

## MYTHOLOGIES OF OUTER SPACE

Edited by Jim Ellis and Noreen Humble

ISBN 978-1-77385-588-2

**THIS BOOK IS AN OPEN ACCESS E-BOOK.** It is an electronic version of a book that can be purchased in physical form through any bookseller or on-line retailer, or from our distributors. Please support this open access publication by requesting that your university purchase a print copy of this book, or by purchasing a copy yourself. If you have any questions, please contact us at [ucpress@ucalgary.ca](mailto:ucpress@ucalgary.ca)

**Cover Art:** The artwork on the cover of this book is not open access and falls under traditional copyright provisions; it cannot be reproduced in any way without written permission of the artists and their agents. The cover can be displayed as a complete cover image for the purposes of publicizing this work, but the artwork cannot be extracted from the context of the cover of this specific work without breaching the artist's copyright.

**COPYRIGHT NOTICE:** This open-access work is published under a Creative Commons licence. This means that you are free to copy, distribute, display or perform the work as long as you clearly attribute the work to its authors and publisher, that you do not use this work for any commercial gain in any form, and that you in no way alter, transform, or build on the work outside of its use in normal academic scholarship without our express permission. If you want to reuse or distribute the work, you must inform its new audience of the licence terms of this work. For more information, see details of the Creative Commons licence at: <http://creativecommons.org/licenses/by-nc-nd/4.0/>

**UNDER THE CREATIVE COMMONS LICENCE YOU MAY:**

- read and store this document free of charge;
- distribute it for personal use free of charge;
- print sections of the work for personal use;
- read or perform parts of the work in a context where no financial transactions take place.

**UNDER THE CREATIVE COMMONS LICENCE YOU MAY NOT:**

- gain financially from the work in any way;
- sell the work or seek monies in relation to the distribution of the work;
- use the work in any commercial activity of any kind;
- profit a third party indirectly via use or distribution of the work;
- distribute in or through a commercial body (with the exception of academic usage within educational institutions such as schools and universities);
- reproduce, distribute, or store the cover image outside of its function as a cover of this work;
- alter or build on the work outside of normal academic scholarship.



**Acknowledgement:** We acknowledge the wording around open access used by Australian publisher, **re.press**, and thank them for giving us permission to adapt their wording to our policy <http://www.re-press.org>



# UN moon treaty 34/68

agreement governing the activities  
of states on the moon & other  
celestial bodies





Conference on the Exploration and Peaceful Uses of Outer Space and to designate the Committee on the Peaceful Uses of Outer Space as the Preparatory Committee for the Conference,

*Having considered* the part of the report of the Committee on the Peaceful Uses of Outer Space<sup>23</sup> concerning its work in its capacity as Preparatory Committee for the Second United Nations Conference on the Exploration and Peaceful Uses of Outer Space,

*Noting with satisfaction* that the Committee, in its capacity as Preparatory Committee for the Conference, has submitted detailed recommendations on the preparation and organization of the Conference,

1. *Endorses* the detailed recommendations submitted in paragraphs 84 to 115 of its report<sup>23</sup> by the Committee on the Peaceful Uses of Outer Space in its capacity as Preparatory Committee for the Second United Nations Conference on the Exploration and Peaceful Uses of Outer Space;

2. *Adopts* the provisional agenda for the Conference as set out in paragraph 99 of the report of the Committee;

3. *Endorses* in particular:

(a) The recommendation of the Committee that the Second United Nations Conference on the Exploration and Peaceful Uses of Outer Space should be held in the latter half of 1982;

(b) The recommendations of the Committee concerning the preparation and organization of the Conference, including the secretariat, bureau and form of the Conference;

(c) The recommendation of the Committee on the ceiling for the cost of the Conference;

4. *Requests* the Committee to submit to the General Assembly at its thirty-fifth session a recommendation on the venue of the Conference;

5. *Requests* the Committee to continue with its preparatory work for the Conference;

6. *Requests* the Secretary-General to make, within the ceiling for expenditure established for the Conference, the necessary organizational and administrative arrangements, as set out in the relevant paragraphs of the report of the Committee.

