

## JULIE INGLIS

Californian Institute of Technology  
jinglis@caltech.edu

### EDUCATION

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#### PhD in Planetary Sciences (in progress)

California Institute of Technology (2020-)

Advisor: Heather Knutson

- Caltech Center for Comparative Planetary Evolution Graduate Fellow (2021-2022)

#### MSc in Planetary Sciences

California Institute of Technology (2020-2022)

#### Honours Bachelor of Science in Physics

McMaster University (2016-2020)

Senior Thesis Advisor: Ralph E. Pudritz

- Summa Cum Laude, Dean's Honour Roll all years, Minor in Mathematics

### RESEARCH POSITIONS

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**Thermal Modelling Specialist**, McMaster Interdisciplinary Satellite Team  
(October 2018 – April 2020)

**USRA Funded Summer Research Associate**, McMaster University  
Supervisor: Dr Ralph Pudritz (May – August 2019)

**USRA Funded Summer Research Associate**, Dalhousie University  
Supervisor: Dr. Jeff Dahn (May-August 2018)

### FUNDING AND AWARDS

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**GPS Division Mentorship and Outreach Award**, \$250, 2023, Caltech

**NSERC CGS-M Masters Scholarship**, \$17,500, 2020, McMaster University (*declined*)

**NSERC USRA Research Grant**, \$4,500, 2019, McMaster University

**NSERC USRA Research Grant**, \$4,500, 2018, Dalhousie University

**NSERC USRA Research Grant**, \$4,500, 2018, McMaster University (*declined*)

**University Senate Scholarship**, \$800, 2019, McMaster University

**Valley City Manufacturing Co. Scholarship**, \$1600, 2018, McMaster University

**Gerald and Verna Simpson Memorial Scholarship**, \$800, 2018, McMaster University

**Jim Waddington Prize for Physics and Astronomy**, \$1000, 2017, McMaster University

### PUBLICATIONS

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#### 1<sup>st</sup>/2<sup>nd</sup> Author:

4. Julie Inglis et al. 2024c (in prep)
3. Julie Inglis et al. "Quartz Clouds in the Dayside Atmosphere of the Quintessential Hot Jupiter HD 189733 b" (Accepted to ApJL)
2. Julie Inglis et al. 2024, "Atmospheric Retrievals of the Young Giant Planet ROXs 42B b from Low- and High-Resolution Spectroscopy", (Accepted to AJ)
1. M. Alessi, **J. Inglis**, and R. E. Pudritz, "Formation of Planetary Populations – III. Core composition and atmospheric evaporation", MNRAS, Vol. 497, 4814-4833, 2020

#### N-th Author:

18. Finnerty et al. (including **Julie Inglis**), 2024, "Water dissociation and rotational broadening in the atmosphere of KELT-20 b from high-resolution spectroscopy" (submitted to AAS)

17. Zhang et al. (including **Julie Inglis**), 2024, “Atmospheric characterization of the super-Jupiter HIP 99770 b with KPIC” (submitted to AAS)
16. Xuan et al. (including **Julie Inglis**), 2024, “Are these planets or brown dwarfs? Broadly solar compositions from high-resolution atmospheric retrievals of ~10-30 MJup companions” (Accepted to ApJ)
15. Flagg, et al. (including **Julie Inglis**), 2024, “Debris Disks can Contaminate Mid-Infrared Exoplanet Spectra: Evidence for a Circumstellar Debris Disk around Exoplanet Host WASP-39” (Accepted to ApJL)
14. Fu, et al. (including **Julie Inglis**), 2024, “Hydrogen sulfide detection and strong methane depletion in the super-stellar metallicity atmosphere of hot Jupiter HD 189733b”, (Accepted to Nature)
13. Powell, et al. (including **Julie Inglis**), 2024, “Sulfur dioxide in the mid-infrared transmission spectrum of WASP-39b”, Nature, 2024
12. Xuan, et al. (including **Julie Inglis**), 2024, “Validation of elemental and isotopic abundances in late-M spectral types with the benchmark HIP 55507 AB system”, ApJ, Vol. 962
11. Zhang, et al. (including **Julie Inglis**), 2024, “GJ 367b is a dark, hot, airless sub-Earth”, ApJL Vol. 961, L44
10. Esparza-Borges, et al. (including **Julie Inglis**) “Detection of Carbon Monoxide in the Atmosphere of WASP-39b Applying Standard Cross-correlation Techniques to JWST NIRSpec G395H Data” ApJ Letters, Vol. 955, Issue 1
9. Grant et al. (including **Julie Inglis**) “Detection of Carbon Monoxide's 4.6 Micron Fundamental Band Structure in WASP-39b's Atmosphere with JWST NIRSpec G395H” ApJ Letters, Vol. 949, Issue 1
8. Tsai et al. (including **Julie Inglis**) “Photochemically produced SO<sub>2</sub> in the atmosphere of WASP-39b” Nature, Vol. 617, Issue 7961, 483-487
7. Alderson et al. (including **Julie Inglis**) “Early Release Science of the exoplanet WASP-39b with JWST NIRSpec G395H” Nature, Vol. 614, Issue 7949, 664-669
6. The JWST Transiting Exoplanet Community Early Release Science Team (including **Julie Inglis**) “Identification of carbon dioxide in an exoplanet atmosphere” Nature, Vol. 614, Issue 7949, 649-652
5. Xuan, Jerry W. et al. (Including **Julie Inglis**) “A Clear View of a Cloudy Brown Dwarf Companion from High-Resolution Spectroscopy” ApJ, Vol. 937, Issue 2
4. Aaron Liu, Ning Zhang, Hongyang Li, **Julie Inglis**, Yiqiao Wang, Shuo Yin, Haohan Wu and J. R. Dahn. “Investigating the Effects of Magnesium Doping in Various Ni-rich Positive Electrode Materials for Lithium Ion Batteries”, Journal of the Electrochemical Society, Vol. 166, Issue 15, 2019
3. Zhang, Ning; Zaker, Nafiseh; Li, Hongyang; Liu, Aaron; **Inglis, Julie**; Jing, Linda; Li, Jing; Li, Ying; Botton, Gianluigi A., and Dahn, Jeff. “Cobalt-free Nickel-rich positive electrode materials with a core-shell structure” Chemistry of Materials, Vol 31, Issue 24, 2019
2. Marc Cormier, Ning Zhang, Aaron Liu, Hongyang Li, **Julie Inglis**, Jeff Dahn. “Impact of Dopants (Al, Mg, Mn, Co) on the reactivity of Li<sub>x</sub>NiO<sub>2</sub> with the electrolyte of Li-ion batteries”, Journal of the Electrochemical Society, Vol. 166, Issue 13, 2019
1. Hongyang Li, Marc Cormier, Ning Zhang, **Julie Inglis**, Jing Li, and J.R. Dahn. “Is Cobalt Needed for Lithium Ion Batteries?” Journal of the Electrochemical Society, Vol. 166, Issue 4, 2019

