

# Vitae

## Edward Bruce Churchwell

### **BIOGRAPHICAL DATA**

Birthdate: July 9, 1940

Birthplace: Sylva, N.C., USA

Citizen: USA

Phone: 608-262-4909; FAX: 608-263-6386

E-Mail: churchwell@astro.wisc.edu

Address:

University of Wisconsin  
Department of Astronomy  
475 N. Charter St.  
Madison, WI 53706

### **EDUCATION**

B.A., Mathematics and Physics, Earlham College, 1963.

M.S., Astrophysics, Indiana University, 1967.

Ph.D., Astrophysics, Indiana University, 1970.

### **POSITIONS HELD**

Junior High and High School Teacher, Science and Math, Friendsville Academy, 1964-1965.

Graduate Student, Indiana University, 1965-1970

Graduate Student, National Radio Astronomy Observatory, 1968-1970.

Post Doc., National Radio Astronomy Observatory, 1970.

Heinrich Hertz Postdoctoral Fellow, Max-Planck-Institut fur Radioastronomie, Bonn, Germany  
1970-1972.

Staff Scientist, Max-Planck-Institut fur Radioastronomie, Bonn, Germany 1972-1977.

Assistant Professor, University of Wisconsin-Madison, 1977-1979.

Associate Professor, University of Wisconsin-Madison, 1979-1983.

Professor, University of Wisconsin-Madison, 1983-present.

The Albert E. Whitford Professor of Astronomy, 2006-2009

Albert E. Whitford Professor Emeritus, 2009-present

### **PROFESSIONAL SOCIETY AFFILIATIONS**

American Astronomical Society

American Physical Society

International Astronomical Union

### **HONORARY SOCIETIES AND AWARDS**

NASA Trainee Fellowship, 1963.

Indiana University Fellowship, 1966-1968.

Heinrich-Hertz Post-Doctoral Fellowship, 1970-1972.

NASA/ASEE Summer Faculty Fellowship, 1985.

Fulbright Research Fellowship, 1988-89.

Vilas Associate Fellowship, 1997-99

Albert E. Whitford Professorship, 2002-present

## **SERVICE**

### **National**

Referee for Haystack Radio Observatory, 1985-87

Referee for Berkeley-Illinois-Maryland Millimeter Array (BIMA), 1987-88

Served on NSF Review Panels for:

Haystack Observatory

Owens Valley Radio Observatory

Hat Creek Millimeter Array

BIMA

U. Texas mm Observatory

Millimeter Array (NRAO)

National Radio Astronomy Observatory

Served on IUE Review Panel

National Radio Astronomy Observatory (NRAO) Users Committee 1978-80 and 1991-94

NRAO Visitors Committee 1992-1996

Advisory Committee for the Division of Astronomical Sciences  
of the National Science Foundation 1991-1993

Committee of Visitors for the National Science Foundation: Division of Astronomical Sciences  
1993

ALMA Scientific Advisory Committee 1994-1999 (chair, 1997-1999)

NAIC Visitors Committee-1999-2001

EVLA Planning Workshop-2001

### **University**

Faculty Senator for two terms

Physical Sciences Divisional Committee

Department Chair, 1989-92;

Numerous departmental and university committees

Brief statement of research interests:

My research interests have centered on the process of massive star formation and the impact a newly formed massive star has on its environment. Such stars form and evolve on very short time scales deeply embedded in molecular clouds where they cannot be seen at optical and ultraviolet wavelengths. These objects are primarily observed at radio and infrared wavelengths. They produce copious amounts of ionizing radiation and kinetic energy in the form of fast stellar winds and bipolar molecular outflows (jets) which in principle can be very destructive to circumstellar gas and dust. In the immediate vicinity of a forming massive star, the densities, temperatures, ionization, radiation, and velocities of circumstellar material change by many orders of magnitude over very small distances. The chemistry of circumnebular material is fundamentally altered by the presence of the star. My main goal is to try to understand how all these physical properties change with distance from the star and to evaluate the impact of such stars on their natal molecular cloud. The chemistry in the neighborhood of such stars is of high interest because photochemistry, surface chemistry, and gas phase chemistry are all important as a function of distance from the protostar. Finally, the

radiant and mechanical energy budget of the Galaxy is in large measure determined by the population of massive stars.