*89th plenary meeting  
5 December 1979*

#### 34/68. Agreement Governing the Activities of States on the Moon and Other Celestial Bodies

*The General Assembly,*

*Reaffirming* the importance of international co-operation in the field of the exploration and peaceful uses of outer space, including the moon and other celestial bodies, and of promoting the rule of law in this field of human endeavour,

*Recalling* its resolution 2779 (XXVI) of 29 November 1971, in which it requested the Committee on the Peaceful Uses of Outer Space and its Legal Subcommittee to consider the question of the elaboration of a draft international treaty concerning the moon, as well as its resolutions 2915 (XXVII) of 9 November 1972, 3182 (XXVIII) of 18 December 1973, 3234 (XXIX) of 12 November 1974, 3388 (XXX) of 18 No-

vember 1975, 31/8 of 8 November 1976, 32/196 A of 20 December 1977 and 33/16 of 10 November 1978, in which it, *inter alia*, encouraged the elaboration of the draft treaty relating to the moon,

*Recalling*, in particular, that in resolution 33/16 it endorsed the recommendation of the Committee on the Peaceful Uses of Outer Space that the Legal Subcommittee at its eighteenth session should continue as a matter of priority its efforts to complete the draft treaty relating to the moon,

*Having considered* the relevant part of the report of the Committee on the Peaceful Uses of Outer Space,<sup>24</sup> in particular paragraphs 62, 63 and 65,

*Noting with satisfaction* that the Committee on the Peaceful Uses of Outer Space, on the basis of the deliberations and recommendations of the Legal Subcommittee, has completed the text of the draft Agreement Governing the Activities of States on the Moon and Other Celestial Bodies,

*Having considered* the text of the draft Agreement Governing the Activities of States on the Moon and Other Celestial Bodies,<sup>25</sup>

1. *Commends* the Agreement Governing the Activities of States on the Moon and Other Celestial Bodies, the text of which is annexed to the present resolution;

2. *Requests* the Secretary-General to open the Agreement for signature and ratification at the earliest possible date;

3. *Expresses its hope* for the widest possible adherence to this Agreement.

*89th plenary meeting  
5 December 1979*

#### ANNEX

##### Agreement Governing the Activities of States on the Moon and Other Celestial Bodies

*The States Parties to this Agreement,*

*Noting* the achievements of States in the exploration and use of the moon and other celestial bodies,

*Recognizing* that the moon, as a natural satellite of the earth, has an important role to play in the exploration of outer space,

*Determined* to promote on the basis of equality the further development of co-operation among States in the exploration and use of the moon and other celestial bodies,

*Desiring* to prevent the moon from becoming an area of international conflict,

*Bearing in mind* the benefits which may be derived from the exploitation of the natural resources of the moon and other celestial bodies,

*Recalling* the Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, including the Moon and Other Celestial Bodies,<sup>26</sup> the Agreement on the Rescue of Astronauts, the Return of Astronauts and the Return of Objects Launched into Outer Space,<sup>27</sup> the Convention on International Liability for Damage Caused by Space Objects,<sup>28</sup> and the Convention on Registration of Objects Launched into Outer Space,<sup>29</sup>

*Taking into account* the need to define and develop the provisions of these international instruments in relation to the moon and other celestial bodies, having regard to further progress in the exploration and use of outer space,

*Have agreed* on the following:

<sup>24</sup> *Ibid.*, sect. II.A.7.

<sup>25</sup> *Ibid.*, Supplement No. 20 (A/34/20), annex II.

<sup>26</sup> Resolution 2222 (XXI), annex.

<sup>27</sup> Resolution 2345 (XXII), annex.

<sup>28</sup> Resolution 2777 (XXVI), annex.

<sup>29</sup> Resolution 3235 (XXIX), annex.

<sup>23</sup> *Official Records of the General Assembly, Thirty-fourth Session, Supplement No. 20 (A/34/20)*, sect. I.I.C.

*Article 1*

1. The provisions of this Agreement relating to the moon shall also apply to other celestial bodies within the solar system, other than the earth, except in so far as specific legal norms enter into force with respect to any of these celestial bodies.

2. For the purposes of this Agreement reference to the moon shall include orbits around or other trajectories to or around it.

3. This Agreement does not apply to extraterrestrial materials which reach the surface of the earth by natural means.

*Article 2*

All activities on the moon, including its exploration and use, shall be carried out in accordance with international law, in particular the Charter of the United Nations, and taking into account the Declaration on Principles of International Law concerning Friendly Relations and Co-operation among States in accordance with the Charter of the United Nations,<sup>80</sup> adopted by the General Assembly on 24 October 1970, in the interest of maintaining international peace and security and promoting international co-operation and mutual understanding, and with due regard to the corresponding interests of all other States Parties.

*Article 3*

1. The moon shall be used by all States Parties exclusively for peaceful purposes.

2. Any threat or use of force or any other hostile act or threat of hostile act on the moon is prohibited. It is likewise prohibited to use the moon in order to commit any such act or to engage in any such threat in relation to the earth, the moon, spacecraft, the personnel of spacecraft or man-made space objects.