## TALKS

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1. **Cool Stars 22**, San Diego, June 2024 (*contributed*)
2. **Astronomy Colloquium**, McMaster University, May 2024 (*invited*)
3. **DIX Planetary Sciences Seminar**, Caltech, April 2024
4. **Extreme Solar Systems V**, Christchurch, March 2024 (*contributed*)
5. **JPL Virtual Exoplanet Seminar**, JPL, January 2024 (*invited*)
6. **ExSoCal**, Caltech, December 2023 (*contributed*)
7. **ExoClimes VI**, University of Exeter, June 2023 (*contributed*)

8. **Carnegie EPL Journal Club**, Carnegie EPL, May 2023 (*invited*)
9. **STSci Spring Symposium**, STSci, May 2023 (*contributed*)
10. **DIX Planetary Sciences Seminar** Caltech, May 2023
11. **DIX Planetary Sciences Seminar** Caltech, June 2022
12. **Future Ignited**, Caltech, October 2021 (*invited*)
13. **KPIC Workshop on Atmospheric Retrieval and High-Resolution Spectroscopy**, Caltech, June 2021 (*invited*)
14. **Canadian Undergraduate Physics Conference (CUPC)** McGill University, November 2019 (*contributed*)

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#### POSTERS

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1. **Cool Stars 21**, July 2022, *Atmospheric properties of ROXs-42Bb from Low- and High-Resolution Spectroscopy*
2. **Exoplanets IV**, May 2022, *Atmospheric properties of ROXs-42Bb from Low- and High-Resolution Spectroscopy*

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#### OBSERVING EXPERIENCE

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Keck/NIRSPEC (10 nights), Keck/KPF (1 night), Palomar (1 night)

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#### ACCEPTED OBSERVING PROGRAMS

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1. JWST, Cycle 3, GO (CoI)
2. JWST, Cycle 3, GO (CoI)
3. Keck, 3 nights, 2024 B (CoPI)
4. Keck, 1.5 nights, 2024 A (CoPI)
5. Keck, 1 night, 2024 A (CoI)
6. Keck, 2.5 nights, 2023 A (CoPI)

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#### TEACHING AND MENTORSHIP

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##### **Co-Director/Creator of Caltech GPS Division First Year Graduate Mentorship Program**

California Institute of Technology (June 2021 – May 2023)

##### **Undergraduate Physics and Math Tutor**

McMaster University (September 2017 – April 2020)

##### **Teaching Assistant**

California Institute of Technology

Ge/Ay 117: Bayesian Statistics (Winter 2022)

Ge/Ay 150: Planetary Atmospheres (Spring 2023)

Ge/Ay 150: Planetary Atmospheres (Spring 2024)

McMaster University

Physics 1D03: Introductory Mechanics, (Fall 2019)

Physics 1E03: Waves, Electricity and Magnetism (Winter 2020)

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#### OUTREACH AND SERVICE

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##### **Women in Geology and Planetary Sciences Board Member (Treasurer 2021, President 2022-2024)**

California Institute of Technology (July 2021 – present)

##### **Caltech Institution IDEA Council Graduate Student Representative**

California Institute of Technology (August 2023 – May 2024)

##### **Caltech GPS Division Diversity Working Group Founding Member**

California Institute of Technology (January 2022 – January 2024)

**Sequoia Dark Sky Festival Volunteer Astronomer**

Sequoia National Park (September 2023)

**Diversity in Science Art Exhibit Contributor**

California Institute of Technology

“A Team Of all Colours”

**Science Outreach Volunteer**

Skype a Scientist (September 2020 – present)

Engage STEM Invited Speaker (July 30, 2021)

Caltech Astronomy Virtual Lecture Series Panelist (February 2021)

McMaster Let’s Talk Science Outreach (September 2018 – 2020)

**McMaster Undergraduate Physics Society Board Member (VP Social, 2018/19, 2<sup>nd</sup> Year Representative 2017/18)**

McMaster University (September 2017 – September 2019)

**Girls in Science Day Team Leader**

McMaster University (April 2019)

**Planetarium Operator**

Halifax Planetarium (Spring/Summer 2018)