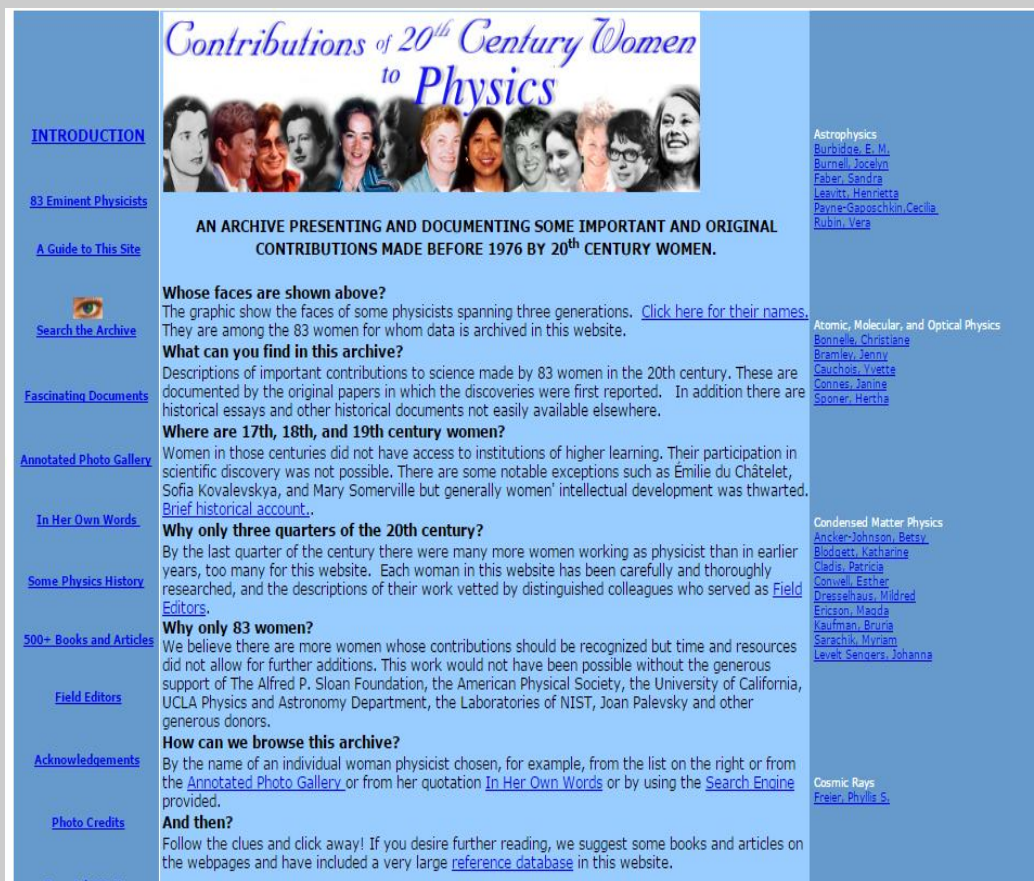


Home Page



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Contributions of 20th Century Women to Physics

AN ARCHIVE PRESENTING AND DOCUMENTING SOME IMPORTANT AND ORIGINAL CONTRIBUTIONS MADE BEFORE 1976 BY 20th CENTURY WOMEN.

Whose faces are shown above?
The graphic show the faces of some physicists spanning three generations. [Click here for their names.](#) They are among the 83 women for whom data is archived in this website.

What can you find in this archive?
Descriptions of important contributions to science made by 83 women in the 20th century. These are documented by the original papers in which the discoveries were first reported. In addition there are historical essays and other historical documents not easily available elsewhere.

Where are 17th, 18th, and 19th century women?
Women in those centuries did not have access to institutions of higher learning. Their participation in scientific discovery was not possible. There are some notable exceptions such as Emilie du Châtelet, Sofia Kovalevskaya, and Mary Somerville but generally women' intellectual development was thwarted. [Brief historical account.](#)

Why only three quarters of the 20th century?
By the last quarter of the century there were many more women working as physicist than in earlier years, too many for this website. Each woman in this website has been carefully and thoroughly researched, and the descriptions of their work vetted by distinguished colleagues who served as [Field Editors](#).

