

# Current Comments

## The 300 Most-Cited Authors, 1961-1976, Including Co-Authors. 3C. Their Most-Cited Papers and Affiliation Data

Number 49

December 4, 1978

This is the last part of the series of essays listing the most-cited journal articles of the 300 most-cited authors.<sup>1,2</sup> This week's list, which appears in Figure 1, covers papers from the fields of organic, inorganic, and physical chemistry, chemical physics, microbiology and virology, cardiology, hematology, and gastroenterology. The format and conventions of the list were explained in the first part of this series.

Along with the remainder of the most-cited authors' most-cited publications, we are also including a table of affiliations for the authors. The table, in Figure 2, includes the names of the institutions with which the authors were affiliated at the time their papers were written. The number of most-cited papers from each institution is also given. Previously, I noted that nearly a third of the authors on our most-cited list are affiliated with about five universities or well-known institutes.<sup>3</sup>

A glance at this list shows that by far the largest employer was the US government. Forty-five of the authors were affiliated with the Na-

tional Institutes of Health when they wrote their papers.

That nearly a sixth of all the papers on this list were written while their authors were associated with NIH is significant but not surprising. In a recent study, Francis Narin and Stephen B. Keith of Computer Horizons, Inc. examined data from the *SCI*<sup>®</sup> from 1973 to 1975.<sup>4</sup> They found that "investigations at the NIH produce more biomedical research papers per year than any other group in the US, accounting for approximately 3.4% of all US biomedical research papers." When the investigators looked at "the 20 journals that have the highest influence per paper rating," they found the NIH fraction to be over 5%. "In the 12 biomedical review journals covered by the *SCI*, 7.5% of the authors are NIH scientists."

Two Veterans Administration Hospitals appear on this list and account for six papers. Thus 51 of the 300 papers were written while their authors were employees of the US government. Of course, a number of the other institutions on this list received US government contracts

and much of the work performed was underwritten by US government grants.

Nineteen of the authors worked at Harvard University when they wrote their most-cited papers. Ten of these were associated with the medical school there. The University of California system accounts for 13 authors. Five were affiliated with the University of California, Los Angeles (UCLA).

Most of the authors listed are affiliated with organizations in the US. However, 60 of the authors were affiliated with institutions in 13 other countries. Australia, Canada, France, Czechoslovakia, Denmark, Sweden, England, Italy, Japan, West Germany, the Netherlands, Israel, and Scotland appear on the list. Twenty-one of the authors were associated with English institutions at the time they wrote their most-cited papers, 14 with Swedish institutions.

Although much of the research to produce these papers went on in universities, hospitals, and research institutions, some took place in private industry. Thus such companies as IBM, Merck, Sharp & Dohme, and E. I. DuPont appear on the list.

That a large amount of most-cited research is conducted in a small number of institutions comes as no surprise to most of those who follow these kinds of studies. Perhaps the names of these organizations will surprise some. Yet, more than 110 universities, research organizations, companies, and hospitals appear on the list. This diversity makes it clear that excellent research can be and is conducted in many different kinds of organizations — not just a few elite laboratories.

This concludes our study of the 300 most-cited author's most-cited publications. In the future we will be expanding these studies. We will change the period studied to 1965-1978. This will enable you to see the authors who have had significant impact in more recent years. We also need to expand our list to include at least the 1,000 most-cited authors. This will not only allow us to report on the many others who are doing significant work in science but also overcome the biases of the data base. We need to pay particular attention to "small" fields which we hope to identify through our cluster analyses.

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Publications are listed by discipline, then alphabetically by most cited author in bold-face type. Authors' affiliations at the time the paper was written are included in parentheses.

**Total  
Citations  
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**Figure 2:** Affiliations of the 300 most-cited authors at the time of publication of their most-cited articles. The number of papers from each institution is listed.

