

DEPARTMENT OF PATHOLOGY

1981 - 1982

N. Kaufman, M.D.	<i>Emeritus Professor</i>
David M. Robertson, M.D.	<i>Professor and Head</i>
G.F. Kipkie, M.D.	<i>Professor</i>
R. Kisilevsky, M.D., Ph.D.	<i>Professor</i>
H.D. Steele, M.D.	<i>Professor</i>
T.F. McElligott, M.D.	<i>Professor</i>
A.F. Clark, Ph.D.	<i>Associate Professor</i>
W.E.N. Corbett, M.D.	<i>Associate Professor</i>
R.S. Kerbel, Ph.D.	<i>Associate Professor</i>
S. Ludwin, M.B.	<i>Associate Professor</i>
R.S. Prentice, M.D.	<i>Associate Professor</i>
S.M. Wasan, M.D.	<i>Associate Professor</i>
J.C. Wyllie, M.D.	<i>Associate Professor</i>
A.J. de Bold, Ph.D.	<i>Assistant Professor</i>
B.E. Elliott, Ph.D.	<i>Assistant Professor</i>
W.A. Fletcher, M.D.	<i>Assistant Professor</i>
A.R. Giles, M.B., B.S.	<i>Assistant Professor</i>
A.E. Lagarde, Ph.D., D. Sc.	<i>Assistant Professor</i>
P. Manley, M.D.	<i>Assistant Professor</i>
S. Nag, M.D., Ph.D.	<i>Assistant Professor</i>
M.J. Raymond, Ph.D.	<i>Assistant Professor</i>
D.F. Dexter, M.D.	<i>Assistant Professor</i>
R. Bell, M.D.	<i>Lecturer (Joint Appointment)</i>
S.A. Bencosme, M.D., Ph.D.	<i>Sessional Appointment</i>
J.C. Kennedy, M.D., Ph.D.	<i>Sessional Appointment</i>
P.M. Ford, M.D.	<i>Assistant Professor (Cross Appointment)</i>

DEPARTMENT OF PATHOLOGY

HEAD: DAVID M. ROBERTSON

1981 - 1982

PERSONNEL

Dr. John Timothy Feltis, a graduate of Queen's University, who trained in General Pathology in this department, has been appointed Assistant Professor in the Department of Pathology effective July 1, 1982. In addition, Dr. Feltis has been appointed Assistant Pathologist at Kingston General Hospital. Dr. Feltis spent the period July 1, 1981 to June 30, 1982 as a Medical Research Council of Canada Fellow in the Department of Pathology, Mount Sinai School of Medicine, New York, studying renal pathology under the direction of Dr. Jacob Churg. His primary responsibility in this department will be in pathology of the kidney and general surgical pathology.

Dr. Sally Elizabeth Ford has been appointed a Clinical Assistant in the Department of Pathology and an Assistant Pathologist at Kingston General Hospital effective August 1, 1982. Dr. Ford is a graduate of London University Medical School, and trained in pathology in England and at Kingston General Hospital. In addition, Dr. Ford spent one year studying cardiovascular pathology while a Canadian Heart Foundation Research Fellow at the University of Western Ontario. Her prime responsibility will be in cardiovascular pathology.

Dr. A.F. Clark, Associate Professor of Pathology, was appointed Associate Dean for Research, Faculty of Medicine, for the term September 1, 1981, to June 30, 1984. Dr. Clark assumed his duties on a part-time basis while maintaining his other work as Clinical Chemist at Kingston General Hospital, and Professor of Biochemistry at Queen's University.

Dr. Nathan Kaufman, former Professor and Head of the Department of Pathology and former Pathologist-in-Chief at Kingston General Hospital, was appointed Professor Emeritus of Pathology at Queen's University effective July 1, 1981. In addition he was appointed an Honorary Member of the Medical Staff at Kingston General Hospital by the Board of Governors.

Dr. David F. Dexter was promoted to Assistant Professor effective July 1, 1981.

Dr. G.F. Kipkie leaves the department in June 1982. A member of the department since 1949, Dr. Kipkie has made many significant contributions to the department during this period. Dr. Kipkie was granted the title of Professor Emeritus at Queen's University effective from the date of his official retirement. He was also appointed to the Honorary Staff at Kingston General Hospital.

TEACHING

Undergraduate:

During the year 82 second year medical students were registered in General Pathology and Special Pathology. In addition, one graduate student (R. Tucker) was registered in the General Pathology course.

During the academic year the Staff-Student Liaison Committee for Course Evaluation met once per month. This Staff-Student Liaison group was composed of three senior staff members and three student representatives chosen by the student body. Students carried out evaluations of the General Pathology and Special Pathology course. This Staff-Student Liaison group addressed the objectives of the course, the relevance of material covered in lectures and examinations, and the expertise of the teaching staff, covered by sections. In addition, the committee meets at the beginning of the following academic year to evaluate retrospectively the General and Special Pathology courses.

A total of eight second year medical undergraduates were in the department during the summer of 1981.

Two fourth year students from the medical undergraduate course at McMaster University took Electives in the department during the period February 15 to March 12, 1982.

Graduate:

Three students (D. Carlow, R. Tucker and F. Nestel) were registered in the M.Sc. Program. D. Carlow successfully defended his M.Sc. thesis in October 1981. R. Tucker withdrew from the program in January 1982.

One student was registered in the Ph.D. program during the year (R. Walker).

Two students enrolled in the graduate program in May 1982. D. Carlow registered in the Ph.D. program, and D. Munoz-Garcia registered in the M.Sc. program.

Dr. Kisilevsky of the Department of Pathology supervised one Ph.D. student (Kim Wong), although this student was registered in the Biochemistry Department.

Postdoctoral Fellows:

Dr. Roger Palfree, a Medical Research Council Fellow, was in the department from December 1980 to March 31, 1982, supervised by Dr. B. Elliott.

Dr. Robert G. Liteplo, a Medical Research Council Fellow, was in the department supervised by Dr. R. Kerbel. His fellowship was effective April 1982.

Dr. J.T. Feltis was awarded a Medical Research Council Fellowship and spent the period July 1, 1981 to June 30, 1982, in the Department of Pathology, Mount Sinai School of Medicine, New York, under the direction of Dr. Jacob Churg.

Postgraduate:

Twenty-two house staff were registered in the postgraduate training program. In addition, there were two residents on rotation from the Department of Medicine, and two residents on rotation from the Department of Obstetrics and Gynecology, for varying periods of time.

The Departmental Postgraduate Education Committee, composed of the Head of the department, six senior staff members, and one resident representative, met at regular intervals. Its function is to develop and carry out departmental and faculty policy on in-training evaluation, resident program evaluation, and other matters relating to the postgraduate training program in the department.

