

Columbia University in the City of New York New York, N.Y. 10027

ENVIRONMENTAL HEALTH AND SAFETY

744 S.W. Mudd
500 West 120th Street

070-03074

7 December 1992

Steven Baggett, Chief
Division of Radiation Safety and Safeguards
United States Nuclear Regulatory Commission
Region I
475 Allendale Road
King of Prussia, PA 19406-1415

Re: Material License No. SNM-1995

Dear Mr. Baggett,

Effective 5 December 1992, Dr. David Brenner, Chair of the Radiation Safety Committee, will replace Dr. Neil Wotherspoon as interim Radiation Safety Officer.

Effective 30 December 1992, Mr. Herb Michael will replace Dr. Brenner as our permanent Radiation Safety Officer. We are therefore, requesting an amendment to our license indicating this change.

The curriculum vitae for Dr. Brenner and Mr. Michael are inclosed for your information and review.

If you have any questions, please do not hesitate to contact at (212) 854-8749 or at the above address.

Thank you for your consideration.

Sincerely,

Loretta A. Greenholtz
Loretta A. Greenholtz
Director

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Curriculum Vitae

DAVID JONATHAN BRENNER

*Elem.
(A)(B)*

Date of Birth:

Place of Birth:

Nationality:

Status:

Education: 1963-1970 Merchant Taylors' School
Crosby, Liverpool, England.

Examinations passed:

GCE A-levels: Mathematics (grade A), Physics(A)
Chemistry (A), General Studies (A)

GCE S-level: Physics (distinction)

1971-1974 Oxford University, St. Edmund Hall
reading Physics and Philosophy

Awarded Carter Physics Prize, 1974.

Degrees obtained: B.A., M.A. (II-1)

1975-1976 Medical College of St. Bartholomews Hospital,
University of London.

Degree obtained: M.Sc. in Radiation Physics
(Distinction)

1976-1979 University of Surrey, Physics Department
Degree obtained: Ph.D
Thesis Topic: Pion Interactions with Light Nuclei
and Applications to Radiotherapy.

APPOINTMENTS

- 1992- Associate Professor (Tenure), Center for Radiological Research,
College of Physicians & Surgeons, Columbia University.
- 1986-92 Assistant Professor, Department of Radiation Oncology,
College of Physicians & Surgeons, Columbia University
- 1983-86 Associate Research Scientist, Radiological Research Laboratory,
College of Physicians & Surgeons, Columbia University
- 1981-83 Staff Member, Los Alamos National Laboratory
- 1979-81 Postdoctoral Fellow, Los Alamos Scientific Laboratory.

AWARDS

- Winner, 1992, NCRP Moseley Award for Radiation Protection in Medicine.
- Winner, 1991 Radiation Research Society Annual Research Award
- P.I. of American Cancer Society Research Grant "On the Problem of High
vs Low Dose Rate for Cervical Carcinoma", 1991-1994.
- P.I. of NIH grant "Radon, Bronchial Morphometry and Occupational Health",
1991-1993.
- P.I. of NASA grant "Dose Rate Effects with Fast Protons", 1992-1993.
- P.I. of NCI New Investigator Research Grant 1985-1989:
"Early Effects of Radiation-Induced Radicals"
- Oxford University Carter Physics Prize, 1974.

MEMBERSHIPS and COMMITTEES

- Associate Editor, International Journal of Radiation Biology.
- Consultant, ICRP/ICRU Committee on the Quality Factor, 1984-
- Member, IAEA Advisory Group on Nuclear and Atomic Data for Radiotherapy
and Radiobiology (1985)
- Consultant, Los Alamos National Laboratory, 1987-
- Member, NCI Site Review Committees, University of Rochester, 1983,
University of Wisconsin, 1990; Memorial Sloan-Kettering, 1991.
- Member, Radiation Research Society Membership Committee, Awards Committee
- Member of Program Committees for 34th and 36th Annual Meetings of
Radiation Research Society, 1986, 1988; 9th International Congress of
Radiation Research, 1991; World Space Congress, 1992.

