

# Honors Students in Special Collections and Archives: A Long History of Experiential Learning

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Chris Petersen

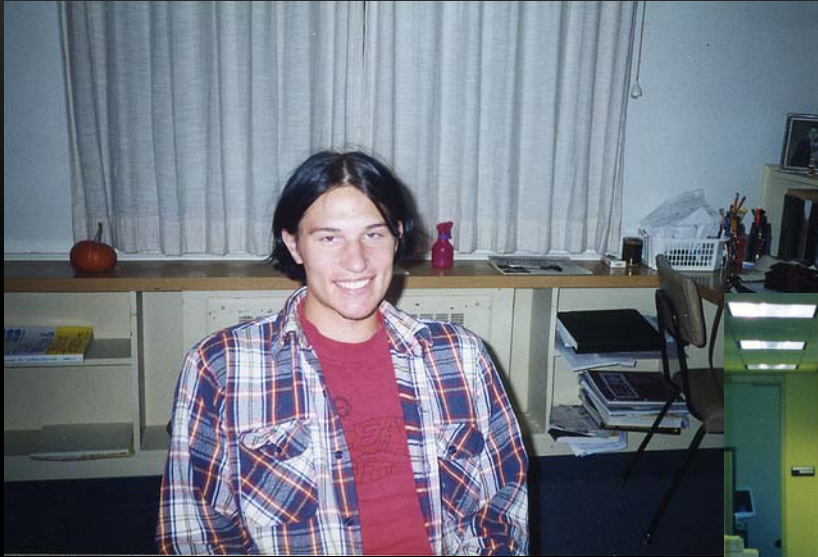
Oregon State University Libraries

Honors Education at Research Universities Conference

May 18, 2015

# Objectives of this Talk

- Examine the case study of Special Collections and Archives in the OSU Libraries as a fruitful environment for experiential learning by OSU Honors students.
  - Trace changes in the relationship between OSU Honors students and Special Collections/Archives that came about as a result of institutional shifts within the OSU Libraries.
  - Discuss new infrastructure created to further Honors experiential learning in the OSU Libraries Special Collections & Archives Research Center.
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1996:  
Rebel



2001:  
Supervisor

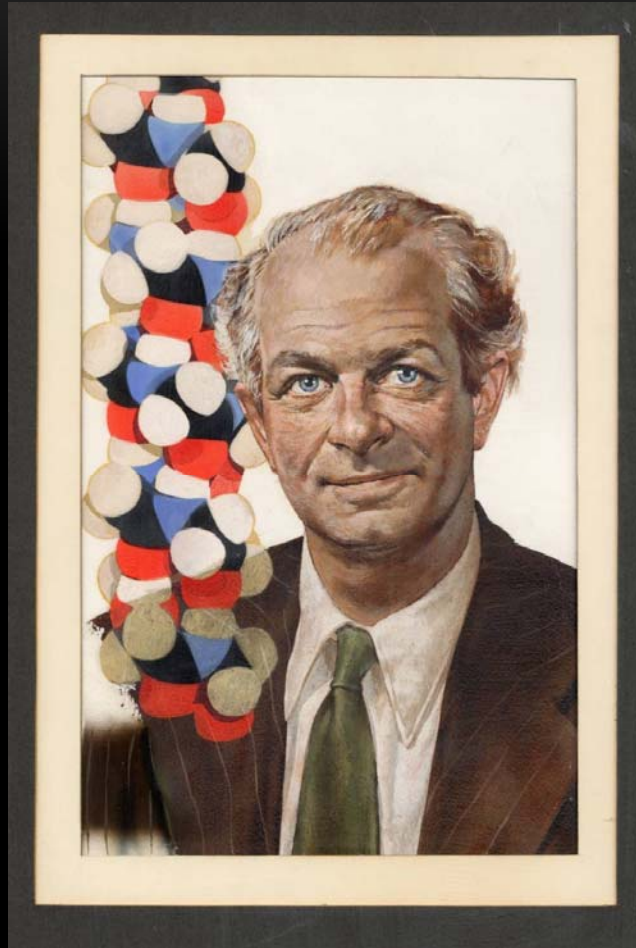
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# Special Collections: 1999-2011

