistry of ^{211}At ." Paul Scherrer Institute, Villigen, Switzerland. 1994.
75. "Applications of Radiohalogenation in Oncology." Institute for Nuclear Chemistry, Forschungszentrum Jülich GmbH, Jülich, Germany. 1994.
76. "Clinical Applications of Astatine-211." TRIUMF/Nordion, Vancouver, British Columbia. 1994.
77. "Selection of Radioisotopes and Labeling Methods." Fourth Scandinavian Symposium on Radiolabeled Monoclonal Antibodies. Lillehammer, Norway. 1995.
78. "Applications of Radiohalogenated Targeting Agents in Oncology." Biomedical Radiation Sciences Department, University of Uppsala, Uppsala, Sweden. 1995.
79. "Radiolabelled Monoclonal Antibodies in the Therapy and Diagnosis of Osteosarcoma." Symposium on Comparative Models in Osteosarcoma Research, Fifth International Conference of Anticancer Research, Corfu, Greece. 1995.
80. "Cyclotron Produced Halogen Radiopharmaceuticals for Oncology: Diagnosis and Therapy." International Atomic Energy Agency, Vienna, Austria. 1995.
81. "Cyclotron Production of Halogen Nuclides for Endoradiotherapy." Isotope Availability Workshop, Society of Nuclear Medicine Annual Meeting, Denver, Colorado. 1996.
82. "Aspects of Halogen Labelled Biomolecules for Diagnosis and Therapy of Cancer." Post congress Meeting of the European Association of Nuclear Medicine: Recent Advances in Nuclear Oncology, Lund, Sweden. 1996.
83. "Radioimmunotherapy: Clinical and Basic Studies." Grand Rounds, Department of Radiation Oncology, Duke University Medical Center, Durham, North Carolina. 1997.
84. "Endoradiotherapy of CNS Malignancies." Washington University Cancer Center Grand Rounds, St. Louis, Missouri. 1997.

85. "Endoradiotherapeutic Studies with Alpha-Particle Emitting Astatine-211." Symposium on Targeted Radionuclides for the Measurement of Radiobiological Parameters, Radiation Research Society 45th Annual Meeting, Providence, Rhode Island. 1997.
86. "Growth Factor Receptors as Molecular Targets for Cancer Diagnosis and Therapy." Tenth International Symposium on Radiopharmacology, Rapallo, Italy. 1997.
87. "Fluorine-18 and Iodine-123 Radiopharmaceuticals Based on Peptides: Labeling and Quality Control." International Atomic Energy Agency Research Co-ordination Meeting on Optimization of Synthesis and Quality Control Procedures for the Preparation of ¹⁸F and ¹²³I Labeled Peptides. São Paulo, Brazil. 1997.
88. "Astatine-211 Radiopharmaceuticals for Therapy: Labeling Techniques and Applications." International Atomic Energy Agency Research Co-ordination Meeting on Optimization of Synthesis and Quality Control Procedures for the Preparation of ¹⁸F and ¹²³I Labeled Peptides. São Paulo, Brazil. 1997.
89. "Radiotherapy using Alpha-Particle-Emitting, Accelerator-Produced Radiopharmaceuticals." Symposium on Accelerators in Medicine: the Hadron Therapy Project. Oslo, Norway. 1997.
90. "Targeted Therapy: From Chemistry to Clinics." National Meeting of the American College of Veterinary Radiology and the Veterinary Cancer Society, Chicago, Illinois. 1997.
91. "Cyclotron Production of Astatine-211: Current Status and Future Needs." Department of Energy Workshop on Alpha Particle Therapy, Toronto, Canada. 1998.
92. "Initial Clinical Experience with Astatine-211 Chimeric 81C6 Monoclonal Antibody." Department of Energy Workshop on Alpha Particle Therapy, Toronto, Canada. 1998.
93. "Astatine-211 Labeled Radiopharmaceuticals". Department of Energy Workshop on Alpha Particle Therapy, Toronto, Canada. 1998.
94. "Radiohalogenated Endoradiotherapeutic Agents: From Chemistry to the Clinic." Section of Nuclear Chemistry, University of Oslo, Oslo, Norway. 1998.
95. "Radioimmunotherapy of Osteosarcoma - Will it Work?" Osteosarcoma Odessey Symposium, Oslo, Norway. 1998.
96. "Endoradiotherapy of Brain Tumors using Radiohalogenated Biomolecules: Basic and Clinical Studies." Department of Nuclear Medicine, Technical University of Munich, München, Germany. 1998.
97. "Cell/Molecular Targeting: Nuclear Medicine/PET Technical Overview." Conference of the Joint Working Group on Quantitative In Vivo Functional Imaging in Oncology, Office of Women's Health and National Cancer Institute, Arlington, Virginia. 1999.

98. "Iodine-123 and Fluorine-18 Peptide Labeling Methods." International Atomic Energy Agency Research Co-ordination Meeting on Optimization of Synthesis and Quality Control Procedures for the Preparation of ^{18}F and ^{123}I Labeled Peptides. Athens, Greece. 1999.
99. "Astatine-211 Radiopharmaceuticals." International Atomic Energy Agency Research Co-ordination Meeting on Optimization of Synthesis and Quality Control Procedures for the Preparation of ^{18}F and ^{123}I Labeled Peptides. Athens, Greece. 1999.
100. "Radioimmunotherapy of Brain Tumors." Third Munich Nuclear Medicine Symposium - Where Nuclear Medicine Specialists meet Radiologists and Oncologists. Munich, Germany. 1999.
101. "Application of Radiohalogen Chemistry to the Development of Molecularly Specific Radiotherapeutics", the Wilhelm-Manchot-Forschungsprofessur Lecture 1999, Inorganic Chemistry Institute, Technical University of Munich, Munich, Germany. 1999.
102. "Methods for the Laboratory Evaluation of Therapeutic Radiopharmaceuticals", International Atomic Energy Agency, Vienna, Austria. 1999.
103. "Radioimmunotherapy with Anti-tenascin and Anti-EGFRvIII", Department of Nuclear Medicine, Klinikum rechts der Isar, Technischen Universität München, Munich, Germany. 1999.
104. "Targeted Radiotherapy of Brain Tumors: Basic and Clinical Studies", Gershel Molecular Imaging Seminar, Memorial Sloan-Kettering Cancer Center, New York, New York. 1999.
105. "Application of Radiohalogenation Chemistry to the Development of Targeted Radiotherapeutics for CNS Malignancies", Joint Program in Nuclear Medicine, Harvard Medical School, Boston, Massachusetts. 2000.
106. "Endoradiotherapy with Alpha-Particle Emitting Radionuclides", Tumor Targeting Symposium to celebrate the founding of the Department of Applied BioSciences at the Swiss Federal Institute of Technology, Zürich, Switzerland. 2000.
107. "Phase I Trial of ^{211}At -Labeled Chimeric Anti-tenascin Antibody in Glioma Patients", The Use of Alpha-Emitting Isotopes in Pre-clinical and Clinical Trials Categorical Seminar, Society of Nuclear Medicine Annual Meeting, St. Louis, Missouri. 2000.
108. "Radiolabeled Monoclonal Antibodies for Cancer Diagnosis and Therapy: An Introduction", Inorganic Chemistry Institute, Technical University of Munich, Munich, Germany. 2000.
109. "Iodine and Astatine-Radiolabeled Biomolecules: From Nuclide Production to Clinical Evaluation", Department of Nuclear Medicine, Klinikum rechts der Isar, Technischen Universität München, Munich, Germany. 2000.