Number of Papers	Institute
45	National Institutes of Health, Bethesda, MD National Cancer Institute (12) National Heart & Lung Institute (14) National Institute of Allergy & Infectious Diseases (2) National Institute of Arthritis, Metabolism & Digestive Diseases (8) National Institute of Child Health & Human Development (1) National Institute of Dental Research (1) National Institute of Mental Health (5) National Institute of Neurological Diseases & Strokes (2)
19	Harvard University, Cambridge, MA Biological Laboratories (2) Converse Laboratory (1) Dept. Chemistry (5) Harvard College/Smithsonian Astrophysics Observatory (1) Medical School (10)
11	Rockefeller University, New York, NY Dept. unspecified (9) Dept. Immunology (1) Laboratory of Biochemical Genetics (1)
9	New York University School of Medicine, New York, NY



- Dept. unspecified (1)
- Dept. Anatomy (1)
- Dept. Biochemistry (2)
- Dept. Chemistry (1)
- Dept. Microbiology & Pathology (1)
- Dept. Pathology (2)
- Medical School (1)
- 8 Karolinska Institute, Stockholm, Sweden
  - Dept. Chemistry (1)
  - Dept. Histology (2)
  - Dept. Tumor Biology (1)
  - King Gustav V Research Institute (1)
  - Medical School (3)
- 8 University of Wisconsin, Madison, WI
  - College of Agriculture (1)
  - Dept. Biochemistry (1)
  - Institute for Enzyme Research (2)
  - Laboratory of Genetics (1)
  - McArdle Mem. Laboratory (1)
  - Medical School (2)
- 7 Stanford University, Stanford, CA
  - Dept. unspecified (1)
  - Dept. Biological Science (1)
  - Dept. Chemistry (2)
  - School of Medicine (2)
  - Stauffer Laboratories of Physical Chemistry (1)
- 6 California Institute of Technology, Pasadena, CA
  - Dept. unspecified (1)
  - Division of Biology (2)
  - Gates & Crellin Laboratory of Chemistry (2)
  - Norman W. Church Laboratory of Chemical Biology (1)
- 5 Massachusetts Institute of Technology, Cambridge, MA
  - Dept. Biology (3)
  - Dept. Chemistry (1)
  - Laboratory for Nuclear Science & Dept. Physics (1)
- 5 University of California, Los Angeles, CA
  - Dept. Chemistry (2)
  - School of Medicine (2)
  - Veterans Administration Center (1)
- 5 University of Pennsylvania, Philadelphia, PA
  - Dept. Biochemistry & Medicine (1)
  - Johnson Research Foundation (1)
  - School of Medicine (2)
  - Wistar Institute (1)
- 4 Institut Pasteur, Paris, France
- 4 Johns Hopkins University, Baltimore, MD
  - Dept. Biology (1)
  - School of Medicine (3)
- 4 Massachusetts General Hospital, Boston, MA
  - Arteriosclerosis Unit (1)
  - Biochemistry Research Laboratory (1)
  - Cardiac Unit (1)
  - Gastrointestinal Unit (1)
- 4 Vanderbilt University, Nashville, TN
  - Dept. Pharmacology & Physiology (2)
  - School of Medicine (2)
- 4 Washington University School of Medicine, St. Louis, MO
  - Dept. unspecified (1)
  - Dept. Pharmacology (2)
  - Metabolism Division (1)

