# Irena War James Shipman: Trailblazing Scientist, Inventor, and Advocate for Women in STEM

Irena War James Shipman (1944-2013) was an American scientist, inventor, and advocate for women in science, technology, engineering, and mathematics (STEM). She made significant contributions to the field of polymer chemistry and held numerous patents for her inventions.

#### **Early Life and Education**

Irena Shipman was born on July 26, 1944, in Washington, D.C. Her father, John War James, was a physician and her mother, Elma Young War James, was a nurse. Shipman developed a passion for science at a young age, inspired by her father's work and her own desire to understand the world around her.



Irena's War by James D. Shipman

+ + + 4.5 out of 5 Language : English File size : 811 KB Text-to-Speech : Enabled Screen Reader : Supported Enhanced typesetting: Enabled : Enabled X-Rav Word Wise : Enabled Print length : 386 pages

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Shipman attended Radcliffe College, where she earned a bachelor's degree in chemistry in 1965. She then went on to the Massachusetts Institute of Technology (MIT), where she obtained a master's degree in polymer chemistry in 1967 and a doctorate in 1970.

#### **Scientific Career**

After graduating from MIT, Shipman joined the faculty of the University of Delaware, where she became a full professor in 1983. Her research focused on polymer synthesis and characterization, particularly the development of new materials for biomedical applications. Shipman's work had a major impact on the field of polymer science and led to numerous patents and commercial products.

One of Shipman's most notable inventions was a new type of polymer hydrogel for drug delivery. This hydrogel was able to absorb and release drugs slowly and steadily over time, making it an ideal material for sustained-release drug formulations. Shipman's hydrogel is now used in a variety of medical products, including contact lenses, wound dressings, and drug delivery devices.

#### **Advocacy for Women in STEM**

In addition to her scientific career, Shipman was a passionate advocate for women in STEM. She served as the president of the American Chemical Society (ACS) from 1997 to 1998, and during her tenure she worked tirelessly to promote diversity and inclusion in the field. Shipman also founded the Women Chemists Committee of the ACS, which provides support and networking opportunities for women in chemistry.

Shipman was a strong believer that women had the same potential as men to excel in STEM fields, and she worked to create opportunities for women to pursue their passions in science and engineering. She mentored countless female students and colleagues, and she was a role model for women everywhere who aspired to careers in STEM.

#### **Awards and Recognition**

Shipman received numerous awards and recognition for her contributions to science and advocacy. Some of her most notable awards include:

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- ACS Award for Encouraging Women into Careers in the Chemical Sciences (1998)
- YWCA Woman of the Year Award (1999)
- National Medal of Science (2011)

#### Legacy

Irena War James Shipman was a true pioneer in the field of polymer science and a tireless advocate for women in STEM. Her scientific contributions have had a major impact on the development of new materials and medical products, and her advocacy work has helped to create opportunities for women everywhere to pursue their passions in science and engineering.

Shipman's legacy continues to inspire scientists and engineers today. She is a role model for women and men alike, and her work serves as a

reminder that anything is possible with hard work, dedication, and a passion for making a difference in the world.

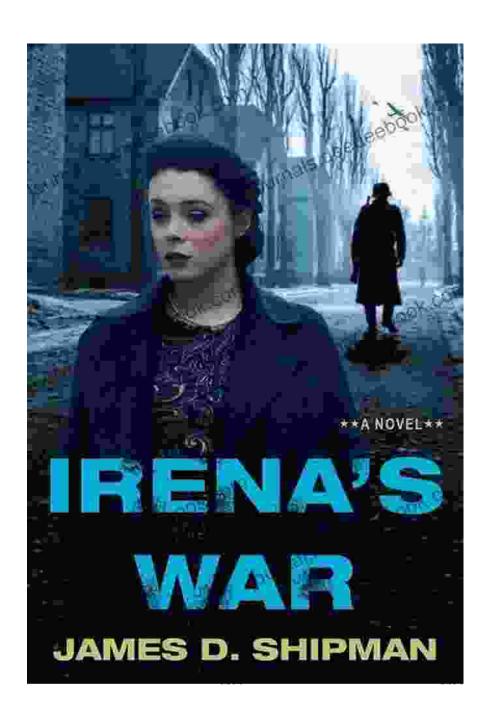
#### **Additional Resources**

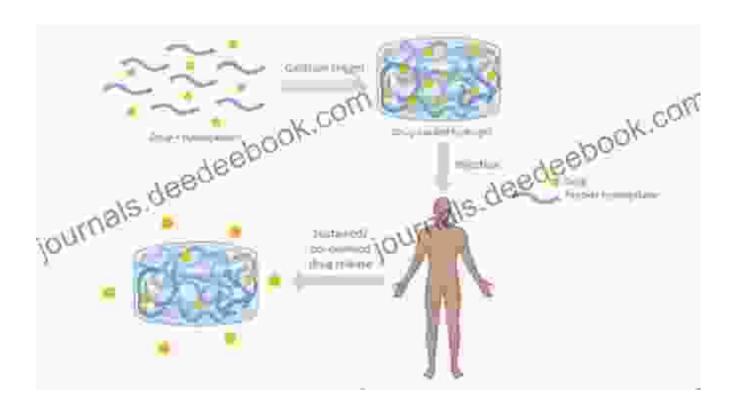
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- Irena War James Shipman: Bringing Joy to Life through Chemistry
- Irena War James Shipman
- NSF Announces 2011 National Medal of Science Recipients

#### **Image Captions:**

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A diagram of Irena Shipman's polymer hydrogel for drug delivery.



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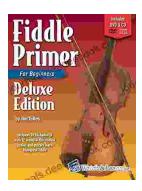
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Enhanced typesetting : Enabled

X-Ray : Enabled

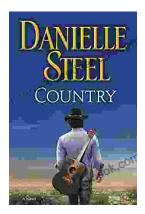
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