COLUMBIA UNIVERSITY ACTIVITIES

Teaching

Teacher of graduate course Radon, Risk and Remedy, 24 hours, annually.

Teacher of undergraduate course C1450 Radiation and Life -- Columbia University Biology Department, 24 lectures, annually. (jointly with H. Lieberman).

Teacher of graduate course P9321, Current Perspectives on the biological Effects of Radiation -- Columbia University School of Public Health, 24 hours, annually (jointly with M. Zaider).

Lecturer in Radiobiology for Residents in Radiation Oncology (Columbia-Presbyterian Medical Center).

Lecturer in core graduate course P6300 Environmental Sciences -- Columbia University School of Public Health.

Lecturer in graduate course P8308 Molecular Toxicology -- Columbia University School of Public Health.

Lecturer in graduate course P8312 Systemic Toxicology -- Columbia University School of Public Health.

Academic advisor to A. Ong, doctoral student in the School of Public Health.

Other teaching

Course Faculty for Annual UCSF (University of California, San Francisco) Radiation Oncology Course: Approaches to Radiation Oncology, Biology and Physics.

Teacher of Radiation Biology for Residents in Radiation Oncology (St. Barnabas Hospital, New Jersey)

Teacher of course Scattering Theory, Surrey University, 1978-1979

Columbia University Committees

Member, Columbia University Senate, 1985-1987.

Member, Senate Libraries and Computing Committee, 1985-1987.

Member, Columbia University Comprehensive Cancer Center Computer Committee.

Selected Invited Conference Talks

Workshop on the Interface Between Radiation Chemistry and Radiation Physics (Argonne, 1982)

"Analysis Techniques and Results of Monte-Carlo Simulation of Proton and Electron Tracks"

31st Radiation Research Society Annual Meeting (San Antonio, 1983)

"Looking Inside the Black Box: Monte-Carlo Transport Codes"

International Symposium on Science With Soft X Rays (Brookhaven, 1983)

"Soft X rays revisited"

Workshop on Electronic and Ionic Collision Cross Sections Needed in the Modelling of Radiation Interactions with Matter (Argonne, 1983)

"The Transport of Low-Energy Electrons in Water and Some Physico-Chemical Implications"

IAEA Advisory Meeting on Nuclear and Atomic Data for Radiotherapy and Related Radiobiology (Rijswijk, 1985)

"Cross Sections for Neutron Interactions with Carbon and Oxygen above 14 MeV"

Gordon Conference on Radiation Chemistry (New Hampshire, 1986)

"Stochastic Effects in early Radiation Chemistry"

35th Radiation Research Society Annual Meeting (Atlanta, 1987)

"Hard Facts from Soft X rays"

International Symposium on X-ray Microscopy (Brookhaven, 1988)

"The Use of Soft X rays to Probe Mechanisms of Radiobiological Science"

NATO Advanced Research Workshop: Early Effects of Radiation on DNA (San Miniato, Italy, 1990)

"Links Between Track Structure, Radiochemical Species and Cell Survival"

38th Radiation Research Society Annual Meeting (New Orleans, 1990)

"Death Under the Floorboards? An Overview of the Radon Problem"

Second International Brachytherapy and Remote Afterloading Symposium (St. Louis, 1990)

"The Application of Radiobiological Principles to Brachytherapy"

Ninth American Statistical Association Conference on Radiation and Health (Colorado, 1990)

"Modifying factors in Biological Response: Radiation Quality and Dose Rate"

Ninth International Congress on Radiation Research (Toronto, 1991)

"Biological Effects of Highly-Fractionated Effects of Protons in the South-Atlantic Anomaly"

World Space Congress (Washington DC, 1992)

"Radiations in Space"

24th Annual Meeting of the European Society for Radiation Biology (Erfurt 1992) "In Vitro Oncogenic Transformation by Radon-daughter Alpha Particles".

BOOK

"Radon, Risk and Remedy", D. J. Brenner (W. H. Freeman, New York, 1989).

