

# Arthur I. Zygielbaum

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## Summary of qualifications

### **Currently: Retired – Emiritus Associate Professor, University of Nebraska**

February 2013 to June 2018      University of Nebraska—Lincoln  
**Research Associate Professor, School of Natural Resources**

April 2010      Univeresity of Nebraska—Lincoln  
**Adjunct Associate Professor, School of Natural Resources**

August 2005 to December 2009 University of Nebraska – Lincoln  
**Doctoral Student, Major: Geography, Specialization: Remote Sensing; Research Scientist (Adjunct Position), School of Natural Resources**

- PhD Awarded, Area of Interest: Remote sensing of vegetation water status

July 2001 to August 2005      University of Nebraska – Lincoln  
**Director, National Center for Information Technology in Education (NCITE); Associate Professor of Computer Science and Engineering (Courtesy**

January 1998 to June 2002      University of Nebraska – Lincoln  
**Director of Research and Development; Assistant Director, Nebraska Educational Telecommunications**

1968 - 1997      Jet Propulsion Laboratory      Pasadena, CA  
**Positions Held:**

- ❖ **Senior Member of the Technical Staff, Observational Systems Division**
- ❖ **Senior Member of the Technical Staff, Office of the Director**
- ❖ **Manager, Science Information Systems Office**
- ❖ **Deputy Manager, Information Systems Division**
- ❖ **Manager, Computer Science and Applications Section**
- ❖ **Group Supervisor, Deep Space Tracking Systems Implementation**
- ❖ **Electronics/Computer Engineer**

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### **PhD Geography (Remote Sensing)**

- University of Nebraska – Lincoln, 2009
- Dissertation: Detection And Measurement Of Water Stress In Vegetation Using Visible Spectrum Reflectance

### **NASA Senior Executive Program**

- Wallops Island Training Center, 1986.

### **Post-Graduate Courses in computer science and digital design**

- University of Southern California.

### **MS Electrical Engineering (Computers)**

- University of Southern California, 1975.

### **BS (Major: Physics, Minor: Mathematics)**

- University of California, Los Angeles, 1968.

## Education

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## Professional experience

### ***Courses Taught***

- Overview of Geospatial Information Technologies (undergraduate)

### ***Consulting, outside employment***

- Independent software developer (Airline reservations front-end, Amateur Radio remote control software, Global Positioning System – GPS – tracking and routing software).
- Broadcast Engineer, KIEV Radio

### ***Committees and Professional Organizations***

- Member, Naval Sea Systems Command Independent Review Team on Safety and Engineering Processes, October 2003 to June 2004
- Member, NASA Aerospace Safety Advisory Panel, February 2003 to September 2003 (entire panel resigned)
- Consultanting Member, NASA Aerospace Safety Advisory Panel, August 2001 to January 2003
- Nov., 1999 to May, 2000. Member, National Science Foundation, Knowledge and Distributed Intelligence Program Review Panel, 1999.
- Member, National Research Council National Weather Service Modernization Committee, Dec., 1989 to Feb., 1996; Feb., 1998 to Feb., 1999. Chair, Automated Weather Interactive Processing System Panel; Advisor to committee, March, 1996 to Feb., 1998. Member, Road Map for the Future of the National Weather Service Panel, Nov., 1997 to Feb., 1999.
- Department of Commerce, Patent and Trademark Office, Information Systems Automation Independent Review Team (1993).
- Invited Participant, National Research Council Workshop on Complex Software Systems, 1989; proposed national agenda for software research.
- Senior Technical Reviewer, DoD Software Engineering Institute, 1987 to 1992.
- Program Chair, International Space Year (ISY) conference on Earth and Space Science Information Systems, Feb., 1992. "Kick-off" conference for ISY.
- Senior Member, Institute of Electrical and Electronic Engineers, Member Computer Society, Member Association of Computing Machinery, Member, American Geophysical Union, Member Association of American Geographers

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## Patents

- #3,648,250: Digital Video Display System; Zygielbaum, A., W.L. Martin, and A. Engle.
- #3,648,356: Computer Communications Link; Zygielbaum, A., W.L. Martin, and J.W. Layland.
- #3,729,129: Numerical Interactive Controller; Zygielbaum., A, and S. Brokl.
- #4,112,497: Digital Demodulator and Correlator; Layland, J.W., W.L. Martin, A.I. Zygielbaum, R.M. Goldstein, and W.P. Hubbard.

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## Awards Received

- Four NASA Certificates of Recognition relating to patents
  - Helios project Award for Exceptional Effort.
  - NASA Certificate of Appreciation for high precision ranging which enabled Voyager's navigation past Saturn to Uranus.
  - Numerous NASA Group Achievement Awards.
  - Numerous Rotary Awards
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## Civic and Miscellaneous

Past:

- Member, Lincoln Downtown Rotary Club 14 (Past Board Member)
- Member, Lincoln Comprehensive Plan Committee
- Member and Chair, Lincoln Cable TV Advisory Board
- Member, Lincoln Telecommunications/Cable Advisory Board, Chair
- Board Member and President, Friends of the University of Nebraska State Museum of Natural History

Current:

- Midwest Division Director, American Radio Relay League (national amateur radio association)
- Board Member, South Street Temple
- Board Member and President, Nebraska Appleseed Foundation
- Member and President, Lied Center for Performing Arts Statewide Advisory Board
- Board Member, MRail, Inc. (UNL NuTech spin-off)
- Instrument-Rated Private Pilot
- FCC Amateur Radio Operator (Extra Class) License
- Volunteer: Skywarn Storm Spotter
- FCC General Radio Telephone License