110. "Astatine-211 Radiopharmaceuticals", Department of Radiation Oncology, University of Washington, Seattle, WA. 2001.
111. "Astatine-211 Labelled Targeted Radiotherapeutics: from Nuclide Production to Clinical Evaluation", Forschungszentrum Karlsruhe, Institut für Toxikologies und Genetik, Karlsruhe, Germany. 2001.
112. "Targeted Radiotherapeutics", Deltagen, Menlo Park, CA. 2001.
113. "Future Prospects and Potential for Targeted Radionuclide Therapy", Center for Accelerator Science, Imaging and Medicine Workshop, Manchester, England. 2001.
114. "Targeted Alpha Particle Radiotherapy", Seventh International Conference on Advanced Technology and Particle Physics", Como, Italy. 2001.
115. "Radionuclide Therapy: Current Problems and Future Prospects", Council of the European Union Conference on Advances and Perspectives in Radiotracer Development, Dresden, Germany. 2002.
116. "Radiohalogenated Biomolecules for Tumor Diagnosis and Therapy", Department of Chemistry, University of Missouri, Columbia, MO. 2002.
117. "Astatine-211 Targeted Radiotherapeutics - Basic and Clinical Studies", TRIUMF Workshop on Radioisotope Therapy with Alpha Emitters, Vancouver, Canada. 2002.
118. "The use of ^{211}At in Radioimmunotherapy", Third Alpha-Immunotherapy Symposium, Heidelberg, Germany. 2002.
119. "Astatine-211 Availability Uses and Chemistry", Radiopharmaceutical Science Council Categorical Seminar, Society of Nuclear Medicine Annual Meeting, Los Angeles, CA. 2002.
120. "Targeted Radiotherapy of CNS Malignancies", Modern Imaging Technology: Basic Science in Medical Applications Symposium, Society of Nuclear Medicine Annual Meeting, Los Angeles, CA. 2002.
121. "Targeted Radiotherapeutics: General Principles and Preclinical Evaluation of Radiohalogenated Biomolecules", International Atomic Energy Agency Research Co-ordination Meeting on Comparative Evaluation of Therapeutic Radiopharmaceuticals, Bucharest, Romania. 2002.
122. "Targeted Radiotherapy of Central Nervous System Malignancies," Symposium on Radionuclide Therapy, Technical University of Munich, Munich, Germany. 2003.

123. "Alpha Emitters in Radioimmunotherapy: New Insights," European Association of Nuclear Medicine Symposium on Radiopharmacy and Radiopharmaceuticals, Innsbruck, Austria. 2003.
124. "Evaluation of Astatine-211 Labeled Targeted Radiotherapeutics," Symposium on High LET Radiotherapeutics, American Chemical Society National Meeting, Dallas, TX. 2003.
125. "New Approaches for Radiolabeling Monoclonal Antibodies with ^{211}At and Preliminary Clinical Results," Symposium on the Future Application of Alpha-Emitting Radionuclides in Medicine, Joint Institute for Nuclear Research, Dubna, Russian Federation. 2003.
126. "Considerations in Selecting Radionuclides for Targeted Radiotherapy," Workshop on the Future of Radionuclide Therapy, International Symposium on Radiopharmaceutical Chemistry, Sydney, Australia. 2003.
127. "Current Status and Future Directions in the Radiochemistry of Targeted Radiopharmaceuticals for Cancer," Symposium on Directions in Targeted Radiopharmaceutical Therapy in Cancer, Society of Nuclear Medicine Mid-Winter Meeting, Anaheim, CA. 2004.
128. "Basic Concepts in Radionuclide Therapy," Faculty of Sciences, University of the Republic, Montevideo, Uruguay. 2004.
129. "Targeted Radioimmunotherapy of Brain Tumors," Uruguay Society of Biology and Nuclear Medicine, Montevideo, Uruguay. 2004.
130. "Targeted Radiotherapeutics: A Southern Perspective," Department of Nuclear Medicine, Memorial Sloan Kettering Cancer Center, New York, New York. 2004.
131. "Evaluation of Therapeutic Radiopharmaceuticals in *in vitro* and *in vivo* Models," International Atomic Energy Agency Coordinated Research Program Meeting on Comparative Evaluation of Therapeutic Radiopharmaceuticals, Warsaw, Poland. 2004.
132. "Update on Radionuclide Therapy in the Treatment of Cancer: Alpha Emitters in Radionuclide Therapy; New Perspectives," Nuclear and Radiologic Pharmacy Symposium, World Congress of Pharmacy and Pharmaceutical Sciences, New Orleans, LA. 2004.
133. "Targeting Radionuclides for Cancer Therapy," Swiss Federal Institute of Technology Lausanne, Institute for Biological Engineering and Biotechnology, Lausanne, Switzerland. 2004.
134. "Targeted Radiotherapy: Approaches for Improving the Therapeutic Index," Uruguayan Society of Nuclear Medicine Meeting, Montevideo, Uruguay. 2004.