3. States Parties shall not place in orbit around or other trajectory to or around the moon objects carrying nuclear weapons or any other kinds of weapons of mass destruction or place or use such weapons on or in the moon.

4. The establishment of military bases, installations and fortifications, the testing of any type of weapons and the conduct of military manoeuvres on the moon shall be forbidden. The use of military personnel for scientific research or for any other peaceful purposes shall not be prohibited. The use of any equipment or facility necessary for peaceful exploration and use of the moon shall also not be prohibited.

*Article 4*

1. The exploration and use of the moon shall be the province of all mankind and shall be carried out for the benefit and in the interests of all countries, irrespective of their degree of economic or scientific development. Due regard shall be paid to the interests of present and future generations as well as to the need to promote higher standards of living and conditions of economic and social progress and development in accordance with the Charter of the United Nations.

2. States Parties shall be guided by the principle of co-operation and mutual assistance in all their activities concerning the exploration and use of the moon. International co-operation in pursuance of this Agreement should be as wide as possible and may take place on a multilateral basis, on a bilateral basis or through international intergovernmental organizations.

*Article 5*

1. States Parties shall inform the Secretary-General of the United Nations as well as the public and the international scientific community, to the greatest extent feasible and practicable, of their activities concerned with the exploration and use of the moon. Information on the time, purposes, locations, orbital parameters and duration shall be given in respect of each mission to the moon as soon as possible after launching, while information on the results of each mission, including scientific results, shall be furnished upon completion of the mission. In the case of a mission lasting more than sixty days, information on conduct of the mission, including any scientific results, shall be given periodically, at thirty-day intervals. For missions lasting

more than six months, only significant additions to such information need be reported thereafter.

2. If a State Party becomes aware that another State Party plans to operate simultaneously in the same area of or in the same orbit around or trajectory to or around the moon, it shall promptly inform the other State of the timing of and plans for its own operations.

3. In carrying out activities under this Agreement, States Parties shall promptly inform the Secretary-General, as well as the public and the international scientific community, of any phenomena they discover in outer space, including the moon, which could endanger human life or health, as well as of any indication of organic life.

*Article 6*

1. There shall be freedom of scientific investigation on the moon by all States Parties without discrimination of any kind, on the basis of equality and in accordance with international law.

2. In carrying out scientific investigations and in furtherance of the provisions of this Agreement, the States Parties shall have the right to collect on and remove from the moon samples of its mineral and other substances. Such samples shall remain at the disposal of those States Parties which caused them to be collected and may be used by them for scientific purposes. States Parties shall have regard to the desirability of making a portion of such samples available to other interested States Parties and the international scientific community for scientific investigation. States Parties may in the course of scientific investigations also use mineral and other substances of the moon in quantities appropriate for the support of their missions.

3. States Parties agree on the desirability of exchanging scientific and other personnel on expeditions to or installations on the moon to the greatest extent feasible and practicable.

*Article 7*

1. In exploring and using the moon, States Parties shall take measures to prevent the disruption of the existing balance of its environment, whether by introducing adverse changes in that environment, by its harmful contamination through the introduction of extra-environmental matter or otherwise. States Parties shall also take measures to avoid harmfully affecting the environment of the earth through the introduction of extra-terrestrial matter or otherwise.

2. States Parties shall inform the Secretary-General of the United Nations of the measures being adopted by them in accordance with paragraph 1 of this article and shall also, to the maximum extent feasible, notify him in advance of all placements by them of radio-active materials on the moon and of the purposes of such placements.

3. States Parties shall report to other States Parties and to the Secretary-General concerning areas of the moon having special scientific interest in order that, without prejudice to the rights of other States Parties, consideration may be given to the designation of such areas as international scientific preserves for which special protective arrangements are to be agreed upon in consultation with the competent bodies of the United Nations.

*Article 8*

1. States Parties may pursue their activities in the exploration and use of the moon anywhere on or below its surface, subject to the provisions of this Agreement.

2. For these purposes States Parties may, in particular:

- (a) Land their space objects on the moon and launch them from the moon;
- (b) Place their personnel, space vehicles, equipment, facilities, stations and installations anywhere on or below the surface of the moon.

Personnel, space vehicles, equipment, facilities, stations and installations may move or be moved freely over or below the surface of the moon.

