



# Recent Results in Cancer Research

Fortschritte der Krebsforschung

Progrès dans les recherches sur le cancer

## VI

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*Editor in chief*

*P. Rentchnick, Genève*

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# Malignant Transformation by Viruses

*Edited by*

W. H. Kirsten

*With 39 Figures*

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## Preface

The position of "Cancer Teaching Coordinator" at The University of Chicago has been a consistently rewarding one because of the enthusiasm and support of the faculty and the students. This volume is the result of the second of two recent intensive teaching sessions which have been planned and implemented by the group which forms the Cancer Coordinator's Advisory Committee. The first of these teaching sessions was held in early March of 1964 and was entitled "LEUKEMIA, A Current and Forward Look." It attracted overflow attendance from the students and staff of this medical institution augmented by members of the other medical centers in Chicago. It was a stimulating and instructive colloquium, and the only regret we heard expressed afterward was that we had not arranged for publication of the many excellent presentations.

One of the events commemorating the seventy-fifth anniversary of the founding of The University of Chicago was this symposium on malignant transformations. This time the Committee advised us to plan on speedy publication, and, logically, it chose Dr. Werner Kirsten, a member of our faculty and an active and effective investigator in this general field of endeavor, to serve as editor of the volume.

Again, two of the same ingredients for effective instruction were blended: an excellent group of scientists presenting their latest work and a fine, attentive audience of students and staff. This time we were also privileged to have the valuable assistance of Miss Judith Strup, who labored diligently in making the necessary arrangements for several weeks prior to the conference and later in transcribing the round-table and the summary. We also want to acknowledge the splendid help and cooperation of Springer-Verlag New York Inc., as well as the effective work of Mrs. Nathalie Weil, Mrs. Brenda Pickens and Miss Suzanne Larsen, all of whom used their skills to get the manuscript into submittable form in record time after the conference.

In this and in our many other ventures, the Cancer Coordinator recognizes the contributions of his Advisory Committee and thanks them for their help. They are as follows:

1. Clifford W. Gurney, Professor of Medicine and Physiology, Markle Scholar, and Head of the Section of Hematology in the A.E.C. Argonne Cancer Research Hospital.
2. Melvin L. Griem, Associate Professor of Radiology in the A.E.C. Argonne Cancer Research Hospital.
3. Paul V. Harper, Professor of Surgery and Associate Director of the A.E.C. Argonne Cancer Research Hospital.
4. Elwood V. Jensen, American Cancer Society—Charles Hayden Foundation Research Professor of Physiology in the Ben May Laboratory for Cancer Research.

5. Werner H. Kirsten, Associate Professor of Pathology and Pediatrics and N.C.I. Career Development Awardee.
6. John V. Prohaska, Professor of Surgery.
7. Henry Rappaport, Professor of Pathology and Director of Surgical Pathology.

ROBERT W. WISSLER, PH.D., M.D.  
Cancer Coordinator and  
Professor of Pathology,  
University of Chicago  
School of Medicine and  
in the A.E.C. Argonne  
Cancer Research Hospital