135. "Targeted Radiotherapy with Alpha-Particle Emitting Radionuclides," Institute of Nuclear Chemistry and Physics, Polish Academy of Sciences, Krakow, Poland. 2004.
136. "Targeted Radiotherapeutics: Problems and Potential Fortuitous Solutions," Molecular Imaging Center, Department of Radiology, University of Washington, Seattle, WA. 2005.
137. "Astatine-211 Labeled Radiopharmaceuticals: Envisioned Reagents for Clinical Investigation," Fred Hutchinson Cancer Research Center, Seattle, WA. 2005.
138. "Targeted Radiotherapeutics for Cancer," Department of Pharmacy, University of Toronto, Toronto, Canada. 2005.
139. "Heterogeneity: The Bane of Targeted Radiotherapy," Conference on Radiotracers for *in vivo* Assessment of biological Function – New Directions, COST Action B12, Warsaw, Poland. 2005.
140. "Alpha-Particle Emitting Radiopharmaceuticals", Symposium on Alpha Particle Therapy, IFE, Oslo, Norway. 2005.
141. "Targeted Radiotherapy with Alpha-Particle Emitting Radionuclide" Trends in Radiopharmaceuticals Symposium, International Atomic Energy Agency, Vienna, Austria. 2005.
142. "Targeted Radiotherapy with Alpha Particle Emitting Radionuclides," The Promise and the Problems," Tenth Congress of the Polish Society of Nuclear Medicine, Bialystok, Poland. 2006.
143. "Astatine-211 Labeled Monoclonal Antibodies," Workshop on Molecular Imaging: After Bench to Bedside: Impact on Clinical Outcome, La Jolla, CA. 2007.
144. "Targeted Radiotherapeutics Utilizing the Alpha Emitter Astatine-211," INSERM, University of Nantes, Nantes, France. 2007.
145. "Treatment of Recurrent Brain Tumors with Astatine-211 Labeled 81C6 Chimeric Anti-Tenascin Antibody," Workshop on Alpha-Emitting Radionuclides in Therapy, Aachen, Germany. 2007.
146. "Targeted Radionuclide Therapy of Solid Tumors: Problems and Potential Solutions," Department of Radiology, University of Pennsylvania, Philadelphia, PA. 2007.
147. "Radioimmunotherapy of Brain Tumors," Twelfth Annual Meeting of the Hungarian Society of Nuclear Medicine," Szeged, Hungary. 2007.
148. "Targeted Radionuclide Therapy of Solid Tumors: Problems and Potential Solutions," Department of Radiology, Department of Nuclear Medicine, Memorial Sloan Kettering Cancer Center, New York, NY. 2007.

149. "Radionuclide Treatment of Cancer via Targeted Radionuclide Therapy," Institute of Gene Biology, Russian Academy of Sciences, Moscow, Russia. 2007.
150. "Alpha Particle Targeted Radionuclide Therapy," Radionuclide Therapy: Chemistry and Applications Symposium, Royal Society of Chemistry, Radiochemistry Group, King's College, London, United Kingdom, 2007.
151. "Targeted Radiotherapy of Brain Tumors," British Radiation Research Society Annual Meeting, Manchester, United Kingdom, 2008.
152. "Treating microscopic disease with alpha-immunotherapy: we can't see it but can we make it disappear?" Nuclear Medicine Tomorrow Meeting, Nantes, France, 2008.
153. "Alpha particle emitting radiopharmaceuticals: an emerging approach for targeted radiotherapy," Nineteenth meeting of the International Research Group on Immuno-Scintigraphy and Therapy, Krakow, Poland, 2008.
154. "Targeted Radiotherapy: A is for Astatine," The Katherine A. Lathrop and Paul V. Harper Symposium on Cyclotron, Radiopharmaceuticals and Radiation Dosimetry, University of Chicago, Chicago, IL, 2008.
155. "Radionuclide Treatment of Brain Tumors with Radiolabeled Monoclonal Antibodies," Grand Rounds, Berkshire Medical Center, Pittsfield, MA, 2009.
156. "Immuno-PET: A tool for Cancer Diagnosis and Optimizing Immunotherapy," Clinical Directions for Molecular Imaging Symposium, Center for Molecular and Biomolecular Imaging, Duke University, Durham, NC, 2009.
157. "Astatine-211 Labeled Targeted Radiotherapeutics: Problems and Prospects," 1st TARCC International Workshop on Targeted Radionuclide Therapy, Nantes, France, 2009.
158. "Astatine-211 Labeled Targeted Radiotherapeutics: Prospects and Problems," 6th Symposium on Alpha-Emitting Radionuclides in Therapy, Society of Nuclear Medicine Annual Meeting, Toronto, Canada, 2009.
159. "Novel Approaches to Protein Radiohalogenation: Impact on Tumor Targeting," Nanobody Imaging and Therapy Workshop, Vrije Universiteit Brussel, Brussels, Belgium, 2009.
160. "Therapeutic Radiopharmaceuticals Labeled with Astatine-211," Therapeutic Radiopharmaceuticals Meeting, International Atomic Energy Agency, Vienna, Austria, 2009.
161. "Targeted Radionuclide Therapy of CNS Malignancies," Grand Rounds, Department of Pathology, Duke University Medical Center, Durham, North Carolina, 2010.

162. "Targeted Radiotherapy of HER2 Expressing Malignancies with Alpha Emitters," Twentieth Meeting of the International Research Group in Immunoscintigraphy and Therapy, Groningen, The Netherlands, 2010.
163. "Alpha Particle Radiotherapeutics: A Cellular Approach to Targeted Radiotherapy," Institute of Gene Biology, Russian Academy of Sciences, Moscow, Russia, 2010.
164. "Molecularly Targeted Radiotherapeutics: Promise and Problems," University of Nebraska, Departments of Pathology and Biochemistry, Omaha, Nebraska, 2011.
165. "Lu-177 Labeled Antibody Conjugates: Effect of Labeling Method on Suitability for Targeted Radiotherapy," Co-Ordinated Research Program on Development and Preclinical Evaluations of Therapeutic Radiopharmaceuticals based on Lu-177 and Y-90 Labelled Monoclonal Antibodies and Peptides, International Atomic Energy Agency, Vienna, Austria, 2011.
166. "Targeted Radiotherapy with Modular Nanotransporters," National Institutes of Health, Institute of Medicine, and Russian Academy of Sciences Scientific Forum, Moscow, Russia, 2011.
167. "Neuradiab: Targeted Delivery of ¹³¹I Radiation for the Treatment of Brain Cancer," Molecular Medicine Tri-Conference, San Francisco, California, 2012.
168. "Targeted Alpha Therapy," International Conference on Translational Research in Radio-Oncology and Physics for Health in Europe, Geneva, Switzerland, 2012.
169. "Targeted Radiotherapy with Alpha Particle and Auger Electron Emitters," Grand Rounds, University of Chicago Comprehensive Cancer Center, Chicago, IL, 2012.
170. "Targeted Radiotherapy," Medical Physics Seminar Series, Department of Radiology, Duke University Medical Center, Durham, NC, 2012.
171. "Recombinant Protein Based Approaches to Targeted Radiotherapy (and Imaging)," Crump Institute for Molecular Imaging, Department of Molecular and Medical Pharmacology, University of California Los Angeles, Los Angeles, CA, 2012.
172. "Methodologies for Radiolabeling Antibodies and Other Proteins," ImaginAb, Los Angeles, CA, 2012.
173. "Radiochemistry of Astatine-211: Application to Alpha Particle Targeted Radiotherapeutics," Eighth International Conference on Nuclear and Radiochemistry, Como, Italy, 2012.