The postgraduate teaching program in the department includes intradepartmental conferences, seminars, quiz and review sessions and also interdepartmental conferences and seminars in collaboration with other clinical and basic science departments.

HIGHLIGHTS

The division of Neuropathology, Department of Pathology, hosted the annual meeting of the Canadian Association of Neuropathologists held at the Donald Gordon Center, Queen's University, September 10-12, 1981. An impressive list of neuropathologists from teaching centers in Canada and the United States contributed to the program.

A Symposium on Tumors of the Eye and Orbit, hosted by the Department of Pathology in collaboration with the Department of Ophthalmology, was held at the Donald Gordon Center on May 13-15, 1982. Included among the faculty for this Symposium were Drs. Robertson, Corbett and Prentice. Guest faculty were present from Wills Eye Hospital, Philadelphia; Duke University Medical Center, Durham; University of British Columbia; McGill University and University of Toronto.

The department has been vigorously planning for the last several years a much needed expansion of the hospital pathology laboratories. It now appears likely that some of this expansion will commence during 1982-1983, although realization of the required amount of space appears many years in the future.

The Cancer Research Group of the Department of Pathology continued to expand its research potential, enhanced by generous funding from the National Cancer Institute, and stimulated by the enthusiasm and productivity of the members of the Group.

VISITING LECTURERS

An impressive list of Visiting Lecturers presented Seminars and Lectures in the department during the year. A list of the Visiting Lecturers is appended (Appendix I).

CLINICOPATHOLOGICAL CONFERENCES

A total of twenty-four Clinicopathological Conferences were presented. There were thirteen from the Department of Medicine; six from the Department of Surgery; two from the Department of Pediatrics; two from the Department of Obstetrics and Gynecology; and one from the Department of Ophthalmology.

RESEARCH GRANTS

Research grants held by senior members of staff for the current academic year are listed in Appendix II. Operating grants during 1981-82 totalled \$ 984,842 and direct, competitive personal support was \$ 122,000.

PATHOLOGY COURSE - REHABILITATION SCIENCE

Several members of the Department of Pathology again participated in the lecture schedule of the School of Rehabilitation Therapy. Fifty-two School of Rehabilitation Therapy students received a total of eleven lectures in the Pathology course for Rehabilitation Science. Dr. Dexter and several residents shared the lecturing responsibility for this course, and Dr. Dexter was responsible for the organizational aspect.

PAPERS AND ABSTRACTS

During the year 24 papers were published. These are listed in Appendix III.

PAPERS DELIVERED AT CONGRESSES, INVITED LECTURESHIPS, AND OTHER ACTIVITIES

During the year several members of staff delivered papers at meetings, were Visiting Professors and Invited Lecturers at various universities. This information is contained in Appendix IV and Appendix V.

EXTRAMURAL ACTIVITIES OF NATIONAL AND INTERNATIONAL IMPORTANCE

Dr. A.F. Clark:- Dr. Clark is a member of both the Ontario Cancer Treatment and Research Foundation Biochemistry Grants Review Panel, and Working Party on CEA and Estrogen Receptors. He is a member of the Ontario Council of Health Joint Research Review Task Force. Dr. Clark is also a Scientific Officer of the Medical Research Council Maintenance Grants Panel. Dr. Clark was also appointed Associate Dean (Research) at Queen's University in September 1981. On University committees, Dr. Clark is Chairman of the Principal's Advisory Research Committee, Subcommittee I; a member of the Animal Care Committee; a member of the Radiation Safety Committee; and a member of the Queen's University Ethics Review Committee.

Dr. W.E.N. Corbett:- Dr. Corbett is Consultant Pathologist for the Canadian Tumour Reference Centre of the National Cancer Institute of Canada, on the diagnostic panel for lymphoreticular malignancies. Dr. Corbett is a member of the Residency Training Committee of the Canadian Association of Pathologists. Other activities include membership in the St. Lawrence College School of Medical Laboratory Technology committee and membership in the Kingston General Hospital Educational Programs Committee.

Dr. D.F. Dexter:- Dr. Dexter is a member of the Soft Tissue Tumour Panel of the Canadian Tumour Registry. Dr. Dexter is also a member of the executive of the Medical Advisory Committee of Hotel Dieu Hospital.

Dr. B.E. Elliott:- Dr. Elliott is Chairman of the Animal Care Committee of the Faculty of Medicine, Queen's University. In addition, he is a member of the Tumor Biology Grant Panel B of the National Cancer Institute of Canada.

Dr. W.A. Fletcher:- Dr. Fletcher is a member of the executive of the Canadian Society of Cytology; a member of the Canadian Association of Pathologists Commission on Continuing Education; the Toronto Institute of Medical Technology Advisory Council - Cytotechnology; and a member of the Council, Section on Laboratory Medicine, Ontario Medical Association. At the Kingston General Hospital Dr. Fletcher is Chairman of the Tissue Committee; member of the Medical Audit Committee and the Planning Committee for Laboratory Development. At the Lennox and Addington County General Hospital in Napanee Dr. Fletcher is Chairman of the Infection Control Committee and the Medical Audit Committee. He is also a member of the Perinatal Mortality Committee at Moose Factory Hospital.

Dr. P.M. Ford:- Dr. Ford is a member of the Arthritis Society Medical and Scientific Committee. Dr. Ford is also a representative on the Continuing Medical Education committee of the Ontario Medical Association.

Dr. A.R. Giles:- Dr. Giles is a member of the Canadian Plasma Exchange Study Group; the Canadian Hemophilia Society M.S.A.C. (Ontario Chapter) and the Ontario Factor VIII Group.

Dr. R.S. Kerbel:- Dr. Kerbel was invited to be a member of the Editorial Board of Cancer Metastasis Reviews. He was also invited to be a member of the Study Section, Pathology, National Institutes of Health, Bethesda, Maryland. Dr. Kerbel was invited to be a member of the National Cancer Institute of Canada Review Team at the on site review of the Cancer Research Group at McGill University. Dr. Kerbel was also invited to participate in the U.S. National Cancer Institute/National Institutes of Health Site Review at Ann Arbor, Michigan, in June 1981.

Dr. G.F. Kipkie:- Dr. Kipkie continues as a member of the Medical Advisory Board of the Ontario Cancer Treatment and Research Foundation. He is a member of their Consultant Pathologists Group, and a member of their Diagnostic and Treatment Committee.

Dr. R. Kisilevsky:- Dr. Kisilevsky is a Scientific Officer on the Grants Committee for Pathology and Morphology, Medical Research Council. Dr. Kisilevsky also serves as a member of the Research Grants Panel of the Medical and Scientific Committee of the Canadian Arthritis and Rheumatism Society.