PEER-REVIEWED PAPERS

1. Brenner, D. J. and Smith, F. A. Dose and LET Distributions due to Neutrons and Photons Emitted from Stopped Negative Pions. *Phys. Med. Biol.* 22, 451-465 (1977).
2. Brenner, D. J. and Reading, D. H. A Method for Measuring Neutron Spectra in a Stopping Pion Field, *Nucl. Instr. Meth.* 153, 137-144 (1978).
3. Jackson, D. F. and Brenner, D. J. Nuclear Interactions for Medical Purposes, *Prog. Part. Nucl. Phys.* 5, 143-204 (1981).
4. Brenner, D. J. Monte Carlo Self-Shielding Corrections for Use with Neutron Spectrum Unfolding Codes, *Nucl. Sci. Eng.* 78, 175-177 (1981).
5. Zaider, M., Dicello, J. F., Brenner, D. J., Takai, W., Raju, M. R. and Howard, J. Microdosimetry of Range-Modulated Beams of Heavy Ions I. Determination of the Yield of Projectile Fragments from Microdosimetric Spectra for Neon Beams. *Radiat. Res.* 87, 511-520 (1981).
6. Brenner, D. J., Dicello, J. F. and Zaider, M. An Interpretation of Some Biological Results Obtained in Range-Modulated Negative Pion Beams, *Int. J. Radiat. Oncol. Biol. Phys.* 8, 121-126 (1982).
7. Brenner, D. J. Calculation of Ionization Distributions in a Tissue-Equivalent Cloud Chamber Gas Mixture. *Radiat. Res.* 89, 194-202 (1982).
8. Zaider, M., Brenner, D. J., Hanson, K. and Minerbo, G. N. An algorithm for determining the proximity distribution from dose-averaged lineal energies. *Radiat. Res.* 91, 95-103 (1982).
9. Zaider, M., Brenner, D. J. and Wilson, W. E. The application of track calculations to radiobiology. I. Monte Carlo simulation of proton tracks. *Radiat. Res.* 95, 231-247 (1983).
10. Atari, N., Malik, S. R., Brenner, D. J., Hilko, R. and Bradbury, J. N. A Lyoluminescent tissue-equivalent dosimeter for pion therapy beams. *Phys. Med. Biol.* 28, 493-502 (1983).
11. Brenner, D. J. and Zaider, M. Soft x-rays as a tool to investigate radiation-sensitive sites in mammalian cells. *Proc. SPIE* 47, 172-179 (1983).
12. Goodhead, D. T. and Brenner, D. J. Estimation of a single physical property of low LET radiations which correlates with their biological effect. *Phys. Med. Biol.* 28, 485-492 (1983).