174. "Targeted Radiotherapy: A is for Astatine but also Auger Electrons," Duke Cancer Institute Radiation Oncology and Imaging Lecture Series, Duke University Medical Center, Durham, NC, 2013.
175. "Radiochemistry of Radionuclide Therapy," National Cancer Institute-Society of Nuclear Medicine and Molecular Imaging Workshop on Targeted Radionuclide Therapy, National Institutes of Health, Bethesda, MD, 2013.
176. "Alpha Particle and Auger Electron Emitters: Building Blocks for Molecularly Targeted Radiotherapy," Fred Hutchinson Cancer Research Center Clinical Research Division Seminar, Seattle, WA, 2013.
177. "Molecularly Targeted Radiotherapy: Recombinant Protein Based Strategies," Duke University – National University of Singapore Graduate Medical School, Singapore, 2013.
178. "Astatine-211: Pathways From Radiochemistry to Clinical Investigation," Technical Meeting on Alpha Emitting Radionuclides and Radiopharmaceuticals for Therapy, International Atomic Energy Agency, Vienna, Austria, 2013.
179. "Astatine-211 Labeled Targeted Radiotherapeutics: Where We Have Been and Where We Hope to Go," Workshop on Innovative and Personalized Radioimmunotherapy, Nantes, France, 2013.
180. "Protein Radiohalogenation Strategies: Implications for Targeted Radiotherapy," Russian Academy of Sciences, Medicinal Chemistry Symposium, Moscow, Russia, 2013.
181. "Molecularly Targeted Radiotherapy: Some Alpha Particle and Auger Electron Emitter Based Strategies," Department of Oncology, University of Oxford, Oxford, England, 2014.
182. "Lutetium-177 Labeled Targeted Radiotherapeutics for the Treatment of Central Nervous System Malignancies," International Atomic Energy Association Co-Ordinated Research Program Meeting on ¹⁷⁷Lutetium and ⁹⁰Yttrium Labeled Radiopharmaceuticals, Rez by Prague, Czech Republic, 2014.
183. "Radionuclide Therapy," EMIDS Workshop on Nanobody Theranostics, Brussels, Belgium, 2014.
184. "Application of Radiohalogenation Chemistry to Molecular Imaging and Targeted Radiotherapy," Franklin McLean Memorial Institute, University of Chicago, Chicago, IL, 2014.
185. "Targeted Radiotherapy with Protein Based molecules - Large and Small," Nordic Nanovector, Oslo, Norway, 2015.
186. "Astatine-211 Labeled Targeted Radiotherapeutics," Second International Symposium on Nuclear Medicine Treatment, Kanazawa, Japan, 2015.

187. “Single Chain VHH for PET Imaging and Targeted Radiotherapy of HER2 Expressing Cancers,” Seminars in Women’s Cancer, Duke Cancer Institute, Duke University Medical Center, Durham, NC, 2016.
188. “Single Domain VHH Molecules: A Versatile Platform for Molecular Imaging and Targeted Radionuclide Therapy,” Translational Molecular Imaging Symposium, Duke – National University of Singapore Medical School, Singapore, 2016.
189. “Single Domain VHH and Other Molecules for Targeted Radiotherapy and Molecular Imaging of Cancer,” Biomedical Research Imaging Center, University of North Carolina, Chapel Hill, NC, 2016.
190. “Targeted Radionuclide Therapy,” International Francqui-Collen Inaugural Lecture, Free University of Brussels, Brussels, Belgium, 2017.
191. “Astatine-211: Production and Potential for Targeted Radionuclide Therapy,” Ion Beam Applications, Louvain-La-Neuve, Belgium, 2017.
192. “Developing Targeted Radiotherapeutics Based on Nanoplatfoms,” Center for Molecular Imaging and Nanotechnology, Memorial Sloan Kettering Cancer Center, New York, New York, 2017.
193. “Theranostics with Alpha and Auger Electron-Emitting Targeted Radionuclide Therapy Agents,” in Recent Advances in Diagnostics and Therapeutics Research – Combining Imaging and Therapy in Cancer: Advances in Theranostics Symposium, American Association of Cancer Research National Meeting, Washington, DC, 2017.
194. “Targeted Radioterhapy with Alpha Emitters – A Possible Future with VHH Molecules?” Immuno-imaging and Molecular Therapy Workshop, Free University of Brussels, Brussels, Belgium, 2017.
195. “Single Domain Antibody Fragments: Potential Platform for Developing HER2-Targeted Imaging Agents and Targeted Radiotherapeutics,” Tumor Biology and Women’s Cancer Programs Joint Retreat, Duke Cancer Institute, Durham, North Carolina, 2017.
196. “Astatine-211 Labeled Targeted Radiotherapeutics: Radionuclide Production, Radiochemistry, and Clinical Translation,” Targeted Alpha Therapy Symposium, Korea Institute of Radiological and Medical Sciences, Seoul, Korea, 2018.
197. “Single-Domain Antibody Fragments: A Promising Platform for Developing Molecularly Targeted Imaging Agents and Radiotherapeutics,” Avid Radiopharmaceuticals, Philadelphia, PA, 2019.

