Why Space Technology needs more non-traditional chemical engineers – from the perspective of a NASA Chemical Engineering Student

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With planetary missions and deep space gateway on the horizon, humankind is entering a new era of space exploration. Manned mission durations will be longer than any previous flight, resupply capabilities are limited, and system robustness is more imperative than ever. Traditional space systems, especially in the realm of carbon dioxide removal and water remediation, are large in size, mass, energy consumption, and number of mechanical moving parts prone to failure. Non-traditional space exploration needs non-traditional technology solutions. Organizational psychologist Adam Grant is well-known for his studies on originality and how non-conformists can move the world. In the words of Adam Grant, "to become original, you have to try something new, which means accepting some measure of risk." As chemical engineers, we shouldn't let that measure of risk stop us from considering ingenious technology. As a part of the new generation of engineers at NASA, I believe we need a paradigm shift in space technology for this new era of exploration.