



Frances Elizabeth (Betty)
Allan [1905-1952]: A
Brilliant and Inspiring
Heroine

By Hannah Brown



Talk Structure

1. Accomplishments and roles
2. Areas of research
3. Gender-related challenges
4. How she overcame these challenges
5. Present-day acknowledgements



Photo obtained from
[https://csiropedia.csiro.au/
allan-frances-elizabeth/](https://csiropedia.csiro.au/allan-frances-elizabeth/)

Major Accomplishments

- 1926: Dixon and Wyselaskie scholarships for mathematics
- Won Professor Nanson prize and Fred Knight research scholarship for postgraduate work on “solitary waves at the common boundary of two liquids” with supervisor J. H. Michell (Heyde, C.C., 1993)
- 1928: Earned Council for Scientific and Industrial Research studentship in 'the study of statistical methods applied to agriculture' at Newnham College, Cambridge which enabled her to live, study and research abroad for two years

Major Accomplishments

- 1929: Studied with (Sir) Ronald Fisher at Rothamsted Experimental Station, Harpenden, Hertfordshire
 - wrote 3 papers, one of which addressed missing values in experiments, composed with John Wishart
- 1930: CSIRO's (Commonwealth Scientific and Industrial Research Organisation) first statistician and first council biometrician at Canberra department of plant industry

Major Accomplishments

- 1932, 35-37: lectured on statistical theory and pure mathematics at Canberra University College
- 1935: foundation member of the Australian Institute of Agricultural Science
- 1936: wrote four instructional papers on statistical methods in agriculture

Major Accomplishments

- 1943-44: Became secretary of the Canberra Nursery Kindergarten Society
- 1944-46: Became president of the Canberra Mothercraft Society after the birth of her son
- Degrees and diplomas:
 - Bachelor of Arts in mathematics with honours in every subject, Diploma of Education, Master of Arts

Areas of research

- Plant diseases
- Noxious weeds
- Control of blowflies
- Dietary supplements for sheep
- Collection and analysis of climatic data
- Statistical applications to agriculture

Gender related challenges

- 1940, she legally required to retire after marriage as she was a female public servant. She was only 35 at this time
- 1945: She was offered six months work in chemical warfare. Family commitments led her to withdraw this offer.
 - Is this a gender related struggle? Open for discussion after this talk.

How she overcame these challenges

- She was allowed to finish working until the end of the year she was married (8 more months)
- She kept lecturing and researching in
 - statistics, pure mathematics and biometrics
 - part-time research for the Commonwealth Bureau of Census and Statistics

Present-day Acknowledgements

- Betty Allan Data Centre at the Queensland Centre for Advanced Technologies (QCAT)
- The scientific community recognized this as the early loss of one of Canberra's best-known mathematicians

Bibliography

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Questions?

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