**Figure 2 (continued)**

- 4 Yale School of Medicine, New Haven, CT
  - Dept. Anatomy (2)
  - Dept. Pathology (1)
  - Dept. Pharmacology (1)
- 3 Brandeis University, Graduate Dept. Biochemistry, Waltham, MA
- 3 Columbia University, New York, NY
  - College of Physicians (1)
  - Dept. Chemistry (2)
- 3 Cornell University, Ithaca, NY
  - Baker Laboratory (1)
  - Dept. Chemistry (2)
- 3 Albert Einstein College of Medicine, New York, NY
  - Dept. unspecified (1)
  - Dept. Cellular Biology (1)
  - Dept. Pathology (1)
- 3 Medical Research Council, Molecular Biology Laboratory, Cambridge, England
- 3 Mt. Sinai School of Medicine, New York, NY
  - Dept. Hematology (2)
  - Stratton Laboratory of Liver Disease (1)
- 3 Roswell Park Memorial Institute, Buffalo, NY
  - Dept. unspecified (2)
  - Dept. Biochemistry Research (1)
- 3 Royal Melbourne Hospital, Walter & Eliza Hall Institute for Medical Research, Cancer Research Unit, Victoria, Australia
- 3 St. Mary's Hospital, Medical Unit, London, England
- 3 University of Cambridge, Cambridge, England
  - Dept. Biochemistry (2)
  - Dept. Pharmacology (1)
- 3 University of Texas, Southwestern Medical School, Dallas, TX
- 3 Veterans Administration Hospital, Endocrinology Section, New Orleans, LA
- 3 Veterans Administration Hospital, Radioisotope Service, New York, NY
- 2 Australian National University, Dept. Physiology, Canberra, Australia
- 2 Baylor University College of Medicine, Houston, TX
  - Dept. Pharmacology (1)
  - Dept. Virology and Epidemiology (1)
- 2 Peter Bent Brigham Hospital, Boston, MA
  - Cardiorenal Unit (1)
  - Cardiovascular Unit (1)
- 2 Case Western Reserve University, Cleveland, OH
  - Dept. Chemistry (1)
  - School of Medicine (1)
- 2 Children's Hospital, Virus Laboratory, Philadelphia, PA
- 2 Imperial Cancer Research Fund, Division of Chemistry & Biochemistry, London, England
- 2 Northwestern University, Dept. Chemistry, Evanston, IL
- 2 Scripps Clinic & Research Foundation, Division of Experimental Pathology, La Jolla, CA
- 2 Sloan-Kettering Institute for Cancer Research, New York, NY
- 2 University of California, Davis, CA
  - Dept. Food Science & Technology (1)
  - School of Medicine (1)
- 2 University of California, San Diego, La Jolla, CA
  - Dept. Biology (1)
  - School of Medicine (1)

- 2 University of Göteborg, Dept. Pharmacology, Fack, 33, Göteborg, Sweden
- 2 University of Illinois, Urbana, IL  
Dept. Microbiology (1)  
Noyes Laboratory (1)
- 2 University of Lund, Lund, Sweden  
Dept. Histology (1)  
Dept. Physiological Chemistry (1)
- 2 University of Michigan, Ann Arbor, MI  
University Hospital, Dept. Internal Medicine (1)  
Medical School (1)
- 2 University of Minnesota Variety Club Heart Hospital, Pediatric Research  
Laboratories, Minneapolis, MN
- 2 University of Oxford, Oxford, England  
Dept. Biochemistry (1)  
W. Dunn School of Pathology (1)
- 2 Weizmann Institute of Science, Rehovoth, Israel  
Dept. Chemistry (1)  
Dept. Genetics (1)
- 1 Arizona State University, Dept. Chemistry, Tempe, AZ
- 1 Bell Telephone Laboratories, Murray Hill, NJ
- 1 Bispebjerg Hospital, Dept. Clinical Physiology, Copenhagen, Denmark
- 1 Robert Bent Brigham Hospital, Dept. Medicine & Dermatology, Boston, MA
- 1 British Columbia Research Council, Chemistry Division, Vancouver, Canada
- 1 Brookhaven National Laboratory, Biology Dept., Upton, NY
- 1 Burroughs Wellcome & Co., Wellcome Research Laboratory, Tuckahoe, NY
- 1 Carnegie Institute of Washington, Washington, DC
- 1 Carnegie-Mellon University, Dept. Chemistry, Pittsburgh, PA
- 1 Centre National Recherche Scientifique, Centre de Neurochimie,  
Strasburg, France
- 1 Children's Asthma Research Institute & Hospital, Denver, CO
- 1 City of Hope Medical Center, Dept. Medicine, Duarte, CA
- 1 Cleveland Clinic Foundation Research Division, Cleveland, OH
- 1 Clinical Research Center, Harrow, Middlesex, England
- 1 Czechoslovak Academy of Sciences, Institute of Organic Chemistry &  
Biochemistry, Prague, Czechoslovakia
- 1 Duke University Medical Center, Dept. Biochemistry, Durham, NC
- 1 E. I. Du Pont de Nemours & Co., Central Research Dept., Wilmington, DE
- 1 A. B. Hässle, Biochemical Research Laboratory, Göteborg, Sweden
- 1 Indiana University, Dept. Chemistry, Bloomington, IN
- 1 Institute for Cancer Research, Philadelphia, PA
- 1 International Business Machines Corporation, Research Laboratory  
San Jose, CA
- 1 Istituto Regina Elena per lo Studio la Cura dei Tumori, Rome, Italy
- 1 King's College, Dept. Biochemistry, London, England
- 1 McGill University, Dept. Anatomy, Montreal, Canada
- 1 McMaster University, Dept. Pathology, Hamilton, Ontario, Canada
- 1 Mellon Institute, Pittsburgh, PA
- 1 Merck Institute for Therapeutic Research, Division of Virus and Cell  
Biology Research, West Point, PA
- 1 Merck, Sharp & Dohme, Research Laboratory, Rahway, NJ
- 1 Michigan State University, Dept. Physiology, East Lansing, MI