Dr. S.K. Ludwin:- Dr. Ludwin is a member of the Medical Advisory Board of the Multiple Sclerosis Society of Canada. In addition, he is a Nucleus Member of the Royal College Specialty Committee in Neuropathology. Dr. Ludwin is also the Canadian representative to the International Society of Neuropathologists.

Dr. P.N. Manley:- Dr. Manley serves on the following committees of the Canadian Association of Pathologists:- Chairman, Commission on Continuing Education; Director, Annual Workshop and Short Course Program; member of the Central Scientific Planning Committee; member of the Resident Training Committee and Chairman of the Travel Awards Committee.

Dr. T.F. McElligott:- Dr. McElligott is a member of the Life Sciences Review Committee and the Faculty Promotion Committee of the Faculty of Medicine. Dr. McElligott is a member of the Advisory Medical Board of the Ontario Cancer Treatment and Research Foundation, and the Secretary-Treasurer of the Canadian Association of Pathologists.

Dr. R.S.A. Prentice:- Dr. Prentice is Chairman of the University Senate Library Committee; a member of the Committee to Advise the Principal on Development of Bracken Library; a reference pathologist for the Canadian Tumour Reference Center Skin Tumour Panel, and a member of Council of the Ontario Association of Pathologists.

Dr. M.J. Raymond:- Dr. Raymond is a member of the Ontario Council of Health Task Force on High Technology Diagnostic Laboratory Procedures and Equipment.

Dr. D.M. Robertson:- Dr. Robertson is a Scientific Officer for the Neurosciences Committee, Medical Research Council; a member of the Test Committee in Neuropathology, American Board of Pathology; Vice-President of the International Academy of Pathology; a member of the Editorial Board of Laboratory Investigation; a member of the Ontario Council of Health Committee on High Technology Health Procedures and Equipment and a member of the Advisory Panel of the same Council of Health committee; Consultant in Pathology of the Ontario Cancer Foundation, Kingston Clinic; a member of the National Advisory Committee of the Canadian Brain Tissue Bank; a member of the Advisory Board of 'Clinical Neuropathology - an International Journal'; Vice-President (United States - Canadian Division) of the International Academy of Pathology; and Consultant Neuropathologist of the Canadian Tumour Reference Center. Dr. Robertson is Chairman of the Biohazards Committee of Queen's University and Chairman of the Faculty Postgraduate Education Committee. He is also Chairman of the Ad Hoc Budget Committee of Kingston General Hospital and Vice-President of the Medical Advisory Committee at Kingston General Hospital.

Dr. H.D. Steele:- Dr. Steele is a member of the Ambulatory Care Clinics at Kingston General Hospital. At St. Mary's of the Lake Hospital he is Chairman of the Infection Control Committee and a member of the Medical Advisory Committee. Dr. Steele is also Chairman of the Medical Laboratory Technology Advisory Committee of St. Lawrence College.

Dr. S.M. Wasan:- Dr. Wasan is a member of the nominating committee of the Ontario Association of Pathologists.

RESEARCH

Dr. A.F. Clark:- Dr. Clark's research is concerned with androgen and estrogen metabolism. He has been studying androgen metabolism in the rat especially as it relates to the prostate gland. Prostatic enzymes involved in androgen metabolism are being studied so as to understand their role in controlling the expression of androgenic activity. The androgen dependence of the prostatic enzyme, acid phosphatase, is being studied. Prostate cell culture studies are being initiated to investigate androgen metabolism, indicators of androgen actions and the mechanism of androgen actions in normal cells and ones treated with carcinogenic compounds. In collaboration with the Department of Medicine he is conducting studies on the kinetics of androgen metabolism in humans and the role of serum binding proteins in controlling androgen metabolism.

Dr. D.F. Dexter:- In collaboration with Dr. R. Kerbel, Dr. Dexter is evaluating a new method for tumour cell transplantation using preculture with lung tissue cubes. Dr. Dexter's research with Dr. J. Roder is in various areas including assessment of induced and spontaneous tumours in NK deficient mice and the relationship to impaired immune surveillance. In addition, a study of the characteristics of various human hybridomas is ongoing. In collaboration with Dr. C. Bird and Dr. A. Clark, Dr. Dexter is assessing the estrogen status and estrogen receptor protein in patients with carcinoma of the breast, and currently is investigating the potential of the demonstration of estrogen receptor binding sites on tissue by fluorescent techniques.

Dr. A.J. deBold:- Dr. deBold's research has concentrated on the study of atrial natriuretic factor. This factor is a naturally occurring diuretic heart peptide first described and isolated in Dr. deBold's laboratory. Extensive collaborative work has been established to continue this line of research. The possible pharmaceutical use of atrial natriuretic factor is being explored.

Dr. B.E. Elliott:- Dr. Elliott's research is involved with host T-cell recognition and immunoregulation in anti-tumor immunity. The long term objective of Dr. Elliott's program is to provide an understanding of host T-cell immunosurveillance and how this system can be used in host defense against cancer. To date, with the exception of viral-mediated or chemically-induced tumors, no antibody responses and only some examples of cytotoxic T cell responses against autochthonous tumors have been demonstrated. Thus, tumor specific determinants may: a) be completely inert, b) elicit (immuno)suppression or c) represent a 'hole' in the receptor repertoire of the host T-cell immunosurveillance system. The following three projects are currently in progress in Dr. Elliott's laboratory to investigate these problems: (i) host T-cell recognition of tumor specific determinants associated with self-major histocompatibility complex (MHC) antigens (ii) immunoregulation in anti-tumor immunity (iii) monospecific T-cell lines as reagents to study tumor specific determinants.

Dr. A.R. Giles:- Dr. Giles research activities are as follows:-
i) investigation of the thrombogenicity of prothrombin complex concentrates, ii) investigation of the association between thrombocytopenic bleeding and antibiotic therapy, iii) development of a Factor VIII bypassing therapy for hemophiliacs with a Factor VIII inhibitor, iv) combined *in vitro* and *in vivo* study of the interaction of specific clotting factors and their inhibition by their natural inhibitors with particular reference to Protein-C and Factors V and VIII and, v) investigation of the role of plasmapheresis in the treatment of severe rheumatoid arthritis.

Dr.R.S. Kerbel:- Dr. Kerbel's research program is concerned with the cell biology of tumor progression, tumor heterogeneity, and cancer metastasis. A major part of his current program is devoted to an analysis of the possibility that cancer cell populations can diversify and progress towards a state of increased malignancy (metastasis) through spontaneous somatic cell hybridization *in vivo* with normal host cells, such as macrophages or fibroblasts. Definitive evidence for this process has been obtained in an experimental mouse tumor system, using so-called lectin-resistant membrane mutant sublines of the tumor. This program is being done in collaboration with Dr. A. Lagarde. In a collaborative study with Dr. J. Dennis, mutants, hybrids, and parental cell lines are being used in a comparative manner to study features of tumor cells and host responses which are relevant to the metastatic process. A third area of investigation, in collaboration with Dr. P. Frost, California, and Dr. B. Elliott, concerns new approaches in relation to therapy, specifically immunotherapy, of established metastases.