Why only 83 women?
We believe there are more women whose contributions should be recognized but time and resources did not allow for further additions. This work would not have been possible without the generous support of The Alfred P. Sloan Foundation, the American Physical Society, the University of California, UCLA Physics and Astronomy Department, the Laboratories of NIST, Joan Palevsky and other generous donors.

How can we browse this archive?
By the name of an individual woman physicist chosen, for example, from the list on the right or from the [Annotated Photo Gallery](#) or from her quotation [In Her Own Words](#) or by using the [Search Engine](#) provided.

And then?
Follow the clues and click away! If you desire further reading, we suggest some books and articles on the webpages and have included a very large [reference database](#) in this website.

Astrophysics
[Buroidge, E. M.](#)
[Burnell, Josephin](#)
[Faber, Sandra](#)
[Leavitt, Henrietta](#)
[Payne-Gaposchkin, Cecilia](#)
[Rubin, Vera](#)

Atomic, Molecular, and Optical Physics
[Bonnie, Christiane](#)
[Bramley, Jennu](#)
[Cauchois, Yvette](#)
[Connes, Janina](#)
[Sooner, Hertha](#)

Condensed Matter Physics
[Ancker-Johnson, Betsy](#)
[Blodgett, Katharine](#)
[Cladis, Patricia](#)
[Conwell, Esther](#)
[Dresselhaus, Mildred](#)
[Ericson, Meada](#)
[Kaufman, Bruria](#)
[Sarachik, Myriam](#)
[Levit Senders, Johanna](#)

Cosmic Rays
[Freier, Phyllis S.](#)

