

CURRICULUM VITAE OF CURRENT MEMBER

(Please complete and return one copy to the NCRP Secretariat before
December 5, 1990).

1. Name: ERIC J. HALL
2. Present Position: DIRECTOR, CENTER for RADIOLOGICAL RESEARCH
Address: COLUMBIA UNIVERSITY
630 W 168th ST
NEW YORK NY 100 32
3. Date of Birth: [REDACTED] EXL
4. Professional Society Affiliations: R.R.S., RSNA, ASTRO, ARS,
HPA
5. Activities Relating to NCRP (NCRP Scientific Committees, Study Groups, Task Groups, Task Forces, Ad Hoc Committees, Administrative Committees, Critical Reviewer, Congressional Testimony, Press, TV or Radio Interviews, etc.).
Committee 1 and 1-3
6. Other Activities Relating to NCRP Interest (Commissions, Committees, Boards, Study Groups, etc. of other organizations):
/
7. Publications (List titles of not more than 3 principal publications):
8. Technical Areas of Interest (Select no more than three from the enclosed list):
Radiation Biology
Pollution, ExL

Signature EJ Hall
Date

CURRICULUM VITAE

NAME: Eric J. Hall, B.Sc., M.A., D.Phil., D.Sc., F.A.C.R. (Honorary)

PLACE & DATE OF BIRTH: [REDACTED]

NATIONALITY: [REDACTED]

DATE MARRIED: [REDACTED]

CHILDREN: [REDACTED]

EDUCATION

Abertillery Grammar School

School Certificate in seven subjects, [REDACTED]

Higher School Certificate, [REDACTED], Physics, Chemistry, pure and applied mathematics

Universities

University College, London, [REDACTED]

B.Sc. with honours in Physics

Oriel College, Oxford, [REDACTED]

D.Phil. in Radiobiology, [REDACTED]

M.A. Honoris Causa, [REDACTED]

D.Sc. Honoris Causa, [REDACTED]

APPOINTMENTS

Assistant Physicist, Churchill Hospital, Oxford, [REDACTED] Oct. 1955-Aug. 1956

Assistant Physicist, Cardiff Radiotherapy Center, [REDACTED] Sept. 1956-Jan. 1957

Senior Physicist, Churchill Hospital, Oxford, [REDACTED] Jan. 1957-Aug. 1962

Fulbright Exchange Scholar - Visiting Assistant Professor of Radiological Physics at the University of Colorado [REDACTED] 1962-63

Principal Physicist, Churchill Hospital, Oxford, [REDACTED] Sept. 1963-Dec. 1968

Professor of Radiology, Columbia University, New York, N.Y., [REDACTED] Dec. 1968-Apr. 1986.

Radiation Biologist, Radiology Service, Presbyterian Hospital, N.Y., N.Y., [REDACTED] 1983 to date

Director, Radiological Research Laboratory, [REDACTED] July 1984 to present

Professor of Radiation Oncology & Radiology [REDACTED] April 1986-

SOCIETIES

British Institute of Radiology

Radiation Research Society

Association for Radiation Research

Hospital Physicists Association

Radiological Society of North America

American Society for Therapeutic Radiology and Oncology

American Radium Society, Inc.

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AWARDS AND HONORS

Fourteenth Douglas Lea Memorial Lecturer, Hospital Physicists Association - 1975
The Roentgen Award of the British Institute of Radiology - 1976
Honorary Member, Royal College of Radiologists - 1960
Honorary Fellow, American College of Radiology - 1981
Gordon Richards Memorial Lecturer, Canadian Association of Physicists - 1982
Barclay Medal, British Institute of Radiology - 1983
Marie Curie Gold Medal, Health Physics Society, Great Lakes Chapter - 1983
Marie Curie Memorial Lecturer, Roswell Park - 1983
Cline Fixott Memorial Lecturer, American Society of Dental Radiologists - 1983
2nd Edith Quimby Mem. Lecturer, Connecticut Chapter Health Phys. Soc. - 1984
Henschke Memorial Lecturer, American Endocurietherapy Society - 1984
Special Keynote Speaker, ASTRO, 1985
President, Radiation Research Society, 1985
1988 Failla Memorial Lecturer, The Greater New York Chapter of the Health Physics Society - 1989