Dr. R. Kisilevsky:- Dr. Kisilevsky's research concerns 1) the protein synthesizing apparatus of liver cells, and the manner in which this apparatus is upset in induced disease states. The particular problems at the moment are i) modulation of ribosome structure and ii) an examination of several enzymes involved in ribosomal protein phosphorylation; iii) mRNA metabolism; and iv) initiation factor phosphorylation - all during induced cell injury and 2) pathogenesis of experimental murine amyloidosis.

Dr. A.E. Lagarde:- Dr. Lagarde's laboratory has used a somatic cell genetic approach to study tumor-host interactions during tumor progression, with the aim of examining the nature of genome alterations which convert somatic cells to increasing stages of malignancy, and the role played by host immune defence mechanisms during the selection of these stages. Attempts have been made to induce cell membrane alterations by lectin-resistance mutations, to rank them into genetic complementation groups and to correlate them to the reduced ability of a tumor cell line to metastasize. By using cloning and karyotyping procedures it was possible to follow the time-course evolution of a tumor *in vivo* during its progression towards metastatic spread and subsequently it was determined that tumor-host cells spontaneous somatic fusion was taking place during this process. The most significant breakthrough was success in establishing *in vitro* long-term cultures of lymphoid cells which recognize and destroy spontaneously many types of tumors. The extensive characterization of these killer clones is still in progress but it is strongly suspected that they belong to the basophils or mast cell lineage. A killing function has never been described previously

for this category of cells and therefore new perspectives for the study of the complex immunological network responsible for tumoral surveillance were opened. In collaboration with Dr. J. Roder, Dr. Lagarde has succeeded in producing an anti-tetanus toxin monoclonal antibody of human origin.

Dr. S.K. Ludwin:- Dr. Ludwin's project deals with the mechanisms of remyelination in the central nervous system. This study involves the use of Cuprizone to cause demyelination in the central nervous system of young mice. Through the use of electron microscopy, radio-autography and immunohistochemistry, Dr. Ludwin is attempting to elucidate the cellular mechanisms involved in remyelination. As remyelination with the central nervous system is a rare phenomenon, this model may help to understand some of the limitations of remyelination which may be applicable in some cases of human disease. In addition, a new project involving oligodendrocyte mitogenesis in tissue culture explants of the central nervous system has been started. A tissue culture laboratory has been established for this purpose.

Dr. P.N. Manley:- Dr. Manley's research activities involve the immunohistochemical demonstration of antigen in tissue sections with particular interest in the investigation of the specificity of prostatic secretory acid phosphatase and its ultrastructural localization.

Dr. T.F. McElligott:- Dr. McElligott, in collaboration with his graduate student, continues to study the morphologic aspects of hepatotoxicity of drugs with the support of the Canadian Liver Foundation.

Dr. S. Nag:- Dr. Nag's research concerns the following:- i) studies of cerebral findings in experimental acute and chronic hypertension at the light and electron microscopic level. In addition, immunoperoxidase studies of both human and animal brains is underway to localise extravasation of endogenous serum albumin; ii) studies of cells obtained from isolated cerebral microvessels is ongoing.

Dr. M.J. Raymond:- Dr. Raymond has continued the development and improvement of the methodologies employed in the clinical chemistry laboratory. His research interest is the investigation of the potential applications for computers within the clinical laboratories. This ongoing study is concerned with the possible impact of computerization on the handling of patient data, laboratory management and resident teaching programs within the department.

Dr. D.M. Robertson:- Dr. Robertson is studying models of experimental diabetic neuropathy. In collaboration with Dr. H. Dinsdale of the Department of Medicine, Dr. Robertson is studying the effects of acute and chronic hypertension on cerebral blood flow and permeability. In collaboration with Drs. Kerbel, Elliott and Lagarde of the Cancer Research Group within the department, Dr. Robertson is carrying out research in tumor biology and immunogenetics.

Dr. H.D. Steele:- Dr. Steele, in collaboration with Dr. H. Gorwill of the Department of Obstetrics and Gynecology, has developed and is utilizing a mouse model to study the effect of certain hormones on cervico-vaginal development, and the relationship of these to neoplasia. The preliminary work has been completed, and has been both presented, and accepted for publication.

Dr. S. Wasan:- Dr. Wasan's research involves the following areas:
i) study of corneal lesions by light and scanning electron microscopy in association with Dr.W.E. Willis of the Department of Ophthalmology, Hotel Dieu Hospital and ii) study of contact lens and Timolol induced corneal lesions in rabbits, in collaboration with Dr. W.E. Willis.

Dr. J.C. Wyllie:- Dr. Wyllie's research activities conducted during the past year consisted of a comparative study of the absorption and utilization of haemoglobin iron and inorganic iron by the rat during growth and development.

VISITING LECTURERS

DEPARTMENT OF PATHOLOGY

1981 - 1982

Dr. Feroze N. Ghadially, Professor and Joint Head of Pathology, University of Saskatchewan, Saskatoon, Saskatchewan, presented a special seminar in the departmental library entitled, "Diagnostic Electron Microscopy of Tumours".

Dr. R. Wiltrout, Laboratory of Immunodiagnosis, National Institutes of Health, Bethesda, Maryland, U.S.A., presented an informal research seminar in the conference room of Botterell Hall. This seminar was entitled, "Studies on Activated Macrophage and NK Cell Tumoricidal Function".

Professor A.J.S. Davies, Chairman, Division of Immunobiology, Chester Beatty Research Institute, London, England, presented a research seminar in Botterell Hall entitled, "Projects Being Carried Out in the Division of Immunobiology, Chester Beatty Research Institute, London, England".

Dr. Ariela Pomerance, Consultant Histopathologist - Cardiovascular Diseases, Mount Vernon and Harefield Hospitals, Northwood, England, presented a seminar in the department entitled, "How a Pathologist Looks at a Heart". Dr. Pomerance also presented a research seminar in the departmental library entitled, "Pathology of Thoracic Aortic Aneurysms". In addition, Dr. Pomerance presented a seminar in Hotel Dieu Hospital and a cardiology seminar to the members of the division of cardiology of the Department of Medicine in Etherington Hall. Dr. Pomerance was funded and sponsored in part by the Ontario Heart Foundation.

Dr. Timothy Feltis, Medical Research Council Fellow, Department of Pathology, Mount Sinai School of Medicine of the City University of New York, presented a special seminar in the department entitled, "Exploring the Relationship Between IgA Nephropathy and Henoch-Schönlein Purpura Syndrome".

