Finding Aid for the William J. Dreyer Papers 1955-2006

Processed by Charlotte Erwin.
Caltech Archives
Archives
California Institute of Technology
1200 East California Blvd.
Mail Code 015A-74
Pasadena, CA 91125
Phone: (626) 395-2704
Fax: (626) 793-8756
Email: archives@caltech.edu
URL: http://archives.caltech.edu/
©2008
California Institute of Technology. All rights reserved.
Descriptive Summary

Title: William J. Dreyer Papers,
Date (inclusive): 1955-2006
Collection number: 10247-MS
Creator: Dreyer, William J. 1928-2004
Extent: 15.25 linear feet
Repository: California Institute of Technology. Caltech Archives
Pasadena, California 91125

Abstract: The consulting files, patent files and correspondence, and a selection of working papers, general correspondence, and biographical papers of the biochemist William J. Dreyer, known as the William J. Dreyer Papers in the California Institute of Technology Archives. A specialist in molecular immunology, Dreyer was professor of biology at Caltech from 1963 until his death in 2004. At Caltech he was involved in the creation of a series of automated instruments for high-sensitivity protein sequencing. He held over 20 patents and was influential in the creation of the biotechnology industry.

Physical location: Archives, California Institute of Technology.
Languages represented in the collection: English

Access
The collection is open for research. Researchers must apply in writing for access. One file within general correspondence is closed for privacy reasons.

Publication Rights
Copyright may not have been assigned to the California Institute of Technology Archives. All requests for permission to publish or quote from manuscripts must be submitted in writing to the Caltech Archivist. Permission for publication is given on behalf of the California Institute of Technology Archives as the owner of the physical items and, unless explicitly stated otherwise, is not intended to include or imply permission of the copyright holder, which must also be obtained by the reader.

Preferred Citation
[Identification of item], William J. Dreyer Papers, 10247-MS, Caltech Archives, California Institute of Technology.

Acquisition Information
The William J. Dreyer papers were donated to the Caltech Archives in 2008 by Janet Roman Dreyer, the creator's widow.

Biography
William Jakob Dreyer was born in Michigan and raised in Wisconsin and Oregon, with extended periods of visiting in Norway, his father’s homeland. He attended Reed College (BA 1952) and the University of Washington (PhD in biochemistry, 1956). Early in his career he became interested in the molecular basis of development and heredity, and he also pioneered instruments that automated chemical analyses. After a period at the National Institutes of Health (NIH), where he worked with C. Anfinsen, G. Streisinger, and M. Nirenberg, he took a professorial appointment at Caltech in the biology division in 1963. His early work at Caltech centered on investigations of genetic coding for protein structure using immunological techniques. He proposed that genes could be reshuffled to provide additional information for the formation of proteins. With Leroy Hood and later Michael Hunkapillar he worked on the design of an automated protein sequencer and was associated with the founding of the company Applied Biosystems. Dreyer also consulted with many other biotech companies and held upwards of 20 patents on biochemical apparatus and processes. He maintained a life-long interest in the human brain and how genes program behavior. Dreyer was an early member of Caltech's innovative Beckman Institute and an enthusiastic promoter of computer imaging for biological investigations.

Scope and Content
The decision was made to do minimal processing on the papers of William Dreyer in order to make the collection available for research in a timely fashion. As a result, minimal sorting has been undertaken, and folders will often overlap or be redundant in their contents. Many original folders have been retained, and the series order follows loosely the original order created by Professor Dreyer. Discarding has been limited to obvious duplicate material (especially reprints) and some printed and xerographic matter. The papers contain extensive material on Professor Dreyer's activities outside of Caltech, specifically, his consulting work for biotechnology companies beginning in the early 1970s and continuing throughout his career. During his consulting work, Dreyer invented and tested many instruments and methods for microchemical analysis for which he later acquired patents. The patent files form the largest series in the papers and should be used in conjunction with the consulting files, with which they overlap. Information on Dreyer's inventions, including the protein sequencer, may

Finding Aid for the William J.
Dreyer Papers 1955-2006

10247-MS

2
be found here. The Caltech material in the collection is limited and incomplete but it gives some picture of his campus activities. The most important files are those on his grants and on the Caltech Biology Division. A small set of biographical materials, a set of reprints, and a small amount of visual material complete the collection.

The collection is organized into the following series:

Series 1. Companies and consulting, ca 1970-2000. 9 boxes
Series 2. Patents, ca. 1970-2006. 10 boxes
Series 3. Professional activities miscellany, 1968-2003. 4 boxes
Series 4. Biographical. One-half box
Series 5. Reprints, 1955-2000. 5 boxes

Related Material

Oral history 1999. This 129-page interview with Shirley K. Cohen covers Dreyer's personal life and scientific career. He recalls especially his struggles to convince others of the validity of his ideas about image-thinking (per Roger Sperry's studies of the split brain) and his novel approaches to the study of proteins. He also elaborates on conflicts with colleagues Hood and Hunkapiller over invention of the protein sequencer.

Indexing Terms

The following terms have been used to index the description of this collection in the library's online public access catalog.

Subjects
California Institute of Technology
Biochemistry
Biotechnology
Immunology

Occupations
Biochemists


Physical Description: 9 boxes
Scope and Content Note
Files are roughly sorted and many are undated.
Arrangement
Files arranged in alphabetical order by company, with exception of subseries 2.


Physical Description: 7 boxes
Arrangement
Alphabetical order by company.
Scope and Content Note
Files are roughly sorted and many are undated.

Box 1 Companies A-Ca ca. 1970-2000
Box 2 Companies Ca-D ca. 1970-2000
Box 3 Companies E-G ca. 1970-2000
Box 4 Companies H-Hy ca. 1970-2000
Box 5 Companies Hy-I ca. 1970-2000
Box 6 Companies I-N ca. 1970-2000
Box 7 Companies O-Z ca. 1970-2000

Physical Description: 2 boxes
Scope and Content Note
Contains unfoldered data notebooks and some files, along with data on multiple rolls of graph paper.

Box 8
**Data notebooks, Cary Instruments 1970-1972**

Box 9
**Data sheets, Cary Instruments ca. 1970**
Physical Description: Rolls.

Series 2. **Patents ca. 1970-2006**
Physical Description: 10 boxes
Scope and Content Note
Files contain correspondence with patent lawyers and other patent specialists; general patent correspondence, including some of Janet Roman Dreyer; and patent documents of various types.
Arrangement
Varies according to subseries.

Physical Description: 2 boxes
Arrangement
Alphabetical order by name.
Scope and Content Note
Predominantly correspondence with lawyers and patent experts.

Box 10

Box 11

Subseries 2. **Roland Hawes's files 1970s**
Physical Description: 1 box
Arrangement
Labeled folders.
Scope and Content Note
Set of files apparently turned over to William Dreyer by Roland Hawes. Other material concerning Roland Hawes throughout collection.

Box 12
**Roland Hawes's files 1970s**

Subseries 3. **Patent documents 1972-1990s**
Physical Description: 4 boxes
Arrangement
Chronological order.
Scope and Content Note

Box 13
**Patent documents 1972-1976**

Box 14
**Patent documents 1976-1990s**

Box 15
**Red Bombs 1970s**

Box 16

Red Bombs 1980s

   Physical Description: 3 boxes
   Arrangement
   Chronological.
   Scope and Content Note
   Overlaps with other patent correspondence; contains some correspondence of Janet Roman Dreyer between 2001 and 2006.

Box 17
Box 18
Patent correspondence 1999-2000
Box 19
Patent correspondence 2001-2006

Note
   Includes correspondence of Janet Roman Dreyer

   Physical Description: 4 boxes
   Scope and Content Note
   First two boxes contain grant applications to both federal agencies and private foundations, beginning 1974. There is a small general correspondence section in rough chronological order (one file closed for privacy reasons). The remaining files relate to work done at Caltech and with JPL and include files on the Caltech Biology Division; the joint project on the clinical mass spectrometer for JPL; a few student-related files; incomplete files on teaching (especially developmental biology); manuscripts (especially the "Area Code" manuscript); miscellaneous notes; a few files on meetings and conferences.
   Arrangement
   Files by subject.

Box 20
Grants 1974-1979
Box 21
Grants 1976-1990s
Box 22
General correspondence; Caltech and JPL 1968-2003
   Note
   The box contains a closed file.

Box 23
Teaching lectures, meetings, manuscripts notes ca. 1970-2003

Series 4. Biographical
   Physical Description: One-half box
   Scope and Content Note
   Includes CVs and biographies, publications and patents lists, articles about William J. Dreyer, other personal material.
   Arrangement
   Files by subject.

Box 24
Biographical ca. 1970-2003

Series 5. Reprints 1955-2000
   Physical Description: 5 boxes
   Scope and Content Note
   Articles authored by William J. Dreyer and by Dreyer with co-authors. A few miscellaneous reprints authored by others.
   Arrangement
   Original folders and labeling preserved. Multiples discarded.
### Series 5. Reprints 1955-2000

<table>
<thead>
<tr>
<th>Box 25</th>
<th>Reprints 1955-1961</th>
</tr>
</thead>
<tbody>
<tr>
<td>Box 26</td>
<td>Reprints 1962-1966</td>
</tr>
<tr>
<td>Box 27</td>
<td>Reprints 1967-1973</td>
</tr>
<tr>
<td>Box 28</td>
<td>Reprints 1974-1983</td>
</tr>
<tr>
<td>Box 29</td>
<td>Reprints 1984-2000</td>
</tr>
</tbody>
</table>


**Physical Description:** 1 storage box

**Scope and Content Note**

3 reels of 7-inch and 24 reels of 3.5-inch film; small set of slides. Subject unknown.

**Arrangement**

Unsorted. Mostly boxed.

| Box 30 | Films and slides 1973-1976 |