198. “Single Domain Antibody Fragments and Other Platforms for Molecular Imaging and Targeted Radiotherapy of CNS Malignancies,” Brain Tumor Research Meeting, Hillman Cancer Center, University of Pittsburgh Medical Center, Pittsburgh, PA, 2019.
199. “Single Domain Antibody Fragments: A Promising Platform for Molecular Imaging and Targeted Radionuclide Therapy,” The Michael J. Welch Memorial Lecture, Oncologic Imaging Program, Siteman Cancer Center, Washington University School of Medicine, St. Louis, MO, 2019.
200. “Astatine-211: The Kinder, Gentler Alpha-Emitter for Targeted Radionuclide Therapy,” Department of Chemistry, Oakland University, Rochester, MI, 2021.
201. “Development of Astatine-211 Labeled Targeted Radiotherapeutics: Recent Studies at Duke University Medical Center,” International Symposium on Development of Radiotheranostics in Fukushima. Fukushima, Japan, 2023.
202. “Astatine-211 Labeled Targeted Radiotherapeutics: Recent Studies at Duke University,” 1st Material Symbiosis International Symposium, 3d GI-CoRE/GSD International Symposium, and 28th Pharmascience Forum, Hokkaido University, Hokkaido, Japan, 2023.
203. “Astatine-211 Labeled Targeted Radiopharmaceuticals: Recent Studies at Duke University Towards Clinical Translation,” Lecture Series for Chinese Young Scientists and Clinicians in Nuclear Medicine, 2023.
204. “Astatine-211 – the Kinder, Gentler α -emitter Coming Soon to a Cyclotron Near You.” NOMRad -NOMATEN International Radiopharmaceutical Conference, Warsaw, Poland, 2024.

CONSULTANT APPOINTMENTS:**Editorial Activities**

Editorial Board	<i>Nuclear Medicine and Biology</i>
Editorial Board	<i>Journal of Nuclear Medicine (1988-1998)</i>
Editorial Board	<i>Bioconjugate Chemistry (1989-2014)</i>
Editorial Board	<i>Journal of Labelled Compounds and Radiopharmaceuticals</i>
Editorial Board	<i>Journal of Targeted Alpha Therapy</i>
Editorial Board	<i>American Journal of Nuclear Medicine and Molecular Imaging</i>
Editorial Board	<i>Journal of Diagnostic Imaging in Therapy</i>
Editorial Board	<i>Experimental Pharmacology and Drug Discovery</i>
Editorial Board	<i>Cancers</i>
Reviewer	<i>International Journal of Applied Radiation and Isotopes</i>
Reviewer	<i>Investigative Radiology</i>
Reviewer	<i>Proceedings of the National Academy of Science</i>
Reviewer	<i>Cancer Research</i>
Reviewer	<i>Cancer</i>
Reviewer	<i>International Journal of Cancer</i>
Reviewer	<i>Journal of Medicinal Chemistry</i>
Reviewer	<i>Radiochimica Acta</i>
Reviewer	<i>British Journal of Cancer</i>
Reviewer	<i>Acta Oncologica</i>
Reviewer	<i>Radiation Research</i>
Reviewer	<i>International Journal of Radiation Biology</i>
Reviewer	<i>Science</i>
Reviewer	<i>Nature Immunology</i>
Reviewer	<i>Clinical Cancer Research</i>
Reviewer	<i>Journal of Gene Medicine</i>
Reviewer	<i>FASEB Journal</i>
Reviewer	<i>European Journal of Nuclear Medicine</i>
Reviewer	<i>Neuro-Oncology</i>
Reviewer	<i>Small</i>
Reviewer	<i>Journal of Drug Targeting</i>
Reviewer	<i>Nature Protocols</i>
Reviewer	<i>Nature Medicine</i>
Reviewer	<i>Advanced Drug Delivery Reviews</i>
Reviewer	<i>Cancer Biotherapy and Radiopharmaceuticals</i>
Reviewer	<i>Molecular Pharmaceutics</i>
Reviewer	<i>Trends in Molecular Medicine</i>
Reviewer	<i>Cancer Letters</i>
Reviewer	<i>Cancer Discovery</i>
Reviewer	<i>European Journal of Nuclear Medicine and Molecular Imaging Research</i>
Reviewer	<i>Dose Response</i>

Reviewer	<i>Expert Opinion on Biological Therapy</i>
Reviewer	<i>Contrast Media and Molecular Imaging</i>
Reviewer	<i>Theranostics</i>
Reviewer	<i>Therapeutic Delivery</i>
Reviewer	<i>Antibodies</i>
Reviewer	<i>Oncotarget</i>
Reviewer	<i>ACS Pharmacology & Translational Science</i>
Reviewer	<i>Nanotheranostics</i>
Reviewer	<i>Cancers</i>
Reviewer	<i>Cell Reports Medicine</i>
Reviewer	<i>Journal of Clinical Investigation</i>
Reviewer	<i>EBioMed</i>

National Institutes of Health

Site visit team member and outside reviewer, NCI (1983 -)

Ad Hoc Technical Committee, NCI, Small Business Innovative Research Contracts on Monoclonal Antibodies (1985)

Participant, NCI Workshop on Directions in Research in Diagnostic Imaging and Nuclear Medicine (1985)

Participant, NCI Workshop on Cell Specific Diagnosis Employing Radiolabeled Agents (1986)

Ad Hoc Member, Diagnostic Radiology Study Section, NIH (1987)

Member, Special Study Section on Implantable Materials and Orthopedics, NIH (1987)

Member, Special Study Section on Radiotherapeutic Applications, NIH (1991)

Ad Hoc Member, Diagnostic Radiology Study Section, NIH (1992)

Member, Special Study Section on Radiolabeled Antibodies for Breast Cancer, NCI (1992)

Ad Hoc Member, Diagnostic Radiology Study Section, NIH (1993)

Member, Special Study Section on Radiotherapeutic Applications, NCI (1993, 1994)

Ad Hoc Member, Radiation Study Section, NCI (1996)

Ad Hoc Member, Diagnostic Radiology Study Section, NIH (1998, 1999, 2004)

Planning Committee and Participant, Conference of the Joint Working Group on Quantitative In Vivo Functional Imaging in Oncology, Office of Women's Health and National Cancer Institute (1999).