COMMITTEES

Radiobiology Committee RTOG (Chairman) 1979 to present
Radiobiology Advisory Committee to NASA, 1971-1975
Radiological Society of North America Program Committee
Chairman, Section in Radiation Therapy and Radiobiology
American Board of Radiology, Therapeutic Radiology Test Committee, 1974-date
Committee for Radiation Oncology Studies, 1979-1982
Chairman, Radiotherapy Search Committee, Columbia-Presbyterian Medical Center, 1983 to 1985
National Council on Radiation Protection & Measurements
Member, Committee 40, 1979-1988
Member of Council 1982-date
Member Finance Committee, 1984-1988
Member Committee 1, 1988-
Chairman, ICRU Subcommittee on Neutron Dosimetry for Radiotherapy, 1983 to present
Editorial Work
Associate Editor, Endocurietherapy/Hyperthermia Oncology
Editorial Board, Int. J. Radiat. Oncol. Biol. & Physics, 1975 to present
Int. J. Radiation Biology, 1984
Board of Editors, International Journal of Radiation Oncology, Biology, Physics
American Cancer Society Study Section on Prevention, Diagnostic and Treatment
National Academy of Sciences - BEIR V Committee 1986-date
Member, Board on Radiation Effects Research 1988-date
American Society Therapeutic Radiology and Oncology
Program Committee 1986-1988
Long-Range Planning Committee 1986-date
International Society of Radiation Research
Councillor 1983-87
Chairman, Nominating Committee 1987
Program Committee 8th IARR Congress 1987

National Cancer Institute

Radiation Study Section 1974-1978

Cancer Center Support Review Committee 1985-date

Section, Chairman, NCI Plan for Radiation Research 1987

Program Committee, International Conference on Protectors and Anticarcinogens

Columbia University

Member, Dean's Advisory Committee, College of Physicians & Surgeons

Member, Faculty Council, College of Physicians & Surgeons

Member, Institutional Safety Committee, College of Physicians & Surgeons

Presbyterian Hospital

Member, Safety Committee

Columbia-Presbyterian Medical Center

Chairman, Joint Radiation Safety Committee, 1985-date

Chairman, Joint Radioisotope Committee, 1985-date

Chairman, Radioactive Drug Research Committee, 1985-date

Radiation Research Society:

Finance Committee, 1981

Program Committee, 1975, 1983, 1984, 1988, 1989

Councillor, 1977-1980

President-Elect, 1983

President, 1984-1985

Publications

- Ellis, F., Hall, E.J. and Oliver, R. A compensator for variation in tissue thickness for high energy beams. *Brit. J. Radiol.* 32:421, 1959.
- Ellis, F., Lewis, C., Oliver, R. and Hall, E.J. High energy beams - optimal compensation for variations in skin contour. *Proceedings of the 11th International Congress of Radiology*, pp.884, 1960.
- Hall, E.J. The relative biological efficiency of x-rays generated at 220 kVp and gamma radiation from a Cobalt-60 therapy unit. *Brit. J. Radiol.* 34:313, 1961.
- Hall, E.J. and Oliver, R. The use of standard isodose distributions with high energy radiation beams - the accuracy of a compensator technique in correcting for body contours. *Brit. J. Radiol.* 34:43, 1961.
- Hall, E.J., and Oliver, R. A pitfall to avoid in ferrous sulphate dosimetry. *Brit. J. Radiol.* 34:397, 1961.
- Porter, E.H., Hall, E.J. and Ellis, F. Point wedges: a development of wedge filter technique. *Brit. J. Radiol.* 34:655, 1961.
- Clowes, F.A.L. and Hall, E.J. The quiescent centre in root meristems of Vicia faba and its behavior after acute x-irradiation and chronic gamma radiation. *Radiation Botany* 3:45-52, 1962.
- Hall, E.J. A method of deducing a dose response relationship for productive integrity of cells exposed to radiation by means of fractionation experiments. *Brit. J. Radiol.* 35:398, 1962.
- Hall, E.J. The effect of ionizing radiation on the root of the broad bean. Thesis for the degree of Doctor of Philosophy at the University of Oxford, 1962.
- Hall, E.J., Lajtha, L.G. and Clowes, F.A.L. The role of the quiescent centre in the recovery of Vicia faba roots from radiation. *Radiation Botany* 2:189-194, 1962.
- Hall, E.J., Lajtha, L.G. and Oliver, R. On the interpretation of extrapolation numbers. *Brit. J. Radiol.* 35:71, 1962.
- Hall, E.J., Lajtha, L.G. and Oliver, R. X-ray dose response relationship for reproductive integrity of Vicia faba. *Brit. J. Radiol.* 35:388, 1962.
- Hall, E.J. and Oliver, R. The use of metal compensators to correct for tissue heterogeneity in radiotherapy with high energy radiation beams. *Brit. J. Radiol.* 35:852, 1962.
- Bedford, J.S. and Hall, E.J. Survival of HeLa cells cultured in vitro and exposed to protracted gamma irradiation. *Int. J. Radiat. Biol.* 7:377, 1963.

- Hall, E.J. Dose response relationship for reproductive integrity of Vicia faba deduced from protracted irradiation experiments. *Radiat. Res.* 20:195, 1963.
- Hall, E.J. and Lajtha, L.G. The recovery of Vicia faba meristem cells from x-radiation. *Radiat. Res.* 20:187-194, 1963.
- Hall, E.J. and Oliver, R. The use of heavy metal shielding incorporated in stepped compensators for Cobalt-60 therapy. *Brit. J. Radiol.* 36:225, 1963.
- Hall, E.J. A rota-wedge technique for therapy with high energy radiation beams. *Radiology* 82:502-507, 1964.
- Hall, E.J. On the specification of field size for telecobalt units. *Am. J. Roentgenol. Nucl. Med. and Radium Therapy* 92:207, 1964.
- Hall, E.J. and Bedford, J.S. Dose-rate - its effect on the survival of HeLa cells irradiated with gamma rays. *Radiat. Res.* 22:305, 1964.
- Hall, E.J. and Bedford, J.S. A comparison of the effects of acute and protracted gamma irradiation on the growth of seedlings of Vicia faba. Part 1. Experimental observations. *Int. J. Radiat. Biol.* 8:467, 1964.
- Hall, E.J., Bedford, J.S. and Leask, M.J.M. Some negative results in the search for a lethal effect of magnetic fields on biological material. *Nature* 203:1086, 1964.
- Hall, E.J. and Bedford, J.S. Survival curves for HeLa cells cultured in vitro and exposed to acute and protracted gamma irradiation in the presence and absence of oxygen (abstract). *Brit. J. Radiol.* 38:156, 1965.
- Hall, E.J., Bedford, J.S. and Oliver, R. The effect of protracted irradiation of the roots of Vicia faba. *Brit. J. Radiol.* 38:398, 1965.
- Bedford, J.S. and Hall, E.J. On the shape of the dose-response curve for HeLa cells cultured in vitro and exposed to gamma irradiation. *Nature* (letter) 209:1363, 1966.
- Bedford, J.S. and Hall, E.J. Threshold hypoxia: Its effect on the survival of mammalian cells irradiated at high and low dose rates. *Brit. J. Radiol.* 39:896, 1966.
- Clowes, F.A.L. and Hall, E.J. Meristems under continuous irradiation. *Annals of Botany* 30:243, 1966.
- Hall, E.J. and Bedford, J.S. Hypoxia: Its effect on the survival of HeLa cells irradiated with gamma rays in acute (110 rad/min) and protracted (30 rad/hr) exposures. *Proceedings of the 3rd International Congress of Radiation Research*, 1966.
- Hall, E.J. and Bedford, J.S. Extreme hypoxia: its effect on the survival of mammalian cells irradiated at high and low dose-rates. *Brit. J. Radiol.* 39:302, 1966.