Dr. John G. Gartner, Medical Research Council Fellow, Department of Physiology, McGill University, Montreal, presented a special seminar in the departmental library. The seminar was entitled, "Oncological Association of the Ebstein Barr Virus".

Dr. Drummond Bowden, Professor and Head, Department of Pathology, University of Manitoba, was a Queen's Quest Visiting Scholar in the department. He presented a special seminar entitled, "The Cellular Pathology of Lung Injury". In addition, Dr. Bowden participated in case presentations with the Department of Pediatrics; presented a slide seminar in the departmental library to pathology residents, and was the

pathology discussant for the Clinicopathological Conference, with Dr. P. Munt as clinical discussant.

Dr. Isaiah J. Fidler, Director, Cancer Metastasis and Treatment Laboratories, and Head, Biology of Metastasis Basic Research Program, Frederick Cancer Research Center, Frederick, Maryland, was co-sponsored by the Department of Pathology and the Department of Continuing Education, Health Sciences. Dr. Fidler presented the Medical Sciences Lecture in Etherington Hall Auditorium. The title of his lecture was, "The Pathogenesis of Cancer Metastasis".

Dr. Eva Turley, University of Calgary, presented an informal research seminar in the conference room of Botterell Hall entitled, "Glycosaminoglycans and Cell Movement".

Dr. Harold Sonnenberg, Professor, Dept. of Physiology, University of Toronto, presented a Special Seminar in the departmental library entitled, "Naturetic Hormone. Who Needs It?".

Dr. P.A. Cancilla, Professor of Pathology (Neuropathology), University of Iowa, Iowa City, was a Queen's Quest Visiting Scholar. Dr. Cancilla participated in an informal discussion of selected cases with neuropathology residents; presented a neuropathology slide seminar in the departmental library, and was the guest speaker for the Neurosciences Lecture. The title of his lecture was, "Properties of Cerebral Endothelium In Vivo and In Vitro".

Dr. J. Pouyssegur, Biochemistry Department, Centre National de la Recherche Scientifique, University of Nice, France, presented a research seminar in the conference room of Botterell Hall entitled, "Early Events in Growth Factor Action - Cation Fluxes and Protein Phosphorylation: A Common Coupling Mechanism".

Dr. S. Jothy, Department of Pathology, McGill University, presented a seminar entitled, "Lupus Nephritis".

Dr. Gordon K. Klintworth, Professor of Pathology and Ophthalmology, Duke University Medical Center, Durham, North Carolina, presented a special seminar in the departmental library entitled, "Studies on Angiogenesis". This seminar was sponsored by the Department of Pathology in collaboration with the Neurosciences Seminar Series.

Dr. E. Gorelik, National Institutes of Health, Bethesda, Maryland, presented an informal research seminar in the conference room of Botterell Hall entitled, "Role of NK Cells in the Control of Metastatic Spread and Growth".

RESEARCH GRANTS IN PROGRESS

APPENDIX II

APRIL 1, 1981 - MARCH 31, 1982

<u>INVESTIGATOR</u>	<u>GRANTING BODY</u>	<u>AMOUNT OF GRANT</u>	<u>TITLE OF PROJECT</u>
Dr. A. Clark	National Cancer Institute	\$ 36,676	Hormones in the control of growth and function of normal and malignant prostate cells
Dr. A. Clark	Medical Research Council	62,732	Steroid Metabolism and Actions
Dr. A.J. de Bold	Ontario Heart Foundation	30,500	A Natriuretic Factor Isolated from Heart Atria
Dr. A.J. de Bold	Medical Research Council	23,520	A Morphological Study of the Pars Intermedia of the Adenohypophysis
Dr. A.J. de Bold	J.P. Bickell Foundation	16,000	Investigations on a Diuretic Factor Isolated from Heart Atria
Dr. B.E. Elliott	Medical Research Council	38,000	Clonal Analysis of Cytolytic lymphoreticular cells in host defense: Physiology, serology and biochemistry of effector and target interactions
Dr. A.R. Giles	Alpha Therapeutic Corp.	68,700	Development of Factor VIII Bypass
Dr. A.R. Giles	Health & Welfare Canada	32,204	An Investigation of Mechanism Responsible for the Thrombogenicity of Prothrombin Complex
Dr. R.S. Kerbel	Medical Research Council	36,800	Detection, Significance and Applied Use of Membrane-Associated Antigen and Receptor Alterations on Activated Lymphocytes and Macrophages
Dr. R. Kisilevsky	Medical Research Council	48,012	Molecular Pathology - the Protein Synthesizing Apparatus of Liver Cells in an Induced Pathological State: A Biochemical Dissection of Pathological Reactions
Dr. R. Kisilevsky	Medical Research Council	68,712	Amyloidogenesis: An Analysis of the Causative Factors in an Experimental Murine Model

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APRIL 1, 1981 - MARCH 31, 1982

<u>INVESTIGATOR</u>	<u>GRANTING BODY</u>	<u>AMOUNT OF GRANT</u>	<u>TITLE OF PROJECT</u>
Dr. A. Lagarde	National Cancer Institute	\$ 42,700	Long term murine spontaneous killer-like cell lines as tools for a somatic cell genetics analysis of cell-mediated cytotoxicity mechanism and function
Dr. S. Ludwin	Medical Research Council	37,450	Studies in Central Nervous System Remyelination
Dr. S. Ludwin	P.S.I. Foundation	31,700	Tissue Culture Study of Oligodendrocyte Mitogenic Factors
Dr. P. Manley	National Cancer Institute	22,415	Diagnostic Specificity of Prostatic Acid Phosphatase: An Analysis by Immunohistochemistry and Radio-immunoassay
Dr. T.F. McElligott	Canadian Liver Foundation	10,000	Morphological Aspects of Drug-Induced Hepatotoxicity
Dr. S. Nag	Ontario Heart Foundation	33,113	Mechanisms of Cerebral Damage in Hypertension
Dr. D. Robertson	Medical Research Council	42,000	Maintenance Cost of Electron Microscope Unit for the Study of Molecular Pathology
Dr. D. Robertson (Dr. H. Dinsdale)	Medical Research Council	50,312	Research in Cerebrovascular Disease
Dr. D. Robertson (Dr. R. Kerbel, Dr. B. Elliott) Dr. A. Lagarde)	National Cancer Institute	305,084	A Program in Tumor Biology and Immunogenetics
Dr. D. Robertson	National Cancer Institute	154,900	Major Equipment
Dr. D. Robertson	National Cancer Institute	10,336	Minor Equipment