Logo



URL

<http://cwp.library.ucla.edu/>

Subject

Physicists-Biography-Dictionaries

Accessibility

Free

Language

English

Publisher

CWP

Brief History

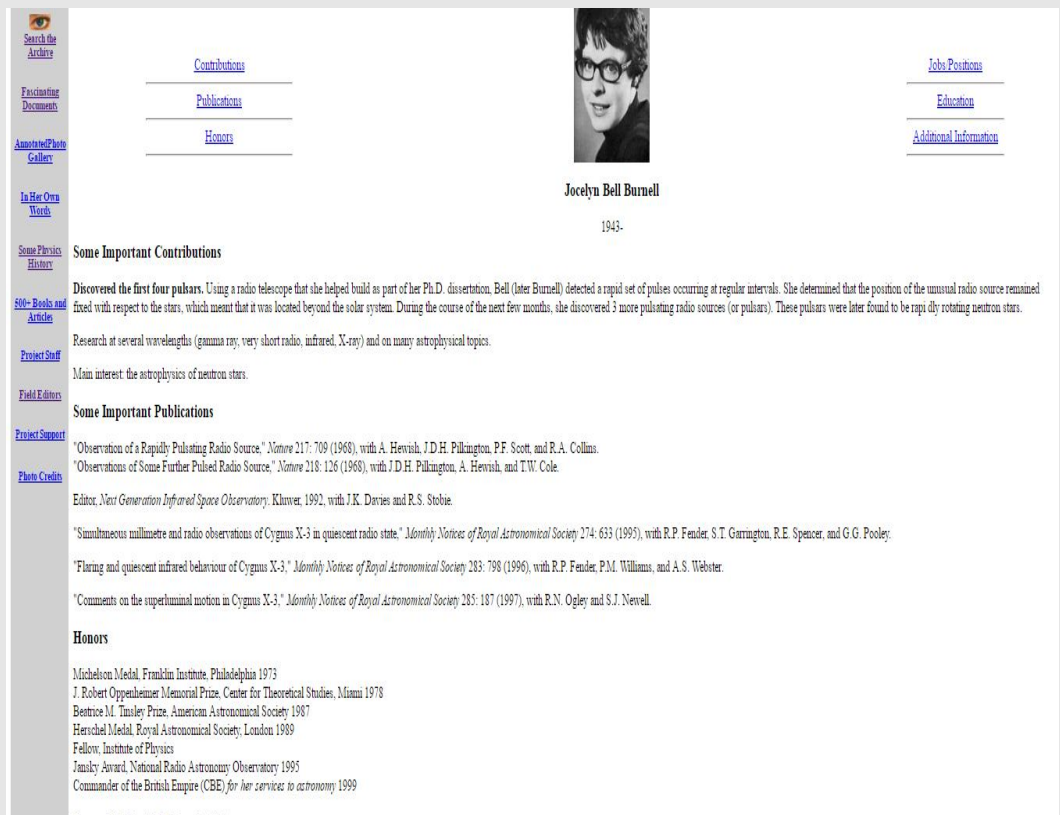
It was established in 1995

Scope and Coverage

It covers the 83 biographies of eminent physicist. It also covers some articles on history of physics, quotations of eminent physicists.

Kind of Information


Each entry includes contribution, publications, honors, job/position, education, photos and others.



[Search the Archive](#)
[Fascinating Documents](#)
[Annotations Photo Gallery](#)
[In Her Own Words](#)
[Some Physics History](#)
[500+ Books and Articles](#)
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Jocelyn Bell Burnell
 1943-

Some Important Contributions
Discovered the first four pulsars. Using a radio telescope that she helped build as part of her Ph.D. dissertation, Bell (later Burnell) detected a rapid set of pulses occurring at regular intervals. She determined that the position of the unusual radio source remained fixed with respect to the stars, which meant that it was located beyond the solar system. During the course of the next few months, she discovered 3 more pulsating radio sources (or pulsars). These pulsars were later found to be rapidly rotating neutron stars.
 Research at several wavelengths (gamma ray, very short radio, infrared, X-ray) and on many astrophysical topics.
 Main interest: the astrophysics of neutron stars.

Some Important Publications
 "Observation of a Rapidly Pulsating Radio Source," *Nature* 217: 709 (1968), with A. Hewish, J.D.H. Pilkington, P.F. Scott, and R.A. Collins.
 "Observations of Some Further Pulsed Radio Source," *Nature* 218: 126 (1968), with J.D.H. Pilkington, A. Hewish, and T.W. Cole.
 Editor, *New Generation Infrared Space Observatory*, Kluwer, 1992, with J.K. Davies and R.S. Stobie.
 "Simultaneous millimetre and radio observations of Cygnus X-3 in quiescent radio state," *Monthly Notices of Royal Astronomical Society* 274: 633 (1995), with R.P. Fender, S.T. Garrington, R.E. Spencer, and G.G. Pooley.
 "Flaring and quiescent infrared behaviour of Cygnus X-3," *Monthly Notices of Royal Astronomical Society* 283: 798 (1996), with R.P. Fender, P.M. Williams, and A.S. Webster.
 "Comments on the superluminal motion in Cygnus X-3," *Monthly Notices of Royal Astronomical Society* 285: 187 (1997), with R.N. Ogley and S.J. Newell.

Honors
 Michelson Medal, Franklin Institute, Philadelphia 1973
 J. Robert Oppenheimer Memorial Prize, Center for Theoretical Studies, Miami 1978
 Beatrice M. Tinsley Prize, American Astronomical Society 1987
 Hatfield Medal, Royal Astronomical Society, London 1989
 Fellow, Institute of Physics
 Jansky Award, National Radio Astronomy Observatory 1995
 Commander of the British Empire (CBE) for her services to astronomy 1999

Special Features

- ❖ There is advance search option.

String to search for:

Case sensitive Partial match misspellings allowed

Your search string may contain more than one item (a name, part of a name, a word, a phrase, a place name, an abbreviation, ...)

- separated by a comma (",") for 'OR' ,
- by a semicolon (";") for 'AND' ;
- you may narrow your search using semicolon tilde (";~") for 'AND NOT' .
- If there are no hits, an error message may returned. Please try again with different terms .