13. Subramanian, T. S. , Romero, J. L. , Brady, F. P. , Watson, J. V. , Fitzgerald, D. E. , Garrett, R. , Needham, G. A. , Ullman, J. L. . Zanelli, C. I. , Brenner, D. J. and Prael, R. E. Double differential inclusive hydrogen and helium spectra from neutron induced reactions on carbon at 27.4, 39.7, and 60.7 MeV. Phys. Rev. C28, 521 (1983).
14. Brenner, D. J. and Zaider, M. The application of track calculations to radiobiology.--II. Calculations of microdosimetric quantities. Radiat. Res. 98, 14-25 (1984).
15. Zaider, M. and Brenner, D. J. The application of track calculations to radiobiology.--III. Analysis of the molecular beam experiment results. Radiat. Res. 100, 213-221 (1984).
16. Zaider, M. and Brenner, D. J. On the stochastic treatment of fast chemical reactions. Radiat. Res. 100, 245-256 (1984).
17. Brenner, D. J. and Prael, R. E. The $C(n,n')3\alpha$ Cross-Section up to 60 MeV. Nucl. Sci. Eng. 88, 97-101 (1984).
18. Brenner, D. J. Neutron kerma values above 15 MeV calculated with a nuclear model applicable to light nuclei. Phys. Med. Biol., 29, 437-441 (1984).
19. Brenner, D. J. and Zaider, M. A computationally convenient parameterisation of experimental angular distributions of low energy electrons elastically scattered off water vapour. Phys. Med. Biol., 29, 443-447 (1984).
20. Zaider, M. and Brenner, D. J. Comments on 'V79 Survival following simultaneous or sequential irradiation by 15-MeV neutrons and Co photons' by Higgins et al. [Radiat. Res. 95, 45-56 (1983)]. Radiat. Res. 99, 438-441 (1984).
21. Zaider, M. and Brenner, D. J. Modification of the theory of dual radiation action for attenuated fields.--I. Basic formalism. Radiat. Res. 99, 484-491 (1984).
22. Brenner, D. J. and Zaider, M. Modification of the theory of dual radiation action for attenuated fields.--II. Application to the analysis of soft x-ray results. Radiat. Res. 99, 492-501 (1984).
23. Zaider, M. and Brenner, D. J. On the Microdosimetric Definition of Quality Factors. Radiat. Res. 103, 302-316 (1985).
24. Brenner, D. J. and Zaider, M. Stochastic and Deterministic Treatments of the Time Decay of Species Created by Heavy-Charged Particle Interactions. Radiat. Prot. Dosimetry 13, 127-131 (1985).
25. Hoshi, M., Goodhead, D. T., Brenner, D. J., Bance, D. A., Chmielewski, J. J., Paciotti, M. A. and Bradbury, J. N. Dosimetry Comparison and Characterisation of an Al K Ultrasoft x-ray Beam from an MRC Cold-cathode Source. Phys. Med. Biol., 30, 1029-1041 (1985).

26. Zaider, M. and Brenner, D. J. Evaluation of a Specific Quality Function for Mutation Induction in Human Fibroblasts. *Rad. Prot. Dosim.*, 15, 79-82 (1986).
27. Subramanian, T. S. , Romero, J. L. , Brady, P. P. , Watson, J. W. , Fitzgerald, D. E. , Garrett, R. , Needham, G. A. , Ullman, J. L. . Zanelli, C. I. , Brenner, D. J. and Prael, R. E. Double Differential Inclusive Hydrogen and Helium Spectra from Neutron-Induced Reactions at 27.4, 39.7, and 60.7 MeV II. Oxygen and Nitrogen. *Phys. Rev.* C 34, 1580-1586 (1986)
28. Brenner, D. J., Zaider, M., Coyne, J. J., Menzel, H. G. and Prael, R. E. The Evaluation of Non-Elastic Neutron Cross-Sections on Carbon above 14 MeV. *Nucl. Sci. Eng.* 95, 311-315 (1987)
29. Brenner, D. J., Bird, R. P., Zaider, M., Goldhagen, P., Kliuga, P. J. and Rossi, H. H. Inactivation of Synchronized Mammalian Cells with Low-Energy X rays-- Results and Significance. *Radiat. Res.* 110, 413-427 (1987)
30. Brenner, D. J., Geard, C. R., Zaider, M. and Georgsson, M. A. Cell Survival and Plating Efficiency. *Radiat. Res.* 111, 572-576 (1987)
31. Brenner, D. J. Concerning the Nature of the Initial Damage Required for the Production of Radiation-Induced Exchange Aberrations. *Int. J. Radiat. Biol.* 52, 805-809 (1987)
32. Miller, R. C., Brenner, D. J., Geard, C. R., Komatsu, K., Marino, S. A., and Hall, E. J. Oncogenic Transformation by Fractionated Doses of Neutrons. *Radiat. Res.* 114, 589-598 (1988)
33. Brenner, D. J. On the Probability of Interaction Between Elementary Radiation-Induced Chromosomal Injuries. *Rad. Environ. Biophys.* 27, 189-199 (1988)
34. Brenner, D. J. Stochastic Calculations of the Fast Decay of the Hydrated Electron in the Presence of Scavengers -- Tests of Model Consistency. *Rad. Phys. Chem.* 32, 157-162 (1988)
35. Zaider, M., Brenner, D. J., Hall, E. J. and Kliuga, P. J. The link between physics and biology. *Am. J. Clin. Oncol.* 11, 212-219 (1988).
36. Hei, T. K., Chen, D. J., Brenner, D. J. and Hall, E. J. Mutation induction by charged particles of defined LET. *Carcinogenesis* 9, 1233-1236 (1988).
37. Brenner, D. J. Precision and Accuracy in Radiotherapy. *Radiotherapy & Oncology* 14 159-162 (1989)
38. Miller, R. C. , Geard, C. R., Brenner, D. J., Komatsu, K., Marino, S. A. and Hall, E. J. Neutron-energy-dependent oncogenic transformation of C₃H 10T1/2 cells. *Radiat. Res.* 117, 114-127 (1989)