## Context

- Small staff: Administrator, Projects Director, Webmaster
  - No dedicated professional reference staff – reference desk staffed entirely by students
  - Student Staff: 2 FTE
  - Repository for a few dozen archival collections
  - Heavy focus on Linus Pauling
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# Linus Pauling: 1901-1994

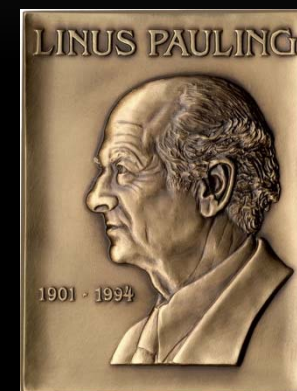


# Early Relationship with the University Honors College

- Honors Chemistry Class
  - Improved Efficiency in Hiring
    - UHC effectively serves as a pre-screen for high-caliber student employees
    - Assumptions about Honors students:
      - Intelligent
      - Motivated
      - Able to work independently
      - Strong written communications skills
      - Strong oral communications skills ???
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# Experiential Learning in Special Collections

- 100% of Reference Desk staffing
  - Able to do because of small number of archival collections
- Special Events
  - 2001 and 2007 conferences
  - Biennial Award Event
- Drop-in Tours
- Specialized skillsets, especially Graphic Design



# Experiential Learning (Continued): Technical Support for Digital Initiatives

- Digitization all done in house
- Students support:
  - Scanning
  - Metadata
  - Transcription

The screenshot shows the homepage of the 'Linus Pauling Online' website. At the top left is a portrait of Linus Pauling. To its right, the text 'LINUS PAULING ONLINE' is displayed in a dark blue box. Further right is a search bar with a magnifying glass icon and a red 'Search' button. Below the header, the text 'Linus Pauling Online' is centered. Underneath, the section 'DOCUMENTARY HISTORIES' is introduced. Six documentary entries are listed in a grid, each with a small image and a text description.


**Linus Pauling Online**

DOCUMENTARY HISTORIES

- Nature of the Chemical Bond**  
Recounts Pauling's legendary application of quantum mechanics to the scientific understanding of molecular architecture, research that revolutionized structural chemistry and resulted in Pauling's 1954 Nobel Prize in Chemistry.
- Structure of Proteins**  
An exhaustive look at Pauling's influential, and sometimes controversial, series of inquiries into protein structures, the characteristics of antibodies and antigens, biological specificity and much more.
- It's In The Blood!**  
A detailed analysis of Pauling's research on immunology, the structure of hemoglobin and the nature of sickle cell anemia – a four-decade program of work that would lead to Pauling's famous fascination with vitamin C.
- International Peace Movement**  
Linus and Ava Helen Pauling forcefully spoke out against Cold War militarism, nuclear proliferation and radioactive fallout. For his work as an activist, Linus Pauling received the 1962 Nobel Peace Prize.
- Race For DNA**  
Linus Pauling participated in one of the great "races" in scientific history – the quest to unravel the secrets of DNA. Though Watson and Crick ultimately solved the puzzle, Pauling's role in the story is highly intriguing.
- Scientific War Work**  
A groundbreaking look at Pauling's scientific war research during World War II - a collection of projects that included artificial blood, invisible inks, and a device to measure oxygen levels in airplanes and submarines.



# Experiential Learning (Continued): Linus Pauling Day-by-Day



**Day-by-Day**    **May 18, 1940**

< May 1940 >

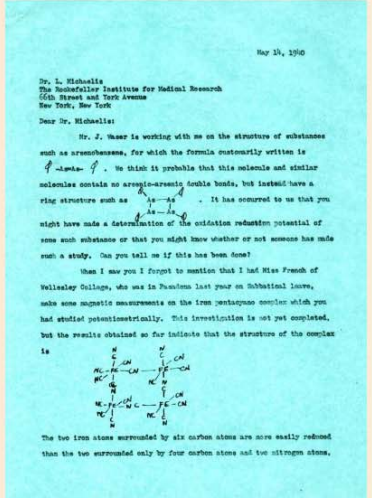
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1930  
1931  
1932  
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1939

**1940**

January	July
February	August
March	September
April	October
May	November
June	December

1941  
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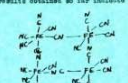
Mar 21, 1940

Dr. L. Michaelis  
The Rockefeller Institute for Medical Research  
65th Street and York Avenue  
New York, New York

Dear Dr. Michaelis:

Mr. J. Meier is working with me on the structure of substances such as arsenohexanes, for which the formula customarily written is  $As_2O_6$ . We think it probable that this molecule and similar molecules contain no arsenic-arsenic double bonds, but instead have a ring structure such as  $As_2O_6$ . It has occurred to me that you might have made a determination of the oxidation reduction potential of some such substance or that you might have studied or not someone has made such a study. Can you tell me if this has been done?