RESEARCH GRANTS IN PROGRESS

APPENDIX II

APRIL 1, 1981 - MARCH 31, 1982INVESTIGATORGRANTING BODYAMOUNT OF GRANTTITLE OF PROJECT

Dr. J.C. Wyllie

Medical Research Council

\$ 21,200

Iron Metabolism and Iron Absorption
in the Rat During Growth and
Development

PUBLICATIONS 1981 - 1982

612. Small Doses of 5 α -Dihydrotestosterone Mimic the Effects of 5 α -Androstane-3 β , 17 β -Diol on Acid Phosphatase Activity in the Adult Rat Prostate Gland
M.P. Tenniswood, P.P. Abrahams, C.E. Bird, A.F. Clark
Molecular & Cell. Endocrinol. 22:223, 1981
613. Sclerosing stromal tumor of the ovary
A case report and further observations
Kishor H. Shah, H.D. Steele
Diag. Gynecol. & Obst. 3:155, 1981
614. Acetaminophen-Induced Hypothermia, Hepatic Congestion, and Modification by N-Acetylcysteine in Mice^{1,2}
Robin M. Walker, Thomas E. Massey, T.F. McElligott, and William J. Racz
Toxicol. & Applied Pharmacol. 59:500, 1981
615. Prostate-specific acid phosphatase
P.N. Manley, D.E. Mahan, A.W. Bruce, L. Franchi
Diag. Immunohistochemistry 2:313, 1981
616. Cerebrovascular Permeability in Mechanically Induced Hypertension
Sukriti Nag, David M. Robertson, Henry B. Dinsdale
Can. J. Neurol. Sci. 8:215, 1981
617. Fc Receptor Heterogeneity as a Marker for Lymphoid and Myeloid Cell Differentiation
Bruce E. Elliott, Robert S. Kerbel, Bela J. Takacs
The Immune System 2:250, 1981
618. Plasma Concentrations of C-19 Steroids, Estrogens, FSH, LH and Prolactin in Post-Menopausal Women with and without Breast Cancer
C.E. Bird, S. Cook, S. Owen, E.E. Sterns, A.F. Clark
Oncology 38:365, 1981
619. Familial Cutaneous Amyloidosis with Systemic Manifestations in Males
M.W. Partington, P.J. Marriott, R.S.A. Prentice, A. Cavaglia, and N.E. Simpson
Am. J. Med. Genetics 10:65, 1981
620. Apparent reversion of stable *in vitro* genetic markers detected in tumour cells from spontaneous metastases
J. Dennis, T. Donaghue, M. Florian and R.S. Kerbel
Nature 292:242, 1981
621. Demonstration of a Correlation between Tumor Cell H-2 Antigen Content, Immunogenicity, and Tumorigenicity Using Lectin-resistant Tumor Variants
James W. Dennis, Terrence P. Donaghue, Douglas A. Carlow, Robert S. Kerbel
Cancer Res. 41:4010, 1981

622. Generation of Highly Metastatic Tumors in DBA/2 Mice Oncogenicity of A Strain Tumor Cells
Philip Frost, Robert S. Kerbel, Rosalie Tartamella-Biondo
Invasion Metastasis 1:22, 1981
623. Selective natural killer resistance in a clone of YAC lymphoma cells (tumor variants/natural killer cells)
John C. Roder, Timothy J. Beaumont, Robert S. Kerbel, Tina Haliotis and Danuta Kozbor
Proc. Natl. Acad. Sci. USA 78:6396, 1981
624. Pathology of Demyelination and Remyelination
Samuel K. Ludwin
IN: Demyelinating Disease: Basic and Clinical Electrophysiology, edited by S.G. Waxman and J.M. Ritchie.
Raven Press, New York, 1981
625. Relationships of immune deposits in osteoarthritis (OA) cartilage to disease site, pattern and synovial reaction
T.D. Cooke, E. Bennett, L. Wright and J. Wyllie
Epidemiology of Osteoarthritis. Ed. Peyron, J.G. Geigy, 1981, p. 113.
626. An Examination of Tumor Antigen Loss in Spontaneous Metastases
J.W. Dennis, T.P. Donaghue, R.S. Kerbel
Invasion & Metastasis 1:111, 1981
627. Δ^5 -androstenediol: kinetics of metabolism and binding to plasma proteins in normal post-menopausal women
Charles E. Bird, John Tremblay, Valerie Masters and Albert F. Clark
Acta Endocrinologica 99:309, 1982
628. The Coagulant-Active Phospholipid Content is a Major Determinant of In Vivo Thrombogenicity of Prothrombin Complex (Factor IX) Concentrates in Rabbits
Alan R. Giles, Michael E. Nesheim, Hugh Hoogendoorn, Paula B. Tracy, Kenneth G. Mann
Blood 59:401, 1982
629. EA Rosettes Using IgG Monoclonal Antibody-Coated Erythrocytes. Degree of Rosette Formation Correlates with the Amount of Antibody on the Erythrocytes
J.W. Dennis, R.S. Kerbel, J.C. Roder
Scand. J. Immunol. 14:537, 1981
630. Heritable alterations in tumor-cell immunogenicity
R.S. Kerbel, P. Frost
Immunol. Today 3:34, 1982

631. Furosemide Induced Hepatotoxicity
R.M. Walker, T.F. McElligott
J. Pathology 135:301, 1981
632. Polymyositis in Chronic Graft vs. Host Disease
Brian A. Anderson, P. Vincent Young, Walter F. Kean,
Samuel K. Ludwin, Peter R. Galbraith, Tassos P. Anastassiades
Arch. Neurol. 39:188, 1982
633. Studies of Human Natural Killer Cells. III. Neutropenia
Associated with Unusual Characteristics of Antibody-
Dependent and Natural Killer Cell-Mediated Cytotoxicity
Hugh F. Pross, Joseph Pater, Isaac Dwosh, Alan Giles
Lucy A. Gallinger, Peter Rubin, William E.N. Corbett
Peter Galbraith and Malcolm G. Baines
J. Clin. Immunol. 2:126, 1982
634. Neuroaxonal Dystrophy in Young Adults: A Clinicopathological
Study of Two Unrelated Cases
Keith Williamson, Anders A.F. Sima, Bernadette Curry
and Samuel K. Ludwin
Ann. Neurol. 11:335, 1982
635. Binding of Testosterone, 5 α -Dihydrotestosterone and 5 α -
Androstane (3 α - and 3 β -), 17 β -Diols to Serum Proteins in
the Rat
M. Tenniswood, P. Abrahams, V. Winterton, C.E. Bird
A.F. Clark
J. Steroid Biochem. 16:617, 1982

PAPERS DELIVERED AT MEETINGS AND
CONGRESSES

Dr. A.F. Clark :- Dr. Clark collaborated on the presentation of several abstracts at various scientific meetings. These were as follows:-

Clark, A.F., Moor, B., and Bird, C.E. Rat Prostatic 3α -hydroxysteroid dehydrogenase (3α HD) multiplicity. (Abstract of poster presented at American Society of Biological Chemists meeting, St. Louis, Missouri, June, 1981).