39. Brenner, D. J., Comments on "It is Time to Reopen the Question of Thresholds in Radiation Exposure Responses" by J. R. Totter [Rad. Res. 114, 1-2 (1988)]. Radiat. Res. 116, 172-174, (1988).
40. Brenner, D. J. and Prael, R. E. Calculated differential secondary-particle production cross sections after non-elastic neutron interactions with carbon and oxygen between 15 and 60 MeV. Atomic Data Nucl. Data Tables 41, 71-130 (1989)
41. Brenner, D. J., Appropriate uses of the proposed ICRU-40 quality factor, Q(y). J. Radiol. Prot. 9, 51-52 (1989)
42. Worgul, B. V., Merriam, G. R., Jr., Medvedovsky, C. and Brenner, D. J., Accelerated heavy particles and the lens: III. Cataract enhancement by dose fractionation. Rad. Res. 118 93-100 (1989).
43. Brenner, D. J. and Amols, H. I. Enhanced risk from low-energy screen-film mammography x rays. Brit. J. Radiol. 62, 910-914 (1989).
44. Brenner, D. J. The effectiveness of single alpha particles. In Low Dose Radiation: Biological Bases of Risk Assessment (Ed. Lancashire, J.) pp 477-480, Taylor and Francis, London and New York (1989)
45. Hoshi, M., Yokoru, K., Savada, S., Shizuma, K., Iwatani, K., Hasai, H., Oka, T., Morishima, H. and Brenner, D. J. Europium-152 activity induced by Hiroshima atomic-bomb neutrons: Comparison with the ^{32}P , ^{60}Co and ^{152}Eu activities in Dosimetry System 1986 (DS86). Health Physics 57, 831-837 (1989).
46. Brenner, D. J., Geard, C. R. and Hall, E. J. Mossbauer Cancer Therapy Doubts. Nature 339, 185-186 (1989).
47. Hall, E. J., Brenner, D. J., Hei, T. R. and Miller, R. C. The Microdosimetric link between oncogenic transformation data with neutrons and with charged particles. Radiat. Prot. Dosim., 31, 275-278 (1990).
48. Marchese M.J., Goldhagen, P.E., Zaider, M., Brenner, D.J. and Hall, E. J. The relative biological effectiveness of encapsulated iodine-125 photon radiation in human cells. I. Normal diploid fibroblasts. Int. J. Radiat. Oncol. Biol. Phys. 18, 1407-1413 (1990).
49. Marino, S. A., Harvey, J. R., Brenner, D. J. and Rossi, H. H. Measurements of the distribution of the separations between paired ions after passing through mylar. Radiat. Prot. Dosim., 31, 77-80 (1990).
50. Brenner, D. J. and Quan, H. Confidence Limits for Low Induced Frequencies of Oncogenesis in the Presence of a Background. Int. J. Radiat. Biol., 57, 1031-1046 (1990).
51. Geard, C. R. and Brenner, D. J. Chromosomal changes per cell nucleus per charged particle. Radiat. Prot. Dosim., 31, 285-290 (1990).