- Hall, E.J., Bedford, J.S., and Porter, E.H. The oxygen effect at low dose rate. *Brit. J. Radiol.* 39:958, 1966.
- Hall, E.J., Oliver, R. and Shepstone, B.J. Routine dosimetry with Tantalum¹⁸² and Iridium¹⁹² wires. *Acta Radiologica* 4:155, 1966.
- Hall, E.J., Oliver, R., Shepstone, B.J. and Bedford, J.S. On the population kinetics of the root meristem of Vicia faba exposed to continuous irradiation. *Radiat. Res.* 27:597, 1966.
- Bedford, J.S. and Hall, E.J. Chromosome constitution and gamma ray sensitivity; a possible correlation in hamster cells cultured in vitro. *Radiat. Res.* 31:679, 1967.
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- Hall, E.J. and Brown, M.J. Radiosensitivity and the oxygen effect in the synchronously dividing cells of the root meristem of Vicia faba. Radiobiological Symposium and 5th Annual Meeting of the European Society of Radiation Biology, 1967.
- Hall, E.J. and Cavanagh, J. The oxygen effect for acute and protracted radiation exposures measured with seedlings of Vicia faba. *Brit. J. Radiol.* 40:128, 1967.
- Hall, E.J., Oliver, R. and Bedford, J.S. The relative biological effectiveness of tritium beta particles compared to gamma radiation - its dependence of dose rate. *Brit. J. Radiol.* 40:704, 1967.
- LeGrys, E.A. and Hall, E.J. The oxygen effect on synchronous cultures of Chinese hamster cells exposed to x-rays. Radiobiological Symposium and 5th Annual Meeting of the European Society for Radiation Biology, 1967.
- Ellis, F., Paine, C.H. Hall, E.J. and Shearn, A. A technique for the instillation of radioactive solutions in radiotherapy. *Brit. J. Radiol.* 41:637, 1968.

- Hall, E.J. A review of Supplement 10. Depth dose tables for use in radiotherapy. Brit. J. Radiol. 41:932, 1968.
- Hall, E.J., Brown, J.M. and Cavanagh, J. Radiosensitivity and the oxygen effect measured at different phases of the mitotic cycle usingj synchronously dividing cells of the root meristem of Vicia faba. Radiat. Res. 35:622, 1968.
- Hall, E.J. and Laing, A.H. Growth rate of tumours. Prognostic Factors in Breast Cancer. (A.P.M. Forrest and P.B. Kunkler eds.), E&S Livingstone, Edinburgh an Scotland, pp.275-287, 1968.
- Le Grys, L.A. and Hall, E.J. The oxygen effect and x-ray sensitivity in synchronously dividing cultures of Chinese hamster cells. Radiat. Res. 37:161, 1969.
- Berry, R.J. and Hall, E.J. Survival of mammalian cells exposed to x-rays at ultra-high dose-rates. Brit. J. Radiol. 42:102, 1969.
- Hall, E.J. Time dose and fractionation in radiotherapy. Brit. J. Radiol. 42:427, 1969.
- Hall, E.J. Radiobiological measurements with 14 MeV neutrons. Brit. J. Radiol. 42:805, 1969.
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- Winston, B.M., Ellis, F. and Hall, E.J. The oxford NSD calculator for clinical use. Clinical Radiology 20:8, 1969.
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- Hall, E.J. RBE and OER measurements for the mixed neutron and gamma-ray emission from Californium-252. Radiat. Res. 43:214 (Abstr.), 1970.
- Hall, E.J. The effect of hypoxia of sublethal x-ray damage in mammalian cells cultured in vitro. Proceedings of the IVth International Congress of Radiation Research., Evian, France, 1970.
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- Hall, E.J. and Roizin, L.A. Low dose-rate irradiation of mammalian cells with radium and Californium-252. Radiat. Res. 47:343 (Abstr.), 1971.