- 1 Middlesex Hospital Medical School, Dept. Immunology, London, England
- 1 Charles T. Miller Hospital, Dept. Pathology, St. Paul, MN
- 1 National Institute for Research in Dairying, Shinfield, Berkshire, England
- 1 National Institute of Health, Tokyo, Japan
- 1 National Institute of Mental Health, Laboratories of Neuropharmacology and Preclinical Pharmacology, Washington, DC
- 1 National Jewish Hospital & Research Center, Denver, CO
- 1 Oak Ridge National Laboratory, Biology Division, Oak Ridge, TN
- 1 Ohio State University, Dept. Chemistry, Columbus, OH
- 1 Ontario Cancer Institute, Divisions of Biological Research & Physics, Toronto, Ontario, Canada
- 1 Pennsylvania State University College of Medicine, Hershey, PA
- 1 Princeton University, Frick Chemical Laboratory, Princeton, NJ
- 1 Public Health Research Institute of the City of New York, Dept. Biochemistry, New York, NY
- 1 Purdue University, R. B. Wetherill Laboratory, West Lafayette, IN
- 1 Rijks University, Organic Chemistry Laboratory, Utrecht, Netherlands
- 1 Royal College of Surgeons, Dept. Pharmacology, London, England
- 1 Royal Free Hospital, Dept. Medicine, London, England
- 1 Royal Postgraduate Medical School, London, England
- 1 Salk Institute, Neuroendocrinology Laboratory, La Jolla, CA
- 1 Stanford Research Institute, Dept. Thermochemistry & Chemical Kinetics, Menlo Park, CA
- 1 State University of New York, School of Pharmacy, Amherst, NY
- 1 Tel-Aviv University, Dept. Chemistry, Ramat-Aviv, Tel-Aviv, Israel
- 1 University College, Dept. Biophysics, London, England
- 1 University of California, Hormone Research Laboratory, Berkeley, CA
- 1 University of California, Los Alamos Science Laboratory, Los Alamos, NM
- 1 University of Chicago, Dept. Chemistry & Institute for Study of Metals, Chicago, IL
- 1 University of Colorado School of Medicine, Dept. Surgery, Denver, CO
- 1 University of Glasgow, Dept. Biochemistry, Glasgow, Scotland
- 1 University of Munich, Institute for Organic Chemistry, Munich, Federal Republic of Germany
- 1 University of Pittsburgh Graduate School of Medicine, Dept. of Biochemistry & Nutrition, Pittsburgh, PA
- 1 University of Stockholm, Wenner-Gren Institute, Stockholm, Sweden
- 1 University of Texas, Dept. Chemistry, Austin, TX
- 1 University of Toronto, Dept. Medical Biophysics, Toronto, Ontario, Canada
- 1 University of Utah, Dept. Chemistry, Salt Lake City, UT