

## Spotlight on Dr. Stefanie Ruel

### Best Critical Doctoral Dissertation: “Multiplicities of “I’s” in Intersectionality: Women’s Exclusion from STEM Management in the Canadian Space Industry”

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The contemporary Canadian space industry is recognized for its strengths in such areas as satellite-based communications, earth observation, and space robotics (Aerospace Industries Association of Canada, 2015). A diversity of individuals work together in this industry, holding various professional occupational positions including scientific/technical/engineering and administrative/corporate roles. The problem that I set out to study was hidden in the statistics related to this diversity of individuals, and reflected some of my experiences in this industry, as the only Canadian woman to fulfil the role of Life Sciences Mission Manager.

As I was completing my graduate degree, while working full time in this industry (and raising four children with my husband), I tentatively began to look around me to find that I was often the lone woman at the table in technical/operational meetings in Canada. The first time I remember not being the only woman around the table was at a technical meeting in Houston, Texas, at the National Aeronautics and Space Administration’s (NASA) Johnson Space Flight Center. In this particular meeting, I was surrounded by women, with only one man at the table. This meeting was the moment that I ‘woke’ to the reality that I had been in for 10+ years. In Canada, I was surrounded by White, military-trained, and/or engineering-trained men who predominantly occupied STEM-management positions.

Delving deeper into these statistics, I found that STEM-professional women represented less than 20% of managers in 2012 across this industry (Canadian Space Agency, 2012; Catalyst, 2013). I also found that Canadian STEM-professional women were, and continue to be,

relegated into supporting technical and/or administrative, corporate roles in spite of their ongoing efforts to try to climb the corporate ladder into STEM-management/executive positions. This social order, where White military-trained men were exclusively in senior management positions while women, White or Ethnic minorities, were excluded and marginalized into supporting roles was, simply stated, unacceptable. Stating something as unacceptable does not address the problem, however; nor does it reveal the social order and its systemic exclusionary reproductions. These notions, of revealing and undoing a social order, drove my doctoral studies.

As an insider within the Canadian space industry, participants talked freely and openly about both their happy and painful experiences with me. They often tried to include me in their experiences, saying ‘you know’ to me many times. After two consecutive difficult interviews, one that lasted over three hours, where a STEM-professional woman shared her utter destruction within this industry, and the other interview, which reminded me of my early career when pornographic movie nights would occur on site where I worked, I had to stop the interview process for a few weeks. I recognized, at the time, that by hiding my own emotions in this industry I was not embracing a mental health practice that could be maintained long-term.

Once I completed all the interviews, I was hyper aware of the discourses around me, in my business unit in particular, and found that it was getting more and more difficult to continue within these day-to-day power-relations. For years, I realized, I had been hiding ‘who I am’ to ensure I would ‘fit’ within the industry. I could no



*Dr. Stefanie Ruel, Best Critical Doctoral Dissertation, Presented by Dr. Raza Mir*

longer take on this burden of hiding, and I quietly resigned from my position.

I am now an outsider, working at a grass-roots level of activism. I am the first to recognize that the privileges I have – supportive family and friends, and financial security – made it possible for me to make this decision to leave the space industry. I also recognize that not all STEM-professional women have these luxuries, and I will continue to work at various interfaces for their benefit. To this end, I am building a presence in the media and in academia, talking about the social reality of STEM-professional women in this particular industry.

#### Connection to the CMS AOM community

I remember sitting in an auditorium at Saint-Mary’s University, in Halifax, Nova Scotia, Canada, listening to Professor Hugh Willmot present his keynote speech on “Research as a craft? Reflections on the credentials of management knowledge”. Up until that point, I had been in course work, and I had been reading in my spare time, in the original French, Foucault’s various works (*Les mots et les choses*; *L’archéologie du savoir*; *Surveiller et punir*). I saw, in Professor Willmot’s talk, a puzzle coming together. I began to see that maybe, just maybe, I wasn’t a square peg

in a round hole. I was, in other words, becoming aware that I might just 'fit' in the CMS academic world.

The end of this particular conference, the International Doctoral Consortium, saw Professor Albert Mills close our consortium by stating that we would be able to find other CMS scholars by the questions they asked, the philosophies they embraced, the discourses they used, and their questioning of the status quo. I ventured to the Academy of Management meeting, shortly thereafter, and I found myself within this embrace of critical studies. I had found an academic home, and I have not looked back since!

I am currently working on two research areas. The first is a study, in collaboration with Professor Jo Brewis, Open University, on showcasing stories surrounding the 'forced', or diseased, ageing experiences of cisgender women in organizations. We are looking at the interplay between the embodiment of the feminine (cis) gender and sexuality, within the context of organizations. In line with this research area, I am a co-convenor, with Lara Owen, Monash University, and Dr. Christiana Tsaousi, University of Leicester, for a CMS 2019 stream on Reproductive life stages and intersections with work/organizations. I am also working on a new special issue on ageing, titled Meanings, contexts and future of ageing studies: Age and intersectionality, with Professor Iiris Aaltio, University of Jyväskylä, Finland, and Dr. Tarja Römer-Paakkanen, Haaga-Helia University of Applied Sciences, Finland.

The second area is a postmodern archival study (Mills & Helms Mills, 2018) focused on writing Canadian women back into space history. I am specifically looking for Canadian women who worked on the Canadian Alouette 1 satellite, during the Cold War. I hope to not only collect archival data, from various North American sites, but to also interview these individuals, to surface their experiences on this mission. Thank you to the CMS Community for this recognition and the opportunity to share my doctoral journey.

## References

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### **Dissertation Abstract, Best Critical Doctoral Dissertation, by Dr. Stefanie Ruel:**

My dissertation was an empirical study focused on the question of how there were so few science, technology, engineering, and mathematics (STEM)-professional women managers in the Canadian space industry. To address this question, I examined discourses and power-relations surrounding these STEM-professional women's identities. I drew on, and reworked, the concept of anchor points, specifically asking: what is the range of anchor points associated with, and available to, STEM-professional women within the Canadian space industry? What is the relationship between select anchor points and structural (e.g., organizational rules, formative contexts), discursive (interrelated dominant ideas and practices), and socio-psychological (e.g., critical sensemaking) processes? How do these anchor points influence the exclusion of STEM-professional women from management/executive positions within this industry?

I applied the critical sensemaking (CSM) framework to mundane, everyday discourses, in order to reconstruct the STEM-professional woman's range of anchor points. This framework provided an avenue to surface these ephemeral identities, and their relationship with the meta-rules, rules, and social values of this industry. The CSM framework also assisted me in revealing the relationship of this range of anchor points with the STEM-professional woman's dominant ideas and practices, and her critical sensemaking processes.

The results of the analysis of the STEM-professional women's discourses, and those of her colleagues who were STEM-professional men, brought to light not only the STEM-professional woman's intersecting identities but also, importantly, the productive and oppressive power-relations at work in this industry. I was able to not only showcase the 'how' of exclusion of STEM-professional women from management/executive positions but also, I suggested specific sites for micro-political resistances that these STEM-professional women could enact. Furthermore, in order to effect social change across this industry, I surfaced the responsibilities of cisgender men with respect to addressing and resisting the systemic discrimination of STEM-professional women in this industry.