Member, Diagnostic Radiology and Nuclear Medicine Study Section (1999-2003)

Temporary Member, National Cancer Institute Scientific Review Group D - Clinical Research Studies (1999)

Member, Special SBIR Study Section on Radiation Oncology Applications, NCI (2003)

Ad Hoc Member, Medical Imaging Study Section, NIH (2004, 2005, 2006, 2007, 2008)

Member, Special Emphasis Panel, In Vivo Cellular and Molecular Imaging Centers, NCI (2005)

Ad Hoc Member, Clinical Molecular Imaging and Probe Development Study Section, NIH (2010, 2011, 2012, 2013, 2014, 2015)

Member, Special Study Section on Shared Instrumentation Grants, NIH (2011)

Member, Review Panel, Clinical and Translational Imaging Applications, NIH (2012, 2013, 2015)

Member, Special Study Section on Early Phase Clinical Trials in Imaging and Image-Guided Interventions (2012)

Department of Energy

Reviewer, Proposals on Nuclear Medicine Research (1984-)

Site Visit Team Member (1985 -)

National Biomedical Tracer Facility Project Definition Study Selection Committee,
Department of Energy (1994)

Member, Review Panel, Radiation Dosimetry Program Proposals (1996)

Member, Review Panel, Alexander Hollaender Distinguished Postdoctoral Fellowship Program
(1999)

Member, Review Panel, Integrated Nuclear Medicine Research and Training Projects of
Excellence Review (2012)

Other

Scientific Advisor, American-Portuguese Biomedical Research Fund (1985 -)

Reviewer, Scientific Program Committee, Sixth International Symposium on Radiopharmaceutical Chemistry (1986)

Opponent, Ph.D. Thesis Defense of Magnus Essand, "Radioimmunotargeting of Cancer Cells," Uppsala University, Uppsala, Sweden, (1995)

Consultant, International Atomic Energy Agency, "Cyclotron Production of ^{18}F and ^{123}I and their Labelled Compounds," Vienna, Austria, (1995)

Member, Health Sciences Evaluation Panel, Ministry of Science and Technology, Lisbon, Portugal (PRAXIS XXI), (1995, 1996, 1997)

Member, Site Visit Evaluation Panel for Health Sciences, Portuguese Ministry of Science and Technology, Oporto, Coimbra and Lisbon, Portugal (1996)

Reviewer, Scientific Program Committee, Twelfth International Symposium on Radiopharmaceutical Chemistry, Uppsala, Sweden (1997)

Member, Review Panel, International Cancer Technology Transfer Fellowships, International Union Against Cancer, Geneva, Switzerland (1997-)

Reviewer, Grant Applications, Cancer Research Campaign, London, England (1997)

Consultant, International Atomic Energy Agency, "Methods for the Laboratory Evaluation of Therapeutic Radionuclides and Radiopharmaceuticals" Vienna, Austria, (1999)

Reviewer, Grant Applications, National Cancer Institute of Canada (2001)

Medical Advisory Board, IBA, Brussels, Belgium (2005-2010)

Member, Imaging Agents and Radio Therapeutics Subcommittee, American Association of Cancer Research Program Committee (2006)

Reviewer, Grant Applications, Canadian Institutes of Health Research (2006)

Member, Site Visit Team, Cancer Research United Kingdom (CRUK) Proposal, Manchester, United Kingdom (2006)

Committee on the State of the Science in Nuclear Medicine, the National Academies of Science, Engineering and Medicine, Washington, DC (2006-2007)

Reviewer, grant applications, Collaborative Health Research Projects, National Science and Engineering Research Council of Canada (2009)

Reviewer, grant applications, Swiss Cancer League, Berne, Switzerland (2011)

Reviewer, EQUIPEX grant applications, National Research Agency, France (2010-2012)

Reviewer, Translational Research Applications, Cancer Research UK (2010-2011)

Reviewer, grant applications, Research Foundation of Flanders, Brussels, Belgium (2012)

Reviewer, grant applications, Dutch Technology Foundation (2012)

Reviewer, Imaging Centre Grants, Cancer Research UK, London, UK (2012)

Reviewer, grant applications, Molecular and Cellular Medicine Board – Cancer, Medical Research Council, Swindon, UK (2013)

Member, Department of Energy and National Science Foundation Nuclear Science Advisory Committee (NSCAC) Isotopes Subcommittee (2014-2015)

Reviewer, Research Innovation grant applications, Prostate Cancer UK, London, UK (2015)

Reviewer, grant applications, Executive Agency for Higher Education, Research, Development and Innovation Funding, Bucharest, Romania (2021)

HONORS

International Advisory Council for the Portuguese National Board for Science and Technology in the Area of Immunology and Medical Research (1987-2000)
 Finalist, Position of Director, Institute of Nuclear Chemistry, Forschungszentrum Jülich, Germany (1995)
 MERIT (Method to Extend Research in Time) Award, “Astatine and Iodine Radiolabeled Monoclonal Antibodies”, National Cancer Institute (1999-2009)
 Wilhelm Manchot Visiting Professor, Technische Universität Munich, Munich, Germany (1999)
 Berson-Yalow Award, Society of Nuclear Medicine (2005)
 Paul C. Aebersold Award for Outstanding Achievement in Basic Nuclear Medicine Science, Society of Nuclear Medicine (2007)
 Hogge-Baer Visiting Professor, Department of Radiology and Comprehensive Cancer Center, University of Chicago, Chicago, IL (2011-2017)
 American Association of Cancer Research Team Science Award Member – Duke University/Johns Hopkins University, National Cancer Institute Malignant Brain Tumor Team (2014)
 Distinguished Investigator, Academy of Radiology Research, Washington, DC (2015)
 Francqui-Collen Professor, Free University of Brussels, KU Leven, and the University of Liege, Belgium (2017)
 Editor’s Choice Award for Basic Science Investigation Paper, “(2*S*)-2-(3-(1-Carboxy-5-(4-²¹¹At-Astatobenzamido)Pentyl)Ureido)-Pentanedioic Acid for PSMA-Targeted α -Particle Radiopharmaceutical Therapy,” *Journal of Nuclear Medicine and Molecular Imaging* (2017)
 Paper of the Year Award for 2018, “Astatine-211 Labeled Anti-HER2 5F7 Single Domain Antibody Fragment Conjugates: Radiolabeling and Preliminary Evaluation,” *Nuclear Medicine and Biology* (2018)
 Paper of the Year Award for 2021, “Synthesis and Preliminary Evaluation of ²¹¹At-labeled Inhibitors of Prostate Specific Membrane Antigen for Targeted Alpha Particle Therapy of Prostate Cancer,” *Nuclear Medicine and Biology* (2021)
 Best Basic Science Article for 2022, “An Improved ²¹¹At-Labeled Agent for PSMA-Targeted α -Therapy,” *The Journal of Nuclear Medicine* (2023)
 Alavi-Mandell Award for article, “Effective Treatment of Human Breast Carcinoma Xenografts with Single-Dose ²¹¹At-Labeled Anti-HER2 Single-Domain Antibody Fragment,” (as mentor) *The Journal of Nuclear Medicine* (2024)