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- Hall, E.J. A determination of the oxygen enhancement ratio for ^{252}Cf using cultured mammalian cells. Brit.J. Radiol. 45:284-288, 1972.
- Hall, E.J., Gross, W., Dvorak, R.F., Kellerer, A.M. and Rossi, H.H. Survival curves and age response functions for Chinese hamster cells exposed to x rays or high LET alpha particles. Radiat. Res. 52:88-98, 1972.
- Hall, E.J., Gross, W. and Rossi, H.H. Recent experiments with accelerated nitrogen ions. Proceedings of the Fifteenth Plenary Meeting, COSPAR, Madrid, 1972.
- Hall, E.J., Gross, W., Rossi, H.H. and Kellerer, A.M. OER and RBE determinations with a 3.9 GeV nitrogen ion beam. Radiat. Res. 51:450 (Abstr.), 1972.
- Kellerer, A.M., Hall, E.J. Gross, W. and Rossi, H.H. Radiation quality and cell age. Radiat. Res. 51 (Abstr.), 1972.
- Rossi, H.H., Hall, E.J. and Kellerer, A.M. RBE and OER as a function of neutron energy for growth inhibition of Vicia seedlings. Radiat. Res. 51:451 (Abstr.), 1972.
- Borek, C. and Hall, E.J. Transformation of mammalian cells in vitro by low doses of x-rays. Nature 243:450-453, 1973.
- Hall, E.J. Radiobiology for the Radiologist, Harper and Row, 1973.
- Hall, E.J. Radiobiology of heavy particle radiation therapy: Cellular studies. Radiology 108:119-129, 1973.
- Hall, E.J. and Kellerer, A.M. The biophysical properties of 3.9 GeV nitrogen ions. III. OER and RBE determination using Vicia seedlings. Radiat. Res. 55:422-430, 1973.

- Hall, E.J. and Kellerer, A.M. The statistical analysis of RBE and OER in the growth reduction of Vicia faba by neutrons and nitrogen ions. Radiat. Res. 55:579 (Abstr.), 1973.
- Hall, E.J. and Lehnert, S. The biophysical properties of 3.9 GeV nitrogen ions. IV. OER and RBE determinations using cultured mammalian cells. Radiat. Res. 55:431-436, 1973.
- Hall, E.J. and Roizin-Towle, L. The oxygen enhancement ratio for radium and Californium-252 at low dose rate. Radiat. Res. 55:605 (Abstr.), 1973.
- Hall, E.J., Rossi, H.H., Kellerer, A.M., Goodman, L. and Marino, S. Radiobiological studies with monoenergetic neutrons. Radiat. Res. 54:431-443, 1973.
- Lehnert, S. and Hall, E.J. Dose dependent variations in radiosensitivity in cells containing elevated cyclic AMP. Radiat. Res. 55:540 (Abstr.), 1973.
- Rossi, H.H., Hall, E.J. and Kellerer, A.M. Biophysical factors in brachytherapy with low and high LET radiations. Radiology 107:645-649, 1973.
- Borek, C. and Hall, E.J. Effect of split doses of x rays on neoplastic transformation of single cells. Nature 252:499-501, 1974.
- Hall, E.J. RBE and OER values as a function of neutron energy. Europ. J. Cancer 10:297-299, 1974.
- Hall, E.J. Cell transformation in vitro by monoenergetic neutrons. J. Cell Biology 63:33a (Abstr.), 1974.
- Hall, E.J. and Chapman, J.D. Radiosensitization of hypoxic cells with Metronidazole. Brit. J. Radiol. 47:513-514, 1974.
- Hall, E.J., Lehnert, S. and Roizin-Towle, L. Split dose experiments with hypoxic cells. Implications for fractionated and low dose-rate radiotherapy. Radiology 112:425-430, 1974.
- Hall, E.J., Novak, J. K., and Marino, S. Comparative radiobiological measurements with two high-energy cyclotron-produced neutron beams presently used for radiotherapy. Brit. J. Radiol. 47:882-887, 1974.
- Hall, E.J., Roizin-Towle, L. and Colvett, R.D. RBE and OER determinations for radium and Californium-252. Radiology 110:699-704, 1974.
- Hall, E.J., Roizin-Towle, L., Theus, R.B. and Attix, F.H. Radiobiology with the neutron beam at the NRL cyclotron. Transactions of the American Nuclear Society 19:51, 1974.
- Schulman, N. and Hall, E.J. Hyperthermia: its effect on proliferative and plateau phase cell cultures. Radiology 113:209-211, 1974.
- Hall, E.J. Biological problems in the measurement of survival at low doses. Proceedings of the 6th L.H. Gray Conference, London, England, 1975.

