Koki Ho

CONTACT INFORMATION

Dutton-Ducoffe Professor; Associate Professor of Aerospace Engineering
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Space Systems Optimization Group (Ho Research Group): https://ssog.ae.gatech.edu/

ACADEMIC APPOINTMENTS

Georgia Institute of Technology, Atlanta, GA
  Dutton-Ducoffe Professor, Sep. 2022 – Present
  Associate Professor, Aug. 2022 – Present
  Assistant Professor, Aug. 2019 – Aug. 2022
University of Illinois at Urbana-Champaign, Urbana, IL
  Adjunct Assistant Professor, Aug. 2019 – Mar. 2021
  Assistant Professor, Jan. 2016 – Aug. 2019
  Research Assistant Professor, Sep. 2015 – Dec. 2015
NASA Jet Propulsion Laboratory, California Institute of Technology, Pasadena, CA
  Visiting Researcher, Sep. 2015 – Dec. 2015

CONSULTING RECORD

Maxar Space LLC, Palo Alto, CA
  Engineering Consultant, Aug. 2022 – Nov. 2022

EDUCATION

Massachusetts Institute of Technology, **Cambridge, MA**
  Ph.D. in Space Systems, Jun. 2015
  Thesis: Dynamic Network Modeling for Spaceflight Logistics with Time-Expanded Networks
  Committee: Prof. Olivier de Weck (Chair), Prof. Jeffrey Hoffman, Dr. Robert Shishko (NASA/JPL)
  Major/Minor: Space Systems (Major), Operations Research (Minor)

University of Tokyo, Tokyo, Japan
  M.E. in Aeronautics and Astronautics, Mar. 2011
  Thesis: Development of Star Sensor for Nano-satellites and Its Identification Performance Improvement
  B.E. in Aeronautics and Astronautics, Mar. 2009
  Thesis: Optimization for the Communication Network of a Micro-Satellite Cluster by Multilayer Hierarchy
  Advisor: Prof. Shinichi Nakasuka

AWARDS/SCHOLARSHIPS

Research
- **Excellent Reviewer**, *AIAA Journal of Guidance, Control, and Dynamics*, Oct. 2021-Sep.2022.
- **Dutton-Ducoffe Professorship**, 2022.
- **NSF CAREER Award**, 2020.
- **NASA Early Career Faculty Award**, 2019.
- **DARPA Young Faculty Award**, 2019.
- **Excellent Reviewer**, *AIAA Journal of Guidance, Control, and Dynamics*, Oct. 2019-Sep. 2020.
- **The most Downloaded *Acta Astronautica* Articles in the last 90 days ranking #1** for the paper "An independent assessment of the technical feasibility of the Mars One mission plan – Updated analysis," 2016-2018.

- ➢ 36,956 downloads as of 7/5/2020.
- **Luigi G. Napolitano Award** at the International Astronautical Congress, Oct. 2015.
  - ➢ Assigned every year to a young scientist who has significantly contributed to the advancement of the Aerospace Science.
- Presenter at the **MIT Aerospace Centennial Symposium Lightning Talks**, Oct. 2014.
  - ➢ One of the 10 students selected from the entire MIT Department of Aeronautics and Astronautics.
- **Funai Overseas Scholarship**, Sep. 2011-Aug. 2014.
  - ➢ One of the 4 students from Japan who received a full scholarship for Ph.D. study in the US or Europe for 3 years.
- **Hermann Oberth Medal** (2nd Prize in Graduate Category) at the International Astronautical Congress, Oct. 2010.
- **JSASS (The Japan Society for Aeronautical and Space Sciences) President Award** at the International Symposium on Space Technology and Science, Jul. 2009.

Teaching
- **Student Recognition of Excellence in Teaching: Class of 1934 Award**, Georgia Institute of Technology, 2020, 2021.
  - ➢ **Student Recognition of Excellence in Teaching: Class of 1934 CIOS Honor Roll**, Georgia Institute of Technology, Fall 2020, Fall 2021, Spring 2023.
- **Recipient of a Thank-a-Teacher Note and Certificate**, Georgia Institute of Technology, Fall 2019, Spring 2020, Fall 2020, Fall 2021, Fall 2022.
- **List of Teachers Ranked as Excellent by Their Students**, University of Illinois at Urbana-Champaign, Spring 2016 (with "Outstanding" rating) Fall 2016, Spring 2017, Fall 2017, Spring 2018.

SOCIETAL AND POLICY IMPACTS

- Dr. Ho was invited to serve as an expert for the White House Office of Science and Technology Policy (OSTP) On-orbit Servicing, Assembly and Manufacturing (OSAM) Virtual Academic Discussion in 2022.
- The space logistics software by Dr. Ho was delivered to European Space Agency (ESA) and the École Polytechnique Fédérale de Lausanne (EPFL) as requested, and Dr. Ho was invited as a speaker to present its performance and results at the Sustainable Space Logistics Workshop at ESA/European Space Research and Technology Centre (ESTEC), Netherland, in 2020.
- Dr. Ho was invited to serve as an expert for the Roundtable on On-Orbit Servicing, Assembly, and Manufacturing at the White House Complex, Washington DC, in 2018.
- Dr. Ho was invited to give a seminar on lunar in-situ resource utilization (ISRU) trade studies to the NASA Chief Technologist and Chief Scientist at NASA HQ, Washington DC, in 2016. Subsequently, Dr. Ho's team was selected by the NASA NextSTEP-2 program to perform ISRU trade studies in 2018.
- Dr. Ho's paper "An independent assessment of the technical feasibility of the Mars One mission plan – Updated analysis" was broadly covered by media including Time Magazine, the LA Times, Space News, the Huffington Post, and the BBC World Service, among others.
- Dr. Ho conducted origami-based K-12 space education and outreach activities in the Japanese School in Prague, Czech Republic, in Sep. 2010.

PUBLICATIONS   * Ho and Ho's PostDocs/students (thesis or independent study advisee) are in boldface.

Book Chapters
[B1] **K. Ho**, **H. Chen**, and **T. Sarton Du Jonchay**, "Chapter 16: Mathematical Methods for Space Mission Planning and Architecture Design," in *The Planning and Execution of Human Missions to the Moon and Mars* (edited by M. Poliskie), AIAA, 2023.

Submitted Journal Articles
[P1] **S. Han**, **B. Jo**, and **K. Ho**, "Terminal Soft Landing Guidance Law using Analytic Gravity Turn Trajectory," *AIAA Journal of Guidance, Control, and Dynamics* (Under Review).
[P2] **N. Gollins** and **K. Ho**, "Hierarchical Space Exploration Campaign Schedule Optimization with Ambiguous Programmatic Requirements," *AIAA Journal of Spacecraft and Rockets* (Under Review).
[P3] **Y. Shimane**, **N. Gollins**, and **K. Ho**, "Orbital Facility Location Problem for Satellite Constellation Servicing Depots," *AIAA Journal of Spacecraft and Rockets* (Under Review).

Journal Articles
[J1] **B. Jo** and **K. Ho**, "Simultaneous Sizing of a Rocket Family with Embedded Trajectory Optimization," *AIAA Journal of Spacecraft and Rockets* (Accepted).

[J2]   **A. Maxwell** and **K. Ho**, "Analytical Model for Sparing Policy Analysis and Optimization for Space Habitat Operations," *AIAA Journal of Spacecraft and Rockets* (Accepted).

[J3]   **H. Lee** and **K. Ho**, "Regional Constellation Reconfiguration Problem: Integer Linear Programming Formulation and Lagrangian Heuristic Method," *AIAA Journal of Spacecraft and Rockets* (Accepted).

[J4]   **L. Visonneau¶**, **Y. Shimane¶**, and **K. Ho**, "Optimizing Multi-Spacecraft Cislunar Space Domain Awareness Systems via Hidden-Genes Genetic Algorithm," *The Journal of Astronautical Sciences*, Vol. 70, 22, 2023. (¶these authors contributed equally to this work.)

[J5]   B. Hamdan, Z. Liu, **K. Ho**, E. Buyuktahtakin Toy, and P. Wang, "A Dynamic Multi-Stage Design Framework for Staged Deployment Optimization of Highly Stochastic Systems," *Structural and Multidisciplinary Optimization*, Vol. 66, 162, 2023.

[J6]   **K. Tomita**, **K. Skinner**, and **K. Ho**, "Bayesian Deep Learning for Segmentation for Autonomous Safe Planetary Landing," *AIAA Journal of Spacecraft and Rockets*, Vol. 59, No. 6, pp. 1800-1808, 2022.

[J7]   **M. Isaji**, **Y. Takubo**, and **K. Ho**, "Multidisciplinary Design Optimization Approach to Integrated Space Mission Planning and Spacecraft Design," *AIAA Journal of Spacecraft and Rockets*, Vol. 59, No. 5, pp. 1660-1670, 2022.

[J8]   **Y. Shimane** and **K. Ho**, "Gravity-Assist Low-Thrust Inter-System Trajectory Design with Manifold Captures," *The Journal of Astronautical Sciences*, Vol. 69, pp. 193-217, 2022.

[J9]   **T. Claudet**, **K. Tomita**, and **K. Ho**, "Benchmark Analysis of Semantic Segmentation Algorithms for Safe Planetary Landing Site Selection," *IEEE* Access, Vol. 10, pp. 41766-41775, 2022.

[J10]   **H. Chen**, M. Ornik, **K. Ho**, "Space Exploration Architecture and Design Framework for Commercialization," *AIAA Journal of Spacecraft and Rockets*, Vol. 59, No. 2, pp. 538-551, 2022.

[J11]   **Y. Takubo**, **H. Chen**, and **K. Ho**, "Hierarchical Reinforcement Learning Framework for Stochastic Spaceflight Campaign Design," *AIAA Journal of Spacecraft and Rockets*, Vol. 59, No.2, pp. 421-433, 2022 [First author **Y. Takubo** received the *UJA Paper Award*].

[J12]   **T. Sarton du Jonchay**, **H. Chen**, **M. Isaji**, **Y. Shimane**, and **K. Ho**, "On-Orbit Servicing Optimization Framework with High- and Low-Thrust Propulsion Tradeoff," *AIAA Journal of Spacecraft and Rockets*, Vol. 59, No. 1, pp. 33-48, 2022.

[J13]   **A. Maxwell**, A. Wilhite, and **K. Ho**, "Spare Strategy Analysis for Life Support Systems for Human Space Exploration," *AIAA Journal of Spacecraft and Rockets*, Vol. 58, No. 5, pp. 1394-1405, 2021.

[J14]   **H. Chen**, B. Gardner, P. Grogan, and **K. Ho**, "Flexibility Management for Space Logistics via Decision Rules," *AIAA Journal of Spacecraft and Rockets*, Vol. 58, No. 5, pp. 1314-1324, 2021.

[J15]   **T. Sarton du Jonchay**, **H. Chen**, **O. Gunasekara**, and **K. Ho** "Framework for Modeling and Optimization of On-Orbit Servicing Operations under Demand Uncertainties," *AIAA Journal of Spacecraft and Rockets*, Vol. 58. No. 4, pp. 1157-1173, 2021.

[J16]   **H. Chen**, **T. Sarton du Jonchay**, **L. Hou**, and **K. Ho**, "Multi-Fidelity Space Mission Planning and Infrastructure Design Framework for Space Resource Logistics," *AIAA Journal of Spacecraft and Rockets*, Vol. 58, No. 2, pp. 538-551, 2021.

[J17]   **K. Ho,** R. Beeson, **K. Tomita, O. Gunasekara,** and A. Sinclair, "Analysis of Information-Theoretic Initial Sensor Search Method for Space Situation Awareness," *AIAA Journal of Guidance, Control, and Dynamics*, Vol. 44, No. 3, pp. 641-645, 2021.

[J18]   **H. Lee**, S. Shimizu, S. Yoshikawa, and **K. Ho**, "Satellite Constellation Design Methodology for Optimal Regional Coverage," *AIAA Journal of Spacecraft and Rockets*, Vol. 57, No. 6, pp. 1309-1327, 2020.

[J19]   **A. Golpashin**, H. Yeong, **K. Ho**, and N. Namachchivaya, "Spacecraft Attitude Control: A Consideration of Thrust Uncertainty," *AIAA Journal of Guidance, Control, and Dynamics*, Vol. 43, No. 12, pp. 2349-2365, 2020.

[J20]   **K. Ho**, H. Wang, P. DeTrempe, **T. Sarton du Jonchay**, and **K. Tomita**, "Semi-Analytical Model for Design and Analysis of On-Orbit Servicing Architecture," *AIAA Journal of Spacecraft and Rockets*, Vol. 57, No. 6, pp. 1129-1138, 2020.

[J21]   **T. Sarton du Jonchay**, **H. Chen**, A. Wieger, Z. Szajnfarber, and **K. Ho**, "Space Architecture Design for Commercial Suitability: A Case Study in In-Situ Resource Utilization Systems," *Acta Astronautica*, Vol. 175, pp. 45-50, 2020.

[J22]   **B. Jagannatha** and **K. Ho**, "Event-Driven Network Model for Space Mission Optimization with High-Thrust and Low-Thrust Spacecraft," *AIAA Journal of Spacecraft and Rockets*, Vol. 57, No. 3, pp. 446-463, 2020.

[J23]   **T. Silva**, **J. Bouvier**, **K. Xu**, M. Hirabayashi, and **K. Ho**, "Spacecraft Trajectory Tracking and Parameter Estimation Around a Splitting Contact Binary Asteroid," *Acta Astronautica*, Vol. 171, pp. 280-289, 2020.

[J24]   **H. Chen**, **T. Sarton du Jonchay**, **L. Hou**, and **K. Ho**, "Integrated In-Situ Resource Utilization System Design and Logistics for Mars Exploration," *Acta Astronautica*, Vol. 170, pp. 80-92, 2020.

[J25]   **P. Jakob**, S. Shimizu, S. Yoshikawa, and **K. Ho**, "Optimal Satellite Constellation Spare Strategy Using Multi-Echelon Inventory Control," *AIAA Journal of Spacecraft and Rockets*, Vol. 56, No. 5, pp. 1449-1461, 2019.

[J26]   D. Kornuta, A. Abbud-Madrid, J. Atkinson, G. Barnhard, J. Barr, D. Bienhoff, B. Blair, V. Clark, J. Cyrus, B. DeWitt, C. Dreyer, B. Finger, J. Goff, **K. Ho**, L. Kelsey, J. Keravala, B. Kutter, P. Metzger, L. Montgomery, P. Morrison, C. Neal, E. Otto, G. Roesler, J. Schier, B. Seifert, G. Sowers, P. Spudis, M. Sundahl, K. Zacny, G. Zhu, "Commercial Lunar Propellant Architecture: A Collaborative Study of Lunar Propellant Production," *REACH – Reviews in Human Space Exploration*, Vol. 13, 100026, 2019.

[J27]   **H. Chen**, **H. Lee**, and **K. Ho**, "Space Transportation System and Mission Planning for Regular Interplanetary Missions," *AIAA Journal of Spacecraft and Rockets*, Vol. 56, No. 1, pp. 12-20, 2019.

[J28] **B. Jagannatha**, **J. Bouvier**, and **K. Ho**, "Preliminary Design of Low-Energy Low-Thrust Transfers to Halo Orbits using Feedback Control," *AIAA Journal of Guidance, Control, and Dynamics*, Vol. 42, No. 2, pp. 260-271, 2019.

[J29] **Z. Chen**, **H. Chen**, and **K