April, 1966

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*Chairman:* J. L. Melnick

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## List of Participants

- BLACK, PAUL H., M.D.  
Laboratory of Infectious Diseases  
National Institute of Allergy and Infectious Diseases  
National Institutes of Health  
Bethesda, Maryland
- DAWE, CLYDE J., M.D.  
Laboratory of Pathology  
National Cancer Institute  
National Institutes of Health  
Bethesda, Maryland
- DEFENDI, VITTORIO, M.D.  
The Wistar Institute  
Philadelphia, Pennsylvania
- DE OME, KENNETH B., PH.D.  
Cancer Research Genetics Lab  
Department of Zoology  
University of California  
Berkeley, California
- GIRARDI, ANTHONY J., PH.D.  
The Wistar Institute  
Philadelphia, Pennsylvania
- GREEN, HOWARD, M.D.  
Department of Pathology  
New York University School of Medicine  
New York, N.Y.
- HABEL, KARL, M.D.  
Laboratory of Biology of Viruses  
National Institute of Allergy and Infectious Diseases  
National Institutes of Health  
Bethesda, Maryland
- HASELKORN, ROBERT, PH.D.  
Department of Biophysics  
University of Chicago  
Chicago, Illinois
- HILLEMANN, MAURICE R., PH.D.  
Merck Institute for Therapeutic Research  
West Point, Pennsylvania
- HUEBNER, ROBERT J., M.D.  
Laboratory of Infectious Diseases  
National Institute of Allergy and Infectious Diseases  
National Institutes of Health  
Bethesda, Maryland
- KIRSTEN, WERNER H., M.D.  
Department of Pathology  
University of Chicago  
Chicago, Illinois
- LASFARGUES, ETIENNE Y., D.V.M.  
Department of Microbiology  
Columbia University College of Physicians & Surgeons  
New York, N.Y.
- MACPHERSON, IAN A., B.Sc., PH.D.  
Experimental Virus Research Unit  
Institute of Virology  
University of Glasgow  
Glasgow, Scotland
- MELNICK, JOSEPH L., PH.D.  
Department of Virology and Epidemiology  
Baylor University School of Medicine  
Houston, Texas
- MOORHEAD, PAUL S., PH.D.  
The Wistar Institute  
Philadelphia, Pennsylvania
- NICHOLS, WARREN W., M.D., PH.D.  
Department of Cytogenetics  
South Jersey Medical Research Foundation  
Camden, New Jersey

RABSON, ALAN S., M.D.

Pathologic Anatomy Department  
National Cancer Institute  
National Institutes of Health  
Bethesda, Maryland

RAPP, FRED, PH.D.

Department of Virology and Epidemi-  
ology  
Baylor University School of Medicine  
Houston, Texas

ROIZMAN, BERNARD, PH.D.

Department of Microbiology  
University of Chicago  
Chicago, Illinois

SABIN, ALBERT B., M.D.

Virus and Cancer Research Laboratory  
Department of Pediatrics  
University of Cincinnati College of  
Medicine  
Cincinnati, Ohio

TEMIN, HOWARD M., PH.D.

McArdle Laboratory for Cancer Re-  
search  
University of Wisconsin  
Madison, Wisconsin

YERGANIAN, GEORGE, PH.D.

Children's Cancer Research Hospital  
Harvard University Medical School  
Boston, Massachusetts

## Introduction

Cancer research has proceeded at a rapid pace over the last decade. One particularly significant accomplishment has been the increasing knowledge of the initial step in the formation of cancer cells from normal progenitor cells. Perhaps no model system has yielded more basic understanding than studies with tumor viruses in tissue culture. Although such attempts date back to Carrel's work with Rous sarcoma virus and blood monocytes in 1925, the results were not generally accepted, nor was the experimental model widely used. It was not until some twenty-five years later that investigations into malignant transformation in tissue culture were re-opened by the use of "old" and "new" tumor viruses. The significance of virus-induced neoplastic changes in cell cultures can hardly be overestimated.

The Cancer Coordinator at The University of Chicago with the help of his Advisory Committee made plans to hold a teaching symposium on the subject of viral malignant transformation as a part of the 75th anniversary of the University of Chicago. The objectives of the conference were to survey the recent accomplishments in this field and to present for the medical students and the house staff the different morphologic, cytochemical, cytogenetic and immunologic aspects of this topic. Leading scientists in these fields were invited to present general reviews and their latest results. Each speaker was followed by an invited discussant.

Because of the increasing importance of antigenic differences between normal and virus-transformed cells, Dr. Maurice Hilleman was asked to analyze the current feasibility of an "Immunologic Attack on Neoplasia." A round-table discussion was arranged so that the main speakers could exchange additional information and could answer questions from the audience. This was under the especially stimulating leadership of Dr. Robert Huebner. We were particularly fortunate that Dr. Albert Sabin agreed to summarize the results of the symposium.

The symposium was held on February 26 and 27, 1966, at the School of Medicine, The University of Chicago. Many interested scientists attended the conference. The response from our graduate and postgraduate students for whom this conference was arranged was most gratifying. The symposium was supported in part by the Rosa Kuhn Levy Fund and by the Undergraduate Cancer Teaching Grant of the National Cancer Institute #T2 CA 480-18.

We are grateful to all who have made this conference possible.

WERNER H. KIRSTEN