- Hall, E.J. A review of high LET facilities, existing and projected, with emphasis on the radiobiological aspects. *Canadian Journal of Radiology* 26:3-14, 1975.
- Hall, E.J. The potential gain from neutrons. *Int. J. Rad. Oncol.* 1:165, 1975.
- Hall, E.J. Review Article: The potential of Californium-252 in radiotherapy. *Brit. J. Radiol.* 48:777-790, 1975.
- Hall, E.J., Harisiadis, L., Kraljevic, U. and Borek, C. The effect of hyperthermia on cells in culture. *Radiat. Res.* 62:591 (Abstr.), 1975.
- Hall, E.J., Novak, J.K., Kellerer, A.M., Rossi, H.H., Marino, S. and Goodman, L. RBE as a function of neutron energy. I. Experimental observations. *Radiat. Res.* 64:245-255, 1975.
- Hall, E.J. and Roizin-Towle, L. Hypoxic sensitizers: Radiobiological studies at the cellular level. *Radiology* 117:453-457, 1975.
- Hall, E.J., Roizin-Towle, L.A. and Attix, F.H. Radiobiological studies with cyclotron-produced neutrons currently used for radiotherapy. *Int. J. Radiat. Oncol. Biol. Phys.* 1:33-40, 1975.
- Hall, E.J., Roizin-Towle, L.A., Theus, R.B. and August, L.S. Radiobiological properties of high energy cyclotron produced neutrons used for radiotherapy. *Radiology* 117:173-178, 1975.
- Hall, E.J. and Rossi, H.H. Cellular studies with cyclotron produced neutrons. *Radiat. Res.* 62:554 (Abstr.), 1975.
- Harisiadis, L., Hall, E.J., Kraljevic, U. and Borek, C. Hyperthermia: Biological studies at the cellular level. *Radiology* 117:447-452, 1975.
- Horowitz, I. A., Norwint, H. and Hall, E. J. Conditioned medium from plateau-phase cells. *Radiology* 114:723-726, 1975.
- Roizin-Towle, L.A. and Hall, E.J. Cellular studies with hypoxic sensitizers. *Radiat. Res.* 62:567, 1975.
- Bird, R.P. and Hall, E.J. Biophysical properties of 450 MeV/AMU ^{40}Ar ions: Chinese hamster V79 cell cycle response at the Bragg peak. *Radiat. Res.* 67:622-623 (Abstr.), 1976.
- Hall, E.J. *Radiation and Life*, Pergamon Press, London, England, 1976.
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- Hall, E.J. Radiobiological intercomparisons in vitro. II. Neutrons Int. J. Radiat. Oncol. Biol. Phys. 3:195-201, 1977.
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- Hall, E.J. and Biaglow, J. Ro-07-0582 as a radiosensitizer and cytotoxic agent. Int. J. Radiat. Oncol. Biol. Phys. 2:521-530, 1977.
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- Hall, E.J. The promise of low dose rate: Has it been realized? Int. J. Radiat. Oncol. Biol. Phys. 4:749-750 (editorial), 1978.
- Hall, E.J., Astor, M. and Rini, F. The nitroimidazoles as radiosensitizers and cytotoxic agents. Brit. J. Cancer 37:120-123 (Suppl. III), 1978.

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