3. Activities of States Parties in accordance with paragraphs 1 and 2 of this article shall not interfere with the activities of other States Parties on the moon. Where such interference may occur, the States Parties concerned shall undertake consultations in accordance with article 15, paragraphs 2 and 3, of this Agreement.

<sup>80</sup> Resolution 2625 (XXV), annex.

*Article 9*

1. States Parties may establish manned and unmanned stations on the moon. A State Party establishing a station shall use only that area which is required for the needs of the station and shall immediately inform the Secretary-General of the United Nations of the location and purposes of that station. Subsequently, at annual intervals that State shall likewise inform the Secretary-General whether the station continues in use and whether its purposes have changed.

2. Stations shall be installed in such a manner that they do not impede the free access to all areas of the moon of personnel, vehicles and equipment of other States Parties conducting activities on the moon in accordance with the provisions of this Agreement or of article I of the Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, including the Moon and Other Celestial Bodies.<sup>26</sup>

*Article 10*

1. States Parties shall adopt all practicable measures to safeguard the life and health of persons on the moon. For this purpose they shall regard any person on the moon as an astronaut within the meaning of article V of the Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, including the Moon and Other Celestial Bodies<sup>26</sup> and as part of the personnel of a spacecraft within the meaning of the Agreement on the Rescue of Astronauts, the Return of Astronauts and the Return of Objects Launched into Outer Space.<sup>27</sup>

2. States Parties shall offer shelter in their stations, installations, vehicles and other facilities to persons in distress on the moon.

*Article 11*

1. The moon and its natural resources are the common heritage of mankind, which finds its expression in the provisions of this Agreement, in particular in paragraph 5 of this article.

2. The moon is not subject to national appropriation by any claim of sovereignty, by means of use or occupation, or by any other means.

3. Neither the surface nor the subsurface of the moon, nor any part thereof or natural resources in place, shall become property of any State, international intergovernmental or non-governmental organization, national organization or non-governmental entity or of any natural person. The placement of personnel, space vehicles, equipment, facilities, stations and installations on or below the surface of the moon, including structures connected with its surface or subsurface, shall not create a right of ownership over the surface or the subsurface of the moon or any areas thereof. The foregoing provisions are without prejudice to the international régime referred to in paragraph 5 of this article.

4. States Parties have the right to exploration and use of the moon without discrimination of any kind, on the basis of equality and in accordance with international law and the provisions of this Agreement.

5. States Parties to this Agreement hereby undertake to establish an international régime, including appropriate procedures, to govern the exploitation of the natural resources of the moon as such exploitation is about to become feasible. This provision shall be implemented in accordance with article 18 of this Agreement.

6. In order to facilitate the establishment of the international régime referred to in paragraph 5 of this article, States Parties shall inform the Secretary-General of the United Nations as well as the public and the international scientific community, to the greatest extent feasible and practicable, of any natural resources they may discover on the moon.

7. The main purposes of the international régime to be established shall include:

- (a) The orderly and safe development of the natural resources of the moon;
- (b) The rational management of those resources;
- (c) The expansion of opportunities in the use of those resources;

(d) An equitable sharing by all States Parties in the benefits derived from those resources, whereby the interests and needs of the developing countries, as well as the efforts of those countries which have contributed either directly or indirectly to the exploration of the moon, shall be given special consideration.

8. All the activities with respect to the natural resources of the moon shall be carried out in a manner compatible with the purposes specified in paragraph 7 of this article and the provisions of article 6, paragraph 2, of this Agreement.

*Article 12*

1. States Parties shall retain jurisdiction and control over their personnel, space vehicles, equipment, facilities, stations and installations on the moon. The ownership of space vehicles, equipment, facilities, stations and installations shall not be affected by their presence on the moon.

2. Vehicles, installations and equipment or their component parts found in places other than their intended location shall be dealt with in accordance with article 5 of the Agreement on the Rescue of Astronauts, the Return of Astronauts and the Return of Objects Launched into Outer Space.<sup>27</sup>

3. In the event of an emergency involving a threat to human life, States Parties may use the equipment, vehicles, installations, facilities or supplies of other States Parties on the moon. Prompt notification of such use shall be made to the Secretary-General of the United Nations or the State Party concerned.

*Article 13*

A State Party which learns of the crash landing, forced landing or other unintended landing on the moon of a space object, or its component parts, that were not launched by it, shall promptly inform the launching State Party and the Secretary-General of the United Nations.

*Article 14*

1. States Parties to this Agreement shall bear international responsibility for national activities on the moon, whether such activities are carried out by governmental agencies or by non-governmental entities, and for assuring that national activities are carried out in conformity with the provisions of this Agreement. States Parties shall ensure that non-governmental entities under their jurisdiction shall engage in activities on the moon only under the authority and continuing supervision of the appropriate State Party.