Bird, C.E., Tenniswood, M., and Clark, A.F. Delta-5-androstene-3beta, 17beta-diol metabolism in post-menopausal women with breast cancer: Effects of aminoglutethimide. (Abstract of paper presented at The Endocrine Society meeting, Cincinnati, Ohio, June 1981).

Downey, J., Mahan, D., Flynn, T.G. and Clark, A.F. Androgen dependence of isoelectric focusing patterns of rat prostatic acid phosphatase (AP) activity. (Abstract of paper presented at Canadian Federation of Biological Societies meeting, Montreal, June, 1981).

Orlowski, J., Bird, C.E. and Clark, A.F. The culture and characterization of normal rat ventral prostate epithelial and stromal cells. (Abstract of paper presented at Canadian Federation of Biological Societies meeting, Montreal, June, 1981).

Bird, C.E. and Clark, A.F. Δ^5 -Androstenediol (Δ^5 -A): Effects of Age and drugs on the metabolism of this potential "estrogen". (Abstract of paper presented at the Canadian Society for Clinical Investigation meeting, September 1981).

Clark, A.F., Downey, J., Orlowski, J., Flynn, T.G., Mahan, D. and Bird, C.E. Androgenic dependence of rat prostatic acid phosphatase isoelectric focusing patterns. (Abstract of paper presented at the Canadian Andrology Society meeting, Val David, October, 1981).

Dr. W.E.N. Corbett:- Dr. Corbett (with Dr. A. Packer) presented a paper at the Canadian Association of Pathologists meeting in Vancouver in June 1982 entitled, "Variant Acute Promyelocytic Leukemia". At the Symposium on Tumors of the Eye and Orbit at the Donald Gordon Center on May 13-15, 1982, Dr. Corbett presented a paper entitled, "General Pathological Features of Pseudotumor and Lymphoma".

Dr. A.J. deBold:- Dr. deBold presented three papers at the Federation of American Societies of Biology meeting in April 1981. They were entitled, "Natriuretic Factor (NF) of the Rat Heart Atria. Studies on Isolation and Properties"; "The Relationship Between Atrial Natriuretic Factor and Specific Atrial Granules" and "The Effect of Cardiac Atrial Extract on Segmental Nephron Transport in Rat Kidney" (with Cupples, W.A., Veress, A.T. and Sonnenberg, H.)

Dr. B.E. Elliott:- Dr. Elliott (with Dr. Z. Nagy and Dr. B. Rubin) presented an abstract at the Mid-Winter Immunologists Conference in Asilomar, California, in January 1982, entitled, "T-Cell Idiotypes recognizing Self-Ia".

Dr. P.M. Ford:- Dr. Ford presented the following papers:

"A controlled trial of sham vs. true plasmapheresis therapy in rheumatoid arthritis" (with Dwosh, I.L., Giles, A. et al) presented at the American Rheumatism Association meeting, Boston, June 1981.

"A study of the effect of human IgM rheumatoid factor on glomerular deposits following in situ immune complex formation and passive serum sickness in the mouse" (with Kosatka, A.) presented at the 8th International Congress of Nephrology, Athens, Greece, June 1981.

"Specific binding of circulating microparticulate antigen following in situ immune complex formation in the mouse glomerulus" (with Kosatka, A.) presented at the 8th International Congress of Nephrology, Athens, Greece, June 1981.

"Reactivity of human IgM rheumatoid factor with glomerular immune complexes in passive serum sickness and chronic serum sickness in the mouse" presented at the Canadian Society for Clinical Investigation meeting in Toronto September 1981.

"Efficacy and toxicity of D-Penicillamine therapy in the elderly over prolonged time periods" (with Kean, W.F., Anastassiades, T.P. et al) presented at the American Rheumatism Association meeting in Montreal in October 1981.

Dr. R.S. Kerbel:- Dr. Kerbel presented a paper entitled, "Cell Biology of Tumor Heterogeneity and Cancer Metastasis" in September 1981 at the annual meeting of the Canadian Association of Neuropathologists. Dr. Kerbel (with Dr. P. Frost) also presented a paper entitled, "Mutagenesis can result in the generation of the cytotoxic T cell response to a metastatic murine tumor" at the American Society for Clinical Research in Chicago in November 1981.

Dr. R. Kisilevsky:- Dr. Kisilevsky presented the following papers:-

"Accelerated amyloid deposition: the effect of DMSO or colchicine treatment" presented at the International Academy of Pathology (U.S.-Canadian Division) in Chicago in 1981.

"Ribosome topographical changes in Sindbis virus infected cells" (with R.P. McGuire and B.T. Eaton) presented at the Canadian Federation of Biological Societies meeting in Montreal in June 1981.

"Ribosome topographical changes in Sindbis virus infected cells" (with R.P. McGuire and B.T. Eaton) presented at the Fifth International Congress of Virology in Paris in 1981.

"Structural requirements for cyclic AMP to bind to a rat liver receptor(s)" (with K.H. Wong) presented at the Canadian Federation of Biological Societies in Edmonton in June 1982.

"Effect of DL methionine on rat liver cyclic AMP levels" (with K.H. Wong) at the Canadian Federation of Biological Societies meeting in Edmonton in June 1982.

Dr. A.E. Lagarde:- Dr. Lagarde presented the following papers:

"Human monoclonal antibodies produced by a new human myeloma KR-4 hybridized with EBV transformed clones" (with D. Kozbor and J. Roder) presented at the ORTHA Symposium on 'Hybridoma Technology' in Toronto in December 1981.

"Human monoclonal antibodies produced by fusion of EBV-transformed B cells with human and murine myelomas" (with D. Kozbor, J. Roder, T. Chang, Z. Steplewski and H. Koprowski) presented at the First Annual Congress for Hybridoma Research in Los Angeles in February 1982.

"Altered transport properties in E-coli mutants selected for pH-conditional growth on 3-deoxy-2-oxo-D-gluconate" (with M.A. Mandrand-Berthelot) presented at the Second IUB-IUPAB Bioenergetics Group Conference in Lyon, France, in July 1982.

"Long-term murine cloned cell lines exhibiting spontaneous killing activity" presented at the Canadian Federation of Biological Societies meeting in Edmonton in June 1982.

"Somatic Cell Genetics and Cancer" presented at the Ontario Cancer Foundation, Kingston Clinic, at Kingston in February 1982.