ORGANIZATIONS AND PARTICIPATION:

Society of Nuclear Medicine

Scientific Program Committee

- Sub-chairman, General Radiopharmaceuticals (1985)
- Sub-chairman, Immunology/Oncology (1985)
- Reviewer, Radiation Biology and Dosimetry (1985)
- Reviewer, Oncology (1986)
- Reviewer, Oncology/Monoclonal Antibodies (1987)
- Sub-chairman, Protein and Antibody Radiopharmaceuticals (1988)

Reviewer, Oncology/Monoclonal Antibodies (1990)
Sub-chairman, Protein and Antibody Radiopharmaceuticals (1990)
Reviewer, Oncology/Monoclonal Antibodies (1991-1994)
Vice-chairman, Radiopharmaceuticals (1997-1998)
Sub-chairman, Oncology, New Chemistry (1999-2001)
Reviewer, Oncology (2004, 2006)
Reviewer, Oncology Basic Science (2012, 2013, 2014, 2015)
Reviewer, Preclinical Probes for Oncology (2015, 2016, 2017)
Board of Directors, Radiopharmaceutical Science Council (1987-1989)
Co-Organizer, Radiopharmaceutical Science Council Categorical Seminar (1988)
Secretary/Treasurer, Radiopharmaceutical Science Council (1989)
Continuing Education Lecturer (1982, 1983, 1987)
Co-Organizer, Radiopharmaceutical Science Council Categorical Seminar (1990)
Membership and Finance Committee, Radiopharmaceutical Science Council (1989)
Publications Committee (Ex Officio Member) (1993-1998)
President-elect, Radiopharmaceutical Science Council (1994)
Committee on Scientific Program (1996-1998)
Mallinckrodt Seed Grant Awards Sub-Committee (2005)
Board of Directors, Molecular Imaging Center of Excellence (2006-2008)
Molecular Imaging Clinical Translation Advisory Committee (2006-2007)

Other

- Scientific and Organizing Committee, Foundation Pour L'Etude du Systeme Nerveux Central et Peripherique, Geneva, Switzerland. Meeting: "Brain Metabolism and Imaging" (1983)
- Faculty Member, NATO Advanced Study Institute on Radiolabeled Monoclonal Antibodies for Imaging and Therapy (1986)
- Co-organizer, American Chemical Society, National Meeting, Symposium: "Therapeutic Applications of Radionuclides" (1989)
- Scientific Advisor, Radiological Society of North America, Research and Education Fund (1989-1997)
- International Scientific Committee, 8th International Hammersmith Meeting, "Advances in the Application of Monoclonal Antibodies in Clinical Oncology," Halkidiki, Greece (1991)
- Scientific Program Committee, 9th International Symposium on Radiopharmacology, Ann Arbor, Michigan (1995)
- Invited Participant, Department of Energy Workshop "Alpha-emitters for Medical Therapy," (1996)
- International Scientific Advisory Committee, 1997 International Symposium on Nuclear and Related Techniques in Agriculture, Industry, Health and Environment, Havana, Cuba (1997)
- Scientific Advisor, Coordinated Research Programme on Optimization of Synthesis and Quality Control Procedures for the Preparation of ^{18}F and ^{123}I Labelled Peptides, International Atomic Energy Agency, Vienna, Austria (1997-2001)
- Scientific Program Committee, 10th International Symposium on Radiopharmacology, Rapallo, Italy (1997)
- Scientific Advisor, Coordinated Research Programme on Comparative Evaluation of Therapeutic Radiopharmaceuticals, International Atomic Energy Agency, Vienna, Austria (1999-2005)
- Lecturer, South and Central American Regional Training Course on Methods for the Evaluation of Biologically Targeted Radiopharmaceuticals, sponsored by the International Atomic Energy Agency, Montevideo, Uruguay (2004)
- External Advisory Board Member, Memorial Sloan Kettering Cancer Center Radiochemistry Program (2014-)
- External Advisory Board Member, Memorial Sloan Kettering Cancer Center - Cornell Center for Translation of Nanomedicines (2016-2019)
- Scientific Advisory Committee, Laboratory for Translational and Molecular Imaging, Duke – National University of Singapore Medical School (2016-)

(Prepared by Chairman)

Teaching Responsibilities Including Continuing Education:

Member, Graduate School Faculty, Department of Pathology
Faculty Member, Biophysics/Bioengineering Study Program
Member, Various Ph.D. Thesis Committees, Departments of Pathology and Biomedical Engineering
Supervisor, Third Year Medical Student Research Projects in Radiology
Lectures on Radiopharmaceuticals for Nuclear Medicine Residents, University of Chicago, 1977-1980
Lectures on Radiopharmaceutical Chemistry for Nuclear Medicine Fellows and Radiology Residents, Harvard Medical School, 1981-1985
Lecturer, Continuing Education Session, 29th Annual Meeting, Society of Nuclear Medicine, Miami, Florida. "Antibody Labeling," 1982
Lecturer, Harvard Medical School, Department of Radiology "Clinical Nuclear Medicine" Course, 1983-1985
Lecturer, Continuing Education Session, 30th Annual Meeting, Society of Nuclear Medicine, St. Louis, Missouri. "Tumor Imaging Using Monoclonal Antibodies," 1983
Faculty Member, NATO Advanced Study Institute on Radiolabeled Monoclonal Antibodies for Imaging and Therapy, Castelveccchio Pascoli, Italy, 1986
Lecturer, Continuing Education Session, 34th Annual Meeting, Society of Nuclear Medicine, Toronto, Canada. "Radiopharmaceutical Chemistry of Monoclonal Antibodies," 1987

Areas of Research Interest:

1. Radiolabeled monoclonal antibodies
2. Targeted radiotherapeutics
3. Chemistry of astatine
4. Positron emission tomography in oncology

Participation in Academic and Administrative Activities of the University and Medical Center:

Member, Duke University Comprehensive Cancer Center (1985 -)
Member, Duke University Medical Center Cyclotron Committee (1985 -)
Director, Radiopharmaceutical Chemistry Laboratory, Duke University Medical Center (1987-)
Director, Radiolabeling Facility Shared Resource, Duke University Comprehensive Cancer Center (1989 -)
Director, Module VIII, Cancer Center Isolation Facility (1989 -)
Member, Graduate Program in Pathology Admissions Committee (1991-2002)
Search Committee for Director, Duke University Comprehensive Cancer Center, 1994
Member, Steering Committee, Duke University Comprehensive Cancer Center (1996-)
Member, Executive Committee, In Vivo Cellular and Molecular Imaging Center, Duke University (2000-2004)

Member, Search Committee for Director, Duke University Comprehensive Cancer Center, 2002
Co-Program Leader, Cancer Immunobiology Program, Duke University Comprehensive Cancer Center (2003-2008)

Member, Executive Committee, Duke University Comprehensive Cancer Center (2004-2008)

Member, University Committee on Radiological Safety (2005-2010)

Member, Duke University School of Medicine Conflict of Interest Committee (2014-)

Reviewer, Duke Cancer Institute and Biomedical Engineering Joint RFA Proposals for Oncology Research in Biomedical Engineering (2017)

Member, Conflict of Interest Committee, Duke University Medical Center (2018-2022)

External Support at Duke as Principal Investigator, Project Leader, or Core Director (until 2020):

<u>Source</u>	<u>Duration</u>	<u>Approximate Amount</u>
National Institutes of Health (NCI) R01/R37 CA42324 Principal Investigator	9/85 - 12/20	Direct: \$8,500,000 Indirect: \$4,500,000
Astatine and Iodine Radiolabeled Monoclonal Antibodies		
Abbott Laboratories Principal Investigator	9/86 - 9/91	Direct: \$1,500,000
Development of Novel Radionuclide Conjugate Technology		
Department of Energy DE-FG-89ER60789 Principal Investigator	4/89 - 11/95	*Direct: \$1,300,000 Indirect: \$725,000
Positron Emission Tomographic Imaging of Tumors Using Monoclonal Antibodies		
National Institutes of Health (NINDS) P50 NS20023 (Bigner) Project Leader	4/89 - 4/94	Direct: \$475,000 Indirect: \$250,000
Development of Radiolabeled MAbs for the Radioimmunotherapy of Glioma, Medulloblastoma and Carcinomatosis		*Project only
National Institutes of Health (NCI) CA14236 (Lyerly; Kastan) Core Director	1/89-12/14	*Direct: \$1,300,000 Indirect: \$725,000
Radiolabeling Facility Shared Resource		*Core only

Burroughs Wellcome Principal Investigator	9/91-9/94	Direct: \$1,570,000
Radiolabeled Monoclonal Antibodies		

National Institutes of Health (NINDS) P50 NS20023 (Bigner) Project Leader	4/94 - 4/99	*Direct: \$750,000 Indirect: \$420,000
Improved Radiohalogenation of Chimeric Me1-14 Using N-succinimidyl Halobenzoates		*Project only

Department of Energy DE-FG-95ER62021 Principal Investigator	5/95 - 11/04	Direct: \$2,600,000 Indirect: 1,325,000
Recombinant Anti-Tenascin Constructs		

Department of Energy DE-FG02-96ER62148 Principal Investigator	11/98 - 4/03	Direct: \$1,050,000 Indirect: \$550,000
Radiolabeled Monoclonal Antibodies and Hyperthermia		

National Institutes of Health (NINDS) P50 NS20023 (Bigner) Project Leader	4/99 - 4/04	*Direct: \$600,000 Indirect: \$330,000
Pretargeting Strategies for the Radioimmunotherapy of Central Nervous System Malignancies		*Project only

Genentech Principal Investigator	9/00 - 9/04	Past: \$ 380,000
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Astatine-211 Labeled Herceptin		
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National Institutes of Health (NCI) R01 CA91927 Principal Investigator	7/01 - 7/05	Direct: \$750,000 Indirect: \$400,000
Astatine-211 and Radioiodine Labeled Octreotide Conjugates		

National Institutes of Health (NINDS) P50 NS20023 (Bigner) Project Leader	4/04 - 4/09	*Direct: \$750,000 Indirect: \$420,000
Lutetium-177 Radiolabeled Antibodies for Treatment of Central Nervous System Malignancies		*Project only

Department of Energy (DOE) DOE-DE-FG-02-05ER63963 Principal Investigator	12/04 - 12/06	Direct: \$305,000 Indirect: \$150,000
Targeted Radiotherapeutics: Chemical and Biological Aspects		

National Institutes of Health (NINDS) P50 NS20023 (Bigner) Project Leader	4/09 - 4/14	*Direct: \$600,000 Indirect: \$330,000
Targeted Radiotherapy of Brain Tumors Using Modular Recombinant Transporters (MRT) Labeled with Auger Electron Emitting Radionuclides		*Project only

Pediatric Brain Tumor Foundation of the United States (Bigner) Project Leader	04/09 - 03/15	*Direct: \$370,000
Targeted Radiotherapy of Medulloblastoma		*Project only

National Institutes of Health (NCI) P01 CA154291 (Bigner) Project Leader	7/12 - 7/17	*Direct: \$1,600,000 Indirect: \$860,000
Targeted Radiotherapy of Neoplastic Meningitis Using Monoclonal Antibodies Labeled with Alpha Particle Emitting ^{211}At		*Project only

National Institutes of Health (NCI) R01 CA184288 Principal Investigator (partnering, with Marty Pomper, Johns Hopkins University)	5/14 – 5/19	Direct: \$1,700,000 Indirect: \$950,000
Small Molecule PSMA-Targeted Alpha Therapy		

Department of Defense (DOD) BC140518P1 Principal Investigator (partnering, with Timothy Haystead, Duke)	02/15 - 02/18	Direct: \$350,000 Indirect: \$200,000
Development of Tethered Hsp90 Inhibitors Carrying Radioiodinated Probes to Specifically Discriminate and Kill Malignant Breast Tumor Cells		