2. States Parties recognize that detailed arrangements concerning liability for damage caused on the moon, in addition to the provisions of the Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, including the Moon and Other Celestial Bodies<sup>26</sup> and the Convention on International Liability for Damage Caused by Space Objects,<sup>28</sup> may become necessary as a result of more extensive activities on the moon. Any such arrangements shall be elaborated in accordance with the procedure provided for in article 18 of this Agreement.

*Article 15*

1. Each State Party may assure itself that the activities of other States Parties in the exploration and use of the moon are compatible with the provisions of this Agreement. To this end, all space vehicles, equipment, facilities, stations and installations on the moon shall be open to other States Parties. Such States Parties shall give reasonable advance notice of a projected visit, in order that appropriate consultations may be held and that maximum precautions may be taken to assure safety and to avoid interference with normal operations in the facility to be visited. In pursuance of this article, any State Party may act on its own behalf or with the full or partial assistance of any other State Party or through appropriate international procedures within the framework of the United Nations and in accordance with the Charter.

2. A State Party which has reason to believe that another State Party is not fulfilling the obligations incumbent upon it pursuant to this Agreement or that another State Party is interfering with the rights which the former State has under this Agreement may request consultations with that State Party. A

State Party receiving such a request shall enter into such consultations without delay. Any other State Party which requests to do so shall be entitled to take part in the consultations. Each State Party participating in such consultations shall seek a mutually acceptable resolution of any controversy and shall bear in mind the rights and interests of all States Parties. The Secretary-General of the United Nations shall be informed of the results of the consultations and shall transmit the information received to all States Parties concerned.

3. If the consultations do not lead to a mutually acceptable settlement which has due regard for the rights and interests of all States Parties, the parties concerned shall take all measures to settle the dispute by other peaceful means of their choice appropriate to the circumstances and the nature of the dispute. If difficulties arise in connexion with the opening of consultations or if consultations do not lead to a mutually acceptable settlement, any State Party may seek the assistance of the Secretary-General, without seeking the consent of any other State Party concerned, in order to resolve the controversy. A State Party which does not maintain diplomatic relations with another State Party concerned shall participate in such consultations, at its choice, either itself or through another State Party or the Secretary-General as intermediary.

#### Article 16

With the exception of articles 17 to 21, references in this Agreement to States shall be deemed to apply to any international intergovernmental organization which conducts space activities if the organization declares its acceptance of the rights and obligations provided for in this Agreement and if a majority of the States members of the organization are States Parties to this Agreement and to the Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, including the Moon and Other Celestial Bodies.<sup>26</sup> States members of any such organization which are States Parties to this Agreement shall take all appropriate steps to ensure that the organization makes a declaration in accordance with the provisions of this article.

#### Article 17

Any State Party to this Agreement may propose amendments to the Agreement. Amendments shall enter into force for each State Party to the Agreement accepting the amendments upon their acceptance by a majority of the States Parties to the Agreement and thereafter for each remaining State Party to the Agreement on the date of acceptance by it.

#### Article 18

Ten years after the entry into force of this Agreement, the question of the review of the Agreement shall be included in the provisional agenda of the General Assembly of the United Nations in order to consider, in the light of past application of the Agreement, whether it requires revision. However, at any time after the Agreement has been in force for five years, the Secretary-General of the United Nations, as depositary, shall, at the request of one third of the States Parties to the Agreement and with the concurrence of the majority of the States Parties, convene a conference of the States Parties to review this Agreement. A review conference shall also consider the question of the implementation of the provisions of article 11, paragraph 5, on the basis of the principle referred to in paragraph 1 of that article and taking into account in particular any relevant technological developments.

#### Article 19

1. This Agreement shall be open for signature by all States at United Nations Headquarters in New York.

2. This Agreement shall be subject to ratification by signatory States. Any State which does not sign this Agreement before its entry into force in accordance with paragraph 3 of this article may accede to it at any time. Instruments of ratification or accession shall be deposited with the Secretary-General of the United Nations.

3. This Agreement shall enter into force on the thirtieth day following the date of deposit of the fifth instrument of ratification.

4. For each State depositing its instrument of ratification or accession after the entry into force of this Agreement, it shall enter into force on the thirtieth day following the date of deposit of any such instrument.

5. The Secretary-General shall promptly inform all signatory and acceding States of the date of each signature, the date of deposit of each instrument of ratification or accession to this Agreement, the date of its entry into force and other notices.