Dr. S.K. Ludwin: Dr. Ludwin presented the following papers:

Two papers were presented by Dr. Ludwin at the Canadian Association of Neuropathologists meeting in Kingston, Ontario in September 1981.

They were entitled, "Aicardi's Syndrome" and "Congophilic Angiopathy" in the Diagnostic Session. At the Multiple Sclerosis Symposium in Virginia in 1981 Dr. Ludwin presented a paper at the Remyelination Symposium. Dr. Ludwin also presented a paper entitled, "Oligodendrocyte

Regeneration" at the Winter Conference on Brain Research in Colorado in January 1982.

Dr. P. Manley:- Dr. Manley (with Dr. F. Swaine) presented a paper at the annual meeting of the Canadian Association of Pathologists in Vancouver in June 1982. The paper was entitled, "Lymph Node Infarction".

Dr. T.F. McElligott:- Dr. McElligott presented the following papers:

"The effect of acetaminophen on the morphology of isolated mouse hepatocytes" (with R.M. Walker) presented at the Symposium on Toxic Substances in the Environment at Queen's University, Kingston, in December 1981.

"Scanning electron microscopy of acetaminophen-induced hepatotoxicity in mice" (with R.M. Walker) presented at the Society of Toxicology meeting in Boston in February 1982.

"Acetaminophen toxicity in fed and fasted mice" (with R.M. Walker) presented at the Canadian Federation of Biological Societies to the Society of Toxicology of Canada Minisymposium on Biochemical Toxicology in Montreal in June 1981.

"Enhanced acetaminophen toxicity in mice following chronic ethanol consumption" (with R.M. Walker) presented at the Canadian Federation of Biological Societies meeting in Edmonton in June 1982.

"Evidence for a central action of the parent compound in acetaminophen-induced hypothermia in mice" (with R.M. Walker) presented at the Canadian Federation of Biological Societies meeting in Edmonton in June 1982.

Dr. S. Nag:- Dr. Nag presented a paper entitled, "Permeability and immunohistochemical studies of brain in chronic hypertension" at the Fifth International Symposium on Brain Edema held in Holland in June 1982.

Dr. R.S. Prentice:- Dr. Prentice presented a paper entitled, "Malignant melanoma" at the Symposium on Tumours of the Eye and Orbit held at Queen's University, Kingston, in May 1982.

Dr. M.J. Raymond:- Dr. Raymond presented a paper entitled, "Laboratory inventory control and cost per test analysis using a microcomputer" at the American Association of Clinical Chemistry meeting in Kansas City in July 1981.

Dr. D.M. Robertson: Dr. Robertson (with Dr. S. Nag and Dr. H. Dinsdale) presented a paper entitled, "Intracerebral arteriolar permeability to lanthanum" at the Tenth International Symposium on Cerebral Blood Flow and Metabolism in St. Louis, Missouri, in June 1981.

Dr. S.M. Wasan: Dr. Wasan presented the following papers:

"The ultrastructural and immunofluorescent effects of topical Timolol on the rabbit cornea" presented at the Association for Research in Vision and Ophthalmology ("ARVO") in Sarasota, Florida, in May 1982.

"Timolol induced lesions in human and rabbit corneas" presented at the Canadian Ophthalmological Society meeting in Toronto in June 1982.

VISITING PROFESSORS & INVITED LECTURESHIPS

Dr. B.E. Elliott:- Dr. Elliott was an invited lecturer at the James A. Baker Institute for Animal Health, New York College of Veterinary Medicine, Cornell University, Ithaca, New York. The title of his lecture was, "Receptor Specificity and Affinity of T-Cells Activated Against Foreign Antigens".

Dr. P.M. Ford:- Dr. Ford was an invited participant at the Medical Grand Rounds at McMaster University in December 1981. His topic was, "Current Management of Lupus Nephritis".

Dr. R.S. Kerbel:- Dr. Kerbel was an invited lecturer in the Department of Pathology, Vancouver General Hospital, in February 1982. The title of his lecture was, "An Experimental Approach to the Study of Tumor Heterogeneity and Cancer Metastasis". Dr. Kerbel presented the same lecture to the Department of Pharmacology at the University of Calgary and the Institute of Immunology at the University of Toronto in February. In addition, he presented a lecture entitled, "Current Trends in Research in Cancer Metastasis Research" to the Department of Pathology at the University of Toronto. During March 1982 Dr. Kerbel presented a lecture entitled, "Somatic Cell Hybridization As a Means of Generating Tumour Cell Diversity and More Malignant Variants" to the Department of Microbiology and Immunology at the University of California Los Angeles. In April 1982 Dr. Kerbel presented a seminar in the Department of Bacteriology at the University of Western Ontario entitled, "Somatic Cell Hybridization as a Means of Generating Tumour Cell Diversity and More Malignant Variants". Dr. Kerbel was also awarded the Sir Alexander Haddow Visiting Fellow Award from the Institute of Cancer Research, London, England, and spent the term of his fellowship in May 1982 in London.

Dr. R. Kisilevsky:- Dr. Kisilevsky presented a seminar in the Department of Pathology at McGill University in April 1982. His seminar was entitled, "The Pathogenesis of Inflammation Associated Amyloidosis". He also presented a seminar entitled, "Amyloidosis - Pathology on the Brink of Biochemistry" in the Department of Pathology, University of Ottawa, in April 1982. In addition, Dr. Kisilevsky presented two seminars to the Division of Gastroenterology at Sunnybrook Hospital in Toronto in April 1982. These were entitled, "The Liver In Amyloidosis" and "From Foie Gras to Spaghetti - Disturbance in Protein Synthesis".

Dr. A.R. Giles:- Dr. Giles presented a lecture in October 1981 at the Canadian Plasma Exchange Study Group at Montebello, Quebec. The title of his presentation was, "A Study of Plasma Exchange in the Treatment of Chronic Rheumatoid Arthritis".

DR. S.K. LUDWIN:- Dr. Ludwin was invited to participate in the teaching of a course entitled, "Current Concepts in Surgical Pathology 1982" at the Department of Pathology, Stanford University School of Medicine, in March 1982. Dr. Ludwin's contribution was, "Differential Diagnosis of Gliomas".

Dr. D.M. Robertson:- Dr. Robertson was Visiting Professor at the University of Manitoba from November 2-6, 1981. The titles of his lectures and presentations included: "Cerebrovascular Disease"; "Increased Intracranial Pressure"; "Dementia"; "Central and Peripheral Demyelinating Disease" and a Seminar entitled, "Experimental Diabetic Neuropathology". In addition, Dr. Robertson participated in Grand Rounds while Visiting Professor at the Health Sciences Center, University of Manitoba. Dr. Robertson was also invited during January 1982 to participate in the Medical Research Council of Canada Program Grant Site Visit at the Douglas Hospital, Montreal.