52. Brenner, D. J. The microdosimetry of radon daughters and its significance. *Radiat. Prot. Dosim.*, 31, 399-404 (1990).
53. Brenner, D. J. and Hall, E. J., The Inverse Dose-Rate Effect for Oncogenic Transformation by Neutrons and Charged Particles: A Plausible Interpretation Consistent with Published Data. *Int. J. Radiat. Biol* 58, 745-758 (1990).
54. Miller, R.C., Brenner, D. J., Randers-Pehrson, G., Marino, S.A. and Hall, E. J., The Effects of the Temporal Distribution of Dose on Oncogenic Transformation by Neutrons and Charged Particles of Intermediate LET. *Radiat. Res.* 124, S62-68 (1990)
55. Brenner, D. J. Track Structure, Lesion Development and Cell Survival. *Radiat. Res.* 124, S29-37 (1990)
56. Brenner, D. J. and Quan, H. Graphs of Confidence Limits for Binomial Proportions - Pearson and Hartley Revisited. *The Statistician* 39, 391-397 (1990).
57. Brenner, D. J. On the use of distributions of stopping pions as an indicator of the spatial distribution of the high-LET dose in negative pion radiotherapy. *Phys. Med. Biol.*, 35, 1585-1591 (1990).
58. Geard, C.R., Brenner, D. J., Randers-Pehrson, G. and Marino, S.A., Single-Particle Irradiation of Mammalian Cells at the Radiological Research Accelerator Facility: Induction of Chromosomal Changes. *Nucl. Instr. Meth.* B54, 411-416 (1991).
59. Brenner, D. J. and Hall, E. J., Conditions for the Equivalence of Continuous to Pulsed Low Dose Rate Brachytherapy. *Int. J. Radiat. Oncol. Biol. Phys.* 20, 181-190 (1991).
60. Brenner, D. J. The Contribution of Neutrons to the Health Effects at Hiroshima. *Health Physics* 60, 439-442 (1991).
61. Brenner, D. J. and Hall, E. J. Fractionated high dose rate versus low dose rate regimens for intracavitary brachytherapy of the cervix. I. General considerations based on radiobiology. *British Journal of Radiology* 64, 133-141 (1991).
62. Brenner, D. J., Martel, M. K. and Hall, E. J. Fractionated Regimes for stereotactic radiotherapy of recurrent tumors in the brain. *International Journal of Radiation Oncology, Biology, Physics* 21, 819-824 (1991).
63. Hall, E. J., Miller, R. C. and Brenner, D. J. Neoplastic transformation and the inverse dose rate effect for neutrons. *Radiat. Res.* 127, S75-80 (1991).
64. Straume, T., McDonald, J. C., Pederson, R. A., Brenner, D. J. and Dobson, R.L. Hiroshima-like neutrons from A-bomb replica: Physical basis for their use in biological experiments. *Radiation Research* 128, 133-142 (1991).

65. Brenner, D. J., Medvedovsky, C., Huang, Y., Merriam, G. R., and Worgul, B. V. Accelerated heavy particles and the lens VI. RBE studies at low doses. *Radiat. Res.* 128, 73-81 (1991).
66. Hall, E. J. and Brenner, D. J., The Dose-Rate Effect Revisited - Radiobiological Considerations of Importance in Radiotherapy. *Int. J. Radiat. Oncol. Biol. Phys.* 21, 1403-1413 (1991).
67. Brenner, D. J. and Hall, E. J., Fractionated High Dose-Rate versus Low Dose-Rate Regimens for Intracavitary Brachytherapy of the Cervix. II. Equivalent Regimes for Combined Brachytherapy and External Radiation. *Int. J. Radiat. Oncol. Biol. Phys.* 21, 1415-1423 (1991).
68. Hall, E. J. Astor, M., and Brenner, D. J., Biological Intercomparison of Neutron Beams Used for Radiotherapy Generated by $p^+ \rightarrow Be$ in Hospital-Based Cyclotrons. *British Journal of Radiology* 65, 66-71 (1992).
69. Brenner, D. J. Radon - Current Challenges in Cellular Radiobiology. *Int. J. Radiat. Biol.* 61, 3-13 (1992).
70. Hall, E. J. and Brenner, D. J., The Dose Rate Effect in Interstitial Brachytherapy - A Controversy Resolved. *British Journal of Radiology* 65, 242-247 (1992).
71. Brenner, D. J. and Hall, E. J., Radiation-induced oncogenic transformation: the interplay between dose, dose protraction, and radiation quality. *Advan. Radiat. Biol.* 16, 167-179 (1992).
72. Brenner, D. J. and Ward, J. F., Constraints on Energy Deposition and Target Size of Multiply-Damaged Sites Associated with DNA Double-Strand Breaks. *International Journal of Radiation Biology*, 61, 737-748 (1992).
73. Hall, E.J. and Brenner, D.J., Needles, Wires and Chips - Advances in Brachytherapy. *Clin. Oncol.*, 4, 249-256 (1992).
74. Brenner, D. J. Dose, volume and tumor-control predictions in radiotherapy. To be Published in *Int. J. Radiat. Oncol. Biol. Phys.* (1992)
75. Brenner, D. J. Correlations between α/β and $T_{1/2}$: implications for clinical biological modelling. To be Published in *Brit. J. Radiol.* (1992).
76. Brenner, D. J., Medvedovsky, C., Huang, Y., and Worgul, B. V. Accelerated heavy particles and the lens VIII. Comparison between the effects of iron ions (190 keV/ μ m) and argon ions (88 keV/ μ m). To be Published in *Radiation Research* (1992).

Herbert P. Michael, M.S., CIH

Efemp.
(b)(6)

PROFESSIONAL OBJECTIVE

Integrate experience in industrial hygiene, graduate training in occupational/environmental health and work experience in industrial hygiene and health physics by participating in an occupational/environmental health and safety program.

EDUCATION

1987

M.S. degree in Environmental Health from Hunter College, N.Y.

1985

B.S. degree from the University of the State of New York with principal course work in radiological science and biology.

WORK EXPERIENCE

4/92 - present
2/86 - 3/91

Associate Radiological Health Specialist with the State of New York, Department of Health, Bureau of Environmental Health

- Conduct inspections in Academic and Medical settings.
- Audit County Radiological Health Programs (including New York City) for compliance with the goals of the New York State Health Department.
- Train County and State Health Department staff in Radiation Protection.
- Enforcement of the State Sanitary Code.
- Perform Quality Control/Quality Assurance Audits and tests of X-Ray Equipment and Processors at Hospital and Private Medical Offices.

3/91 - 4/92

Director, Radiation Safety Office, University of Medicine and Dentistry of New Jersey

- Directed the activities of the Radiation Safety Office for a U.S. NRC and NJ DEP Medical and Research Radioactive Materials Broad License Program. Prepared budgets and managed staff.
- Assured compliance with all applicable rules and regulations.
- Provided training and developed educational programs for radioactive materials licensees and University auxiliary staff.
- Prepared License applications, Permit applications, and acted as liaison between Senior University Management and Regulatory Agencies.

Herbert P. Michael, M.S., CIH
WORK EXPERIENCE CONT'D:

- 1989 - 1991 Senior Industrial Hygienist with Environmental Management Systems, Inc., (Part Time).
- " Monitored asbestos abatement jobs at sites throughout the State of New Jersey.
 - " Consulted on General Industrial Hygiene problems with an emphasis on Indoor Air Quality.
 - " Trained new staff.
- 12/80 - 1/86 Associate Radiophysicist with the State of New York Department of Labor, Division of Safety and Health, Radiological Health Unit.
- " Trained and supervised new Radiological Health Unit Staff.
 - " Conducted inspections in Industrial and Research and Development settings.
 - " Maintained and calibrated all survey and analytical equipment.
 - " Compliance with NYCRR 38 "Ionizing Radiation" and NYCRR 50 "Lasers".
 - " Overall review and evaluation of the occupational safety and health program, fire safety, waste disposal and environmental emission and effluent programs as they relate to radioactive materials.
 - " Issue licenses, amendments or registrations.
 - " Enforcement of the Industrial Code Rule.

CONTINUING PROFESSIONAL EDUCATION

- 10/92 "Teamwork", a component of The Advanced Program of Supervising New York State, State of New York Governor's Office of Employee Relations.
- 5/92 "Improving Indoor Air Quality in Non-Industrial Buildings", given by the EOSHI, UMDNJ-Piscataway. Five day course.
- 6/91 "Ionizing Radiation Protection", given at the AIHA Conference, Professional Development Course. One day course.
- 12/90 "Chemical Hygiene and the Laboratory", given at the 10th Annual Northeastern AIHA Conference, Princeton, New Jersey. One day course.
- 10/90 "Radiation Safety in the Academic/Research Environment", given by the New England Health Physics Society, Amherst, Massachusetts.
- 9/90 "Radiation Protection in the Well Logging Industry", given by the United States Nuclear Regulatory Commission, Houston, Texas. One week course.

Herbert P. Michael, M.S., CIH
CONTINUING PROFESSIONAL EDUCATION CONT'D:

- 11/89 "Radon Workshop" given by the New York State Energy Office in Goshen New York. Two day course.
- 8/89 "Medical Use of Radionuclides", given by Oak Ridge Associated Universities, Oak Ridge, Tenn. One week course.
- 4/89 "AHEARA Asbestos Building Inspector Course" given at the Mid-Atlantic Asbestos Training Center of the UMDNJ-Robert Wood Johnson Medical School in Piscataway New Jersey.
- 6/88 - 8/88 "Preparation Course for the American Industrial Hygiene Certification Exam", given by the NJ American Industrial Hygiene Association Summer School, New Brunswick, New Jersey.
- 2/88 "Inspecting Buildings for Asbestos Containing Materials", given by the Mid-Atlantic Asbestos Training Center, UMDNJ-Robert Wood Johnson Medical School, Piscataway, New Jersey.
- 4/87 "Diagnostic X-Ray Survey, Course for Investigators", given by the Center for Devices and Radiological Health, Rockville Md. Two week course.
- 10/86 "Mitigation of Radon in Structures", given by the New York State Energy Office in Goshen, New York. Three day Course.
- 8/83 "Inspection Procedures for State Regulatory Personnel", given by the United States Nuclear Regulatory Commission in Atlanta, Georgia. One week course.
- 1/82 - 4/82 "Health Physics and Radiation Protection", given by Oak Ridge Associated Universities, Oak Ridge Tenn. Ten Week Course.
- 8/81 "Safety Aspects of Industrial Radiography", given by Gamma Industries, sponsored by the United States Nuclear Regulatory Commission, Baton Rouge, La. One week course.
- 9/76 - 7/78 Montefiore Hospital School of Radiation Therapy Technology. Registered Radiation Therapy Technologist. New York State Licensed.

Herbert P. Michael, M.S., CIH

PUBLICATIONS

- 1986 Ionizing Radiation in the Conservation Laboratory, H.P. Michael, Center for Occupational Hazards.
- 1982 Abstract: Radiation Exposures Associated with Dismantling a Radium/Radon Pump. F.J. Bradley, L. Cabasino, G. Kasyk, H. Michael

TEACHING EXPERIENCE

- 1987-1988 Ionizing Radiation Protection, Hunter College, City of New York. Adjunct Lecturer.
- 1988-1991 Ionizing Radiation Protection Class, American Industrial Hygiene Association, New Jersey Chapter, Annual Summer School.
- 1987-1988 Lectures at Asbestos Abatement Programs presented at Hunter College, UMDNJ-Robert Wood Johnson Medical School.
- 1991-1992 Associate Faculty, Department of Radiology, UMDNJ-Newark

PROFESSIONAL ORGANIZATIONS

- 1981-present Health Physics Society
- 1982-present American Conference of Governmental Industrial Hygienists
- 1988-present American Industrial Hygiene Association
Ionizing Radiation Committee 1/91 to present
Vice-Chair 1992 - 1993
Hygienics Guide Committee 1/89 to 1/91

PROFESSIONAL CERTIFICATION

- 12/88 Certification in the Comprehensive Practice of Industrial Hygiene. Certificate Number 4105.

COMMUNITY SERVICE

- 7/88-7/90 Member, Environmental Commission, Township of Teaneck, Teaneck, New Jersey

REFERENCES AVAILABLE UPON REQUEST