#### Article 20

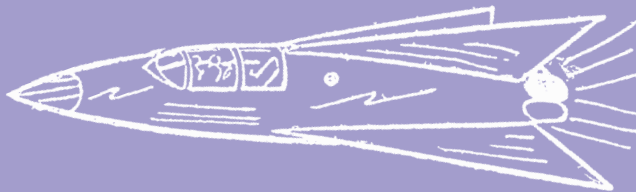
Any State Party to this Agreement may give notice of its withdrawal from the Agreement one year after its entry into force by written notification to the Secretary-General of the United Nations. Such withdrawal shall take effect one year from the date of receipt of this notification.

#### Article 21

The original of this Agreement, of which the Arabic, Chinese, English, French, Russian and Spanish texts are equally authentic, shall be deposited with the Secretary-General of the United Nations, who shall send certified copies thereof to all signatory and acceding States.

IN WITNESS WHEREOF the undersigned, being duly authorized thereto by their respective Governments, have signed this Agreement, opened for signature at New York on . . . .<sup>31</sup>



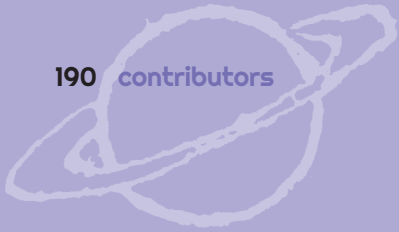



# contributors

**Dianne Bos** has been teaching and exhibiting her photo-based work internationally for over forty years. Some of her recent exhibitions feature handmade cameras, walk-in light installations, and sound pieces. She has evolved various thematic bodies of work and merged technical innovations to create new visual hybrids: her innovative uses of pinhole, film, camera obscura, photogram, installation, and cyanotype all explore the world around us. “The excitement, for me, lies not in photographing and reproducing something I can see, but in revealing the imperceptible (and maybe only the imagined) using the physics of light and time and traditional darkroom techniques.” [www.diannebos.ca](http://www.diannebos.ca).

**Marjan Eggermont** is a professor (teaching) and associate dean sustainability in the Schulich School of Engineering, in addition to serving as the co-director for the UNU Hub at the University of Calgary, current SDSN co-chair (research), and one of the academic co-leads for Democracy, Justice, and Sustainability in the Institutes for Transdisciplinary Scholarship. She is a Biomimicry Institute fellow and has been working in the field of bio-inspired design since 2004 with a focus on visualization and abstraction. She co-founded and designs *Zygote Quarterly* ([zqjournal.org](http://zqjournal.org)), an online bio-inspired design journal, to showcase the nexus of science and design.





**Jim Ellis** is professor of English at the University of Calgary and director of the Calgary Institute for the Humanities, Canada's oldest humanities institute. He teaches sixteenth-century poetry and prose, about which he has written numerous essays and books, including, most recently, *The Poem, the Garden and the World: Poetry and Performativity in Elizabethan England* (Northwestern University Press, 2023). As director of the CIH, he has edited a series of books on the environmental humanities: *Calgary: City of Animals* (2017); *Water Rites: Reimagining Water in the West* (2018); and *Intertwined Histories: Plants in Their Social Contexts* (2019).

**Kyle Flemmer** is a writer, publisher, and digital media artist from Calgary, in Treaty 7 territory. He founded the Blasted Tree Publishing Company in 2014, and his first book, *Barcode Poetry*, was published in 2021. Kyle's first trade book of poetry, *Supergiants*, is forthcoming from Wolsak and Wynn in 2025. His most recent chapbooks include *About Me* from No Press and *Building Permit: Capitol Hill* from Gap Riot Press.

**Stefania Forlini** is associate professor of English at the University of Calgary, where she teaches and researches nineteenth-century literature, material culture, science, and science fiction. She recently edited the Broadview critical edition of Arthur Machen's *The Three Impostors* (1895) and has published in the areas of Victorian studies, science fiction studies, the digital humanities, and humanistic information visualization.

**Alice Gorman** is an internationally recognized leader in the field of space archaeology. Her research on space exploration has been featured in *National Geographic*, *New Scientist*, and *Archaeology* magazine, and her book *Dr Space Junk vs the Universe: Archaeology and the Future* (2019) won the NIB Award People's Choice and the John Mulvaney Book Award. She is a faculty member of the International Space University's Southern Hemisphere Space Program in Adelaide. She has worked extensively in Indigenous heritage management, providing advice for the mining industry, urban development, government departments, local councils, and Native Title groups in New South Wales, Western Australia, South Australia, and Queensland. She is also a specialist in stone tool analysis and the Aboriginal use of bottle glass after European settlement.

