

Online Journal of Space Communication

Volume 8
Issue 15 *Women in Space (Spring 2009)*

Article 35

October 2021

Profile of Olwen Morgan

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Recommended Citation

Frost, Mary (2021) "Profile of Olwen Morgan," *Online Journal of Space Communication*: Vol. 8 : Iss. 15 , Article 35.

Available at: <https://ohioopen.library.ohio.edu/spacejournal/vol8/iss15/35>

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Olwen Morgan

B.A., Chemistry, Reed College, 1976; Associate Development Engineer/Principal Development Engineer/Business Development Manager, 1978-Present; Rocket Research Co./ Olin/PRIMEX/General Dynamics/Aerojet; AIAA Associate Fellow, 2008.

1) How did you get started in the satellite business?

Purely by accident. I was looking for a job, the company that at that time was Rocket Research had a job matching my education and (limited) experience that was scheduled to start in six months to a year, they put me in the rocket engine business as a way to keep me for the next job. I spent a year at it and I loved it. I then spent the second year at the job I was originally hired to do, and returned (happily) to the rocket engine business. In my career I have now been continuously employed in the same location working for a series of differently-named companies for over thirty years--19 years in engineering and 11 years in business development.

2) How have you been involved in changes brought about in or by this business (innovations, technologies, services)?

I was a relatively junior engineer when we designed, developed, built and qualified the electrothermal hydrazine thruster (EHT), a small rocket engine with 50% better performance than a non-electrically augmented catalytic engine for RCA (now Lockheed Martin). We had thirteen months to accomplish all this including delivery of the first units and it took a dedicated team to overcome the many technical and schedule obstacles. Twenty-five years later I was questioned on a choice of screen material. I chose it because Johnson Matthey had it in stock at the time--we made it work and we thought we had bought an ample supply but reordering was a challenge.

3) What do you think was the greatest event/situation/opportunity you experienced?

In support of the SDIO program Delta Star, we begged, borrowed, and scrounged a set of rocket engine assemblies. We then proceeded to assemble them into modules and perform system level tests--all in fifteen weeks. It taught me that aerospace is capable of moving at great speed even if we usually do not. I am also proud of our many planetary missions--I have personally answered questions about our propulsion hardware on spacecraft visiting or about to visit every planet in the solar system including Pluto.

4) What was the greatest obstacle?

Balancing work and family. I was fortunate to have understanding bosses and coworkers as well as a good support system at home, but I rarely traveled when our two sons were little and sacrifices were made both at home and at work. There were also challenges (and benefits) to having a chemistry background in a predominantly engineering company.

5) What do you see happening in the next five years in this industry?

I think it depends heavily on where human-rated space is going. It will take a great deal of effort to make Orion and Ares operational with an associated effect on robotic science and exploration. I would like to see us reinvigorate our industry by doing more tests--I am convinced you learn respect for your hardware when you break something. A contained break is a good lesson for the students.

6) What advice do you have for women interested in entering the industry?

Learn to communicate. Learn to write, to speak, and to leave a legacy. It will stand you in good stead. Enjoy the triumphs--those of us in the space industry help push back the frontiers of science, protect and defend our country, provide navigation and communication tools, predict weather patterns, and enable many other services. And there is not much that is more exciting than a real, live launch.