EMBODYING THE TECHNOSCIENTIFIC FUTURE OF ASTROPHYSICS AND PLANETARY SCIENCE

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Abstract:
Astronomy is central to understanding our place in the universe and cultures from the ancient past to today regard the night sky as an important element of the world around us, informing cultures about survival, tradition, law, social structure, and memory. This can be traced back tens-of-thousands of years in Indigenous cultures of the globe. Today, astronomy and space science are at the forefront of developing new technologies, pushing the limits of our measurements of the universe, and serving as an anchor point of intrigue and inspiration. The latest decadal survey was released in late 2021, which presents a snapshot of USA astrophysics along with connections to the rest of the world but also lays out their technoscientific future in terms of future space missions, future ground based telescopes and future astrophysicists. This requires growth, development, raw materials, multinational facilities and more that have historically disadvantaged Indigenous people, infringe on Indigenous land rights and exploit Indigenous traditions of the sky to suit an agenda that provides long term benefits to astrophysicists and space scientists. This has led to the astronomical and space community becoming entangled with politically fraught projects such as the Thirty Meter Telescope (TMT), which is generating substantial debate and even division within the community as awareness and recognition of Indigenous rights is increasingly supported by that community. This has created a negative public narrative that overshadows the entire astro/space profession and everybody within it, regardless of their personal or political stances. Since these scientific infrastructures are co-funded by government bodies using public funds, public opinion matters. The uncertainty and instability around the future of ground breaking projects has been amplified by the pandemic, while the launch of mega-constellations of artificial satellites is negatively impacting our view of the stars, affecting scientific and Indigenous communities all, albeit in different ways. How is the rapidly changing technoscientific future being addressed? Where do Indigenous knowledge holders and their astronomical knowledge sit in this narrative? Can the technoscientific future be one of expansive and inclusive approaches, guided by intersectional bodies? If an alternative future is being proposed, who will be the beneficiaries? The decadal survey introduces a new term ‘community astronomy’ emphasising three associated actions to listen & empower, to aim to do good for all, and to invest in the future, together. This panel invites people studying astrophysics/astrophysicists, space science/scientists, members of the space/astronomical community, Indigenous knowledge holders and stakeholders to present on engagements/entanglements with technoscientific futures and beneficiaries.

Key words:
Astrophysics, Indigenous Knowledge, Community Astronomy