**David Hoffos** has maintained a multidisciplinary practice since 1992, with over forty solo exhibitions at public institutions across North America and Europe. In 2009 their sprawling, six-year installation series, *Scenes from the House Dream*, debuted at the Southern Alberta Art Gallery, Lethbridge, before a cross-country tour that included the National Gallery of Canada, Ottawa, the Art Gallery of Nova Scotia, Halifax, the Illingworth Kerr Gallery, Calgary, and the Museum of Contemporary Canadian Art, Toronto. In 2014 Hoffos completed permanent public sculpture projects in Grande Prairie and Lethbridge. They have received numerous awards, including, the Images Grand Prize, 2007, and the inaugural Sobey Art Award (second place), 2002.

**Noreen Humble** is professor of Classics and associate director at the Calgary Institute for the Humanities. She has written widely on the ancient Greek authors Xenophon and Plutarch, as well as on their reception from the classical world to the present day. She is the author of the award-winning *Xenophon of Athens: A Socratic on Sparta* (Cambridge University Press, 2021). She is currently engaged in a number of international collaborative projects looking at the transmission of ancient histories through the lenses of book history and translation studies.

**M. N. Hutchinson** has been a working photographer for over thirty years. He both runs a commercial business whose work included album covers for A&M Records and is a nationally recognized professional artist. His practice has been contrarily cross-media. He has exhibited photographs, printmaking, sculptural installations, audio, video, and performance works. He completed his MFA in new media at the University of Calgary and has presented his work and theories in over twenty lectures and public presentations. He has been the recipient of several grants and awards both nationally and locally. He has also invested a considerable part of his career in the community, having been both a co-director of Truck Gallery and photography facilitator at the Banff Centre, as well as sitting on several boards.

**Philip P. Langill** is associate professor (teaching) in the Department of Physics and Astronomy at the University of Calgary and was appointed director of the Rothney Astrophysical Observatory in 2006. He teaches physics and astrophysics and has received numerous awards, including the Students' Union Teaching Excellence Award and the Faculty of Science's Award for Community Engagement (Established Career category). He is currently the honorary president of the Royal Astronomical Society's Calgary Centre. He is a strong advocate for the preservation of naturally dark skies at night and strives to incorporate Indigenous perspectives into his teaching and outreach.

**Elyse Longair** is an artist, curator, and image theorist currently pursuing her PhD at Queen's University. Her research focuses on collage history, collage as research creation, and institutional strategies of collecting and curating collage. Among recent awards, she studied collage in Paris at the Centre Pompidou thanks to the David Edney Research Award, and was awarded the Exposure Emerging Photographer of the Year Award by Exposure Photography Festival, earning her a solo exhibition at Contemporary Calgary. Longair's "simple image" theory in collage reimagines the role of images away from the overt complexity that dominates our world, opening up new possibilities for imagined futures.

**Hilding Neilson** is an astrophysicist and assistant professor at Memorial University of Newfoundland and Labrador, where he works on the intersections of stellar and exoplanet astrophysics, the search for life in our galaxy, and Indigenous methods or ways of knowing. More specifically, he studies variable stars and exoplanet host stars to understand their physical properties. He then weaves traditional Western science and Indigenous methods to understand biological and technological signatures of extraterrestrial life to consider if and how astronomers should search for life. Dr. Neilson is Mi'kmaq and a member of the Qalipu First Nation in Newfoundland.

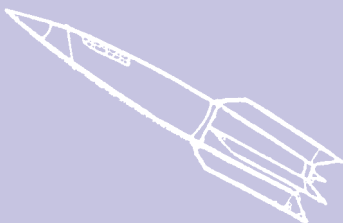
**Chris Pak** is a lecturer in contemporary writing and digital cultures at Swansea University, Wales. He is an award-winning literary scholar whose research into science fiction and climate change investigates how anticipatory narratives inform the climate imaginaries of the past, present, and future. He has published on geoengineering and terraforming (the adaptation of planetary environments) in science fiction and its relationship to contemporary science, policy, and activism. His book *Terraforming: Ecopolitical Transformations and Environmentalism in Science Fiction* (Liverpool University Press, 2016) is available online via open access. He is currently working on projects about science fiction and biophilic design.