When I saw you I forgot to mention that I had Miss French of Wellesley College, who was in Pasadena last year on sabbatical leave, who saw magnetic measurements on the iron octahyposulphate which you had studied potentiometrically. This investigation is not yet completed, but the results obtained so far indicate that the structure of the complex is



The two iron atoms surrounded by six oxygen atoms are more exactly reduced than the two surrounded only by four oxygen atoms and two nitrogen atoms.

Letter from Linus Pauling to Leonor Michaelis, May 14, 1940. Page 1  
[Larger Images / More Information](#). 2 pp. [View Transcript](#)

**Activity Listings**

- AHP writes cheque to "Nancy Bowin." \$10.00. [Filed under LP Biographical: Business and Financial, Box 4.015, Folder 3]
- Letter from Dr. Frank T. Gucker, Jr., Department of Chemistry, Northwestern University, to LP RE: Requests LP inform suitable candidates of a post-doctoral research assistantship in chemistry. Explains detail dilution of amino acids. In a post-script notes that they also need graduate assistants. (Note in left margin: "Howell?") [Letter from LP to Gucker [June 6, 1940](#)] [Filed under LP Correspondence: Box #140.5, file #140.5.1]
- Letter from Dr. J. G. Kirkwood, Acting Chairman, Cornell University, to LP RE: Apologizes for the confusion surrounding Hughes and promises that he or Prof. Papish will write when the matter has been discussed never discussed with him or other staff members. [Letters from LP to Kirkwood [May 16, 1940](#), [May 28, 1940](#)] [Filed under LP Correspondence: Box #198.12 file:(Kirkwood, John G.)]
- Letter from LP to Dr. L. Havas, Royal Biological Institute, Hungary, RE: Invites him to speak at Caltech during his summer trip to the U.S. next fall or summer. Notes Prof. Zechmeister informed LP of Havas trip. [Letter from LP to Havas [May 16, 1940](#)] [Filed under LP Correspondence: Box #165.5, file:(H: Correspondence, 1940)]
- Letter from LP to Industrial and Engineering Chemistry RE: Submits a want advertisement for a spectroscopist. [Filed under LP Correspondence: Box #182.2, file:(Industrial and Engineering Chemistry - Correspondence, 1940)]
- Writes cheque to "The New Yorker," \$7.00. [Filed under LP Biographical: Business and Financial, Box 4.015, Folder 3]
- Writes cheque to "Nancy Baumen? idely?" \$10.00 [LP Biographical: Business and Financial 4.072, folder 72.1]

1950  
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1952  
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1958  
1959

1960  
1961

# Experiential Learning (Continued): The Pauling Blog

Home About Us Creating The Pauling Catalogue



THE PAULING BLOG

Entries RSS | Comments RSS Search

### Research Funding Opportunity



Accepting Applications:  
[The Resident Scholar Program at Oregon State University Libraries](#)

### Today in Linus Pauling: April 17

**Wrote these Manuscripts:**  
*The Chemical Bond and Solid-State Physics*, April 17, 1970.

*Memorial of Sterling Brown Hendricks*, April 13, 1902 - January 4, 1981, April 17, 1981.

*An Analysis of a Randomized Double-Blind Study of the Effects of Giving Vitamin C to Patients with Advanced Colorectal Cancer and then Stopping the Vitamin C and Administering Chemotherapy*, April 17, 1985.

### Campbell, Pressman, Pauling and the Binding of Antibodies

Posted on April 9, 2015 by scarc | [Edit](#)



Drawings of the interaction between an antibody and azoprotein by Linus Pauling, 1940s.

Dan Campbell first collaborated with Linus Pauling on a fellowship at Caltech in 1940, during which time the duo tried to explain how antibodies are formed. At the time, Pauling believed that antibodies were proteins in-the-making that needed to bind to antigens in order to fold and complete their structure. If this principle was correct, Pauling thought, it might be possible to create artificial antibodies by simply denaturing proteins and allowing them to bind and refold in the presence of antigens.