50 Maximum number of files returned

[Glimpse](#) and [WebGlimpse](#) Copyright © 1996, University of Arizona

- ❖ Category wise searching option like Astrophysics, Atomic molecular and optical physics, computational physics etc are there like

Ames, Adelaide Bell, S.J. (Jocelyn) Blagg, Mary Adela Burbidge, E. Margaret Burnell, Jocelyn Bell Cannon, Annie Jump Coto, Nahum Omar Evershed, Mary Orr Faber, Sandra Favaggi, Henrietti Fleming, William Paton Freier, Phyllis Gebbie, Katharine Blodgett Geller, Margret Harwood, Margaret Hoffleit, E. Dorrit Hogg, Helen	<input type="button" value="Choose Field ->"/> <input type="button" value="Choose Field ->"/> Astrophysics Atomic Molecular and Optical Physics Computational Physics Condensed Matter Physics Crystallography Education and the Profession Fluid Dynamics Geophysics Materials Physics Mathematical Physics Nuclear Physics Particles and Fields Physicist Distinguished in Other Fields Physics of Beams Plasma Physics Space Physics Shoemaker, Carolyn Sitterly, Charlotte Moore Swope, Henrietta H. Tinsley, Beatrice Muriel Hill Trimble, Virginia	Murray mma
Atomic, Molecular, and Optical		
Bonnelle, Christiane Branley, Jenny Rosenthal Carter, Edna Charlotte, Fischer Comes, Janne Glancy, Anna Estelle Havner, Lucy		Meisel, Marjorie Pettit Spomer-Franck, Hertha Warga Mary Elizabeth Weeks, Dorothy Walcott Wick, Frances Gertrude Wilson, Lucy

- ❖ The 1st page of the site includes link of some fascinating documents. Documents are arranged by author, by title, by subject, by date.
- ❖ This site consists of some history of physics, annotated photo gallery, quotation of eminent physicist.

- ❖ This includes reference database lists over 500 books and articles where the women in CWP have been written about. These are listed and linked to full references in this Database.
- ❖ Name of Project staffs are displayed in this site that are members of steering committee, members for technical support, field editors.

Arrangement Pattern Alphabetically Category-wise arrangement is there and then entries are arranged alphabetically by last name

Astrophysics	
Burbidge, E. Margaret	Leavitt, Henrietta Swan
Burnell, Jocelyn Bell	Payne-Gaposchkin, Cecilia Helena
Faber, Sandra Moore	Rubin, Vera Cooper
Atomic Molecular and Optical Physics	
Bonnelle, Christiane	Connes, Janine
Bramley, Jenny Rosenthal	Sponer, Hertha
Cauchois, Yvette	
Condensed Matter Physics	
Ancker-Johnson, Betsy	Ericson, Magda Galula
Blodgett, Katharine Burr	Kaufman, Bruria
Cladis, Patricia Elizabeth	Sarachik, Myriam P.
Conwell, Esther Marly	Sengers, Johanna Levelt
Dresselhaus, Mildred Spiewak	
Cosmic Rays	
Freier, Phyllis S.	
Crystallography	
Franklin, Rosalind	Lonsdale, Kathleen Yardley
Hodgkin, Dorothy Crowfoot	Megaw, Helen
Distinguished for Public Service	
Dowdy, Nancy M. O'Fallon	
Education and the Profession	
DeWitt-Morette, Cecile	Meyer, Kirstine Bjerrum
Franz, Judy R.	Phillips, Melba Newell
Jackson, Shirley Ann	Stone, Isabelle
Keith, Marcia Anna	Whiting, Sarah Frances
Laird, Elizabeth Rebecca	Xie, Xide (Hsieh, Hsi-teh)
Maltby, Margaret Eliza	

Remarks Detail biographies are not present there. Entries give emphasize on the education, publications and other information related to the area of physics, not on the name of parents, date of birth, date of death etc. entries are reliable because bibliographical references present in the site. Only women in 20th century are there because in the

time of 17th, 18th, 19th women did not have access to Institutions of higher learning except Emilie Du Chatelet, Sofia Kovalevskya, Mary Somerville etc.

Comparable Tools

- Black Women in Mathematics
(<http://www.math.buffalo.edu/mad/wmad0.html>)
- Biographies of Women Mathematician
(<https://www.agnesscott.edu/lriddle/women/women.htm>)

Date of Access

2016, August 1