**Naomi Potter** has been the director/curator of Esker Foundation in Calgary since 2012. From 2009 to 2011, she was curator of Walter Phillips Gallery at the Banff Centre. She has been a jury member for numerous Canadian art awards, including the Curatorial Selection Committee for Venice 2019. She currently sits on the Advisory Board of the Calgary Institute for the Humanities at the University of Calgary, and is a member of the Gail and Stephen A. Jarislosky Outstanding Artist Program Committee at the Banff Centre. Potter holds a BFA from the University of British Columbia, Vancouver, and an MFA in sculpture from Concordia University, Montreal.

**Keith Sidwell** is emeritus professor of Greek and Latin at University College Cork and adjunct professor of Classics at the University of Calgary. His books include *Lucian: Chattering Courtesans and Other Sardonic Sketches* (Penguin, 2004); *Aristophanes the Democrat: The Politics of Satirical Comedy during the Peloponnesian War* (Cambridge University Press, 2009); *The Tipperary Hero: Dermot O'Meara's Ormonius (1615)* (Brepols, 2011), with David Edwards; *Poema de Hibernia: A Jacobite Epic on the Williamite Wars* (Irish Manuscripts Commission, 2018), with Pádraig Lenihan; and *Lucianus Samosatensis, Catalogus Translationum et Commentariorum* vols. 13 and 14 (Pontifical Institute of Mediaeval Studies, forthcoming 2025). He has just completed a monograph on Lucian entitled *The Witty Philosopher: Lucian and the Serio-Comic*.

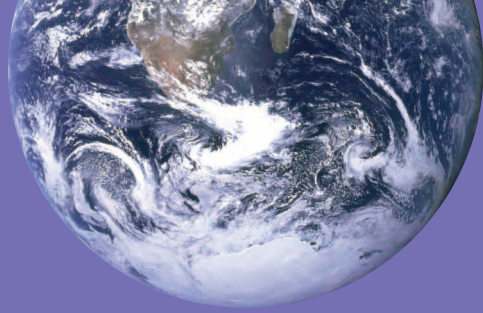
**Dr Robert Thirsk** has academic backgrounds in mechanical engineering, medicine, and business administration. He has flown on two space missions as a member of the Canadian Space Agency's Astronaut Corps. Bob first flew aboard the space shuttle Columbia in 1996 as part of the Life and Microgravity Spacelab mission. His second flight, in 2009, was a six-month expedition aboard the International Space Station. Bob and his station crewmates performed multidisciplinary research, robotic operations, and maintenance of spacecraft systems and payloads. Bob continues to be a strong promoter of a national economy based upon exploration, innovation, and lifelong learning.

**Nancy Tousley**, recipient of the Governor General's Award for Visual and Media Arts, is a nationally known senior art critic, arts journalist, and independent curator. Born in the United States, she held curatorial positions at the Brooklyn Museum and the Art Gallery of Ontario before moving to Calgary, where she was the art critic and an editor at the *Calgary Herald* for thirty years. She has written essays for more than sixty public art gallery and museum catalogues and books. Her feature writing and reviews have appeared in magazines such as *ArtsCanada*, *Vanguard*, *Parachute*, *Canadian Art*, and *Border Crossings*.









# mythologies of outer space

Every culture and society has read stories in the night sky. From the careful attention of astronomers across all times and all parts of the world to the search for alien life, the stories found in the shapes of constellations to the expansive imaginings of science fiction, there has always been life up there, at the very least, for our imaginations.

**Mythologies of Outer Space** brings together academics and artists to explore diverse imaginings of outer space. It examines questions that, in a world where outer space is increasingly accessible, are no longer only science fiction. Is outer space *terra nullius*, open for settlement? What if there is life beyond earth? Will we repeat the mistakes of the colonial age on other planets? Should parts of outer space be protected, like nature reserves? What about resource extraction? Do celestial bodies, like the moon, have rights?

Astronaut Robert Thirsk, Mi'kmaw astronomer Hilding Neilson, digital humanities scholar Chris Pak, and outer space archaeologist Alice Gorman, among others, are joined by artists including David Hoffos and Dianne Bos, literary scholars, art critics, scientists, and a poet to explore how humanity thinks about outer space in this joyful, curious book.

**Jim Ellis** is a professor of English and director of the Calgary Institute for the Humanities at the University of Calgary. He has published books and essays on early modern literature, as well as on contemporary art and film.

**Noreen Humble** is a professor of Classics and associate director of the Calgary Institute for the Humanities at the University of Calgary. Her research centers on ancient Greek authors both in their contemporary settings and in the early modern period.



UNIVERSITY OF CALGARY  
Press

[press.ucalgary.ca](http://press.ucalgary.ca)