Despite the fact that Campbell's initial test results cast doubt on his collaborator's theories, Pauling went ahead and published his ideas on how antibodies work, hoping that further research could support his paper. Thus began a lengthy study of antigen-antibody binding in which Pauling and Campbell attempted to develop a complete theory. Along the way, Dan Campbell's research at Caltech would become very important to the Institute as well as to Pauling.

In 1943 a Caltech research fellow named David Pressman agreed to join Campbell and Pauling in their study of immunology. Starting with work that had previously been

### Online Resources

**OREGON experience**

[Watch "Oregon Experience - Linus Pauling,"](#) (winner of a 2012 Northwest Regional Emmy)



[Read "Force of Nature," now an e-book!](#)

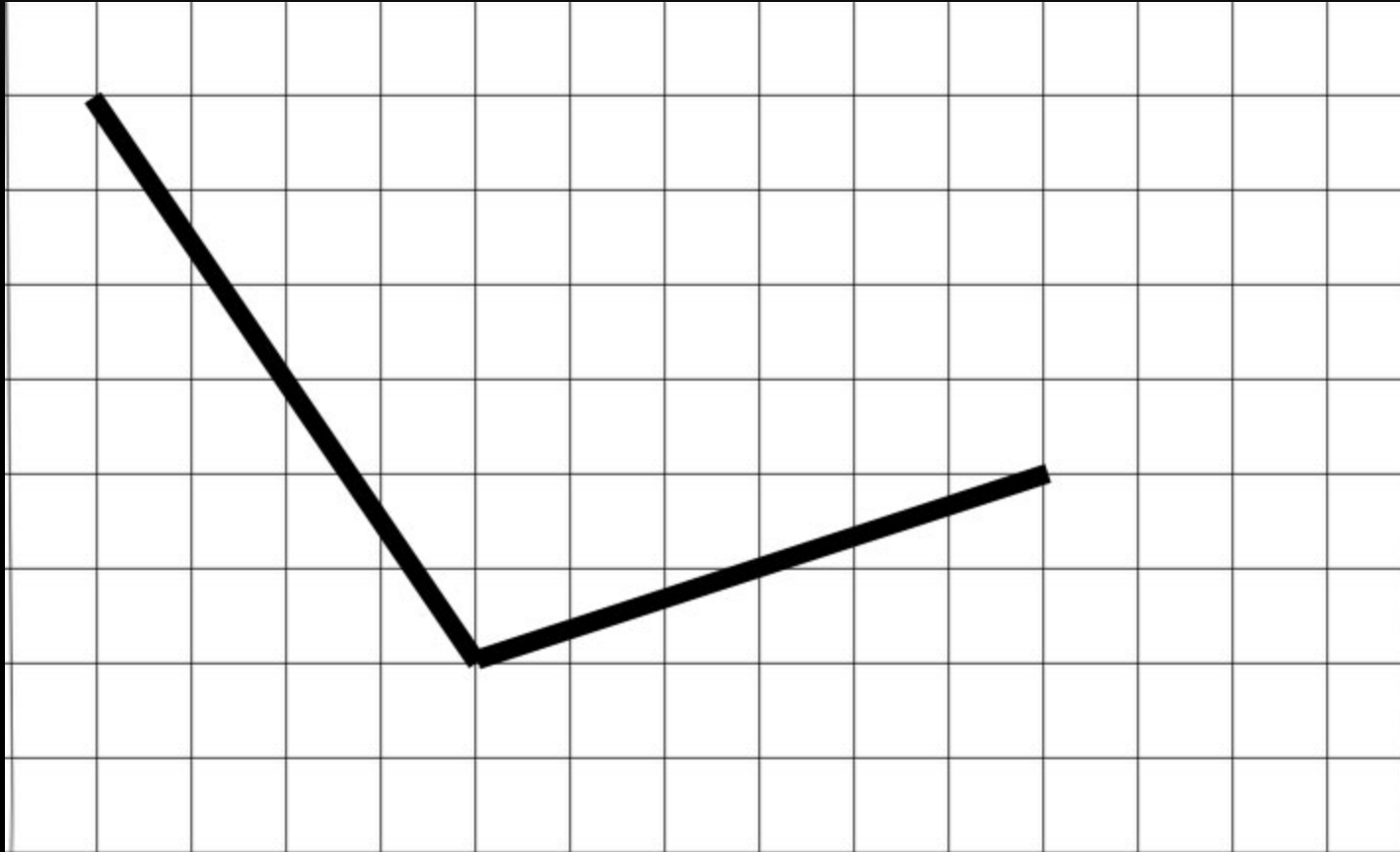


[Click: A portal for all things Pauling](#)

### Archives and Special Collections

[Confessions of a Curator](#)  
[Hanging Together](#)  
[Oregon Multicultural Archives](#)

# Special Collections & Archives Research Center (SCARC): 2011-Present



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# SCARC: Context

- Created from a merger of the Special Collections department with the University Archives. (2011)
    - Two departments had existed for a combined total of 75 years, and had developed own specific cultures, despite doing similar types of work.
  - SCARC Staffing:
    - Ten faculty and professional staff
    - 4+ FTE student staff
  - More than 1,200 archival collections
  - Five major collecting areas: OSU History, History of Science, Natural Resources in the Pacific Northwest (including Hops and Brewing), Multicultural Communities of Oregon, Rare Books
  - More and trickier reference inquiries
  - Heavier foot traffic in the reading room
-

# SCARC: Broad Shifts in Student Duties

- Direct support for individual faculty rather than generalized departmental support
  - Support for reference services, rather than majority responsibility
  - Shift in focus to arrangement and description (1,200 archival collections vs. a few dozen) and away from digital initiatives (mostly now centralized elsewhere in the library)
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# A Diminished Presence of Honors Students in SCARC

- Why?
    - No legacy of hiring from the Honors College for the University Archives
    - But More Importantly: OSU History students actively sought out employment with SCARC
      - “Archives” in the name of the department ➡ struck History students as a more natural organization to seek out when looking for experience (as opposed to “Special Collections”)
      - Economic downturn ➡ students more eager to seek out volunteer opportunities during college years, with hopes of getting a leg up once graduated.
        - As a result, a new hiring model emerged quite unexpectedly: new student assistants hired from the department’s existing pool of student volunteers (mostly History students) as opposed to being recruited from outside of the department.
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# Reinvigorating the Connection with the UHC

- The UHC Student Archivist Position(s)
  - Funded equally by the UHC and the Library
    - One position in 2014-15, two in 2015-16
    - Open only to UHC students
  - Requires selected students to present quarterly workshops to UHC students introducing them to SCARC's resources and discussing the practice of archival research
  - Has reopened the UHC recruiting pipeline
  - An excellent opportunity for both UHC and Library donors



The University Honors College  
Special Collections &  
Archives Research Center



## Partner to Offer the Position of Student Archivist

This position represents a collaboration between the University Honors College (UHC) and OSU Libraries' Special Collections & Archives Research Center (SCARC). The UHC and SCARC have a long-standing relationship that has allowed Honors students and faculty to engage in world-class archival resources like the Ava Helen and Linus Pauling Papers. Over the years, many SCARC student employees have come from the UHC, gaining valuable experience in archive description, access and preservation. The UHC remains committed to connecting students to these valuable employment opportunities and to supporting the appointment of a selected student to the prestigious position of Student Archivist.

Additional information on the program and the application procedure is available at  
[www.oregonstate.edu/dept/honors/SCARC](http://www.oregonstate.edu/dept/honors/SCARC)

Oregon State  
UNIVERSITY

# Outcomes for Students

- For Honors Students – a richer experience
  - Many UHC students are not in the humanities and would not otherwise be exposed to the archival enterprise
    - One student actually changed her career path
- For all students – an improved skillset
  - Oral and written communication skills cannot help but be enhanced
  - Often will have a tangible product to show for their work
- The case of the Library Awards survey

The LinkedIn logo, consisting of the word "Linked" in a white sans-serif font and the letters "in" in a white sans-serif font inside a blue square.

## Office Manager

Oregon State Libraries - Special Collections  
October 2002 – June 2006 (3 years 9 months)

## Research & Cataloguing Staff

Linus Pauling Special Collections  
December 2004 – May 2006 (1 year 6 months) | Corvallis, Oregon Area

## Archivist

OSU Special Collections and Archives Research Center  
September 2010 – June 2013 (2 years 10 months) | Corvallis, Oregon Area

Differing interpretations of what they did...

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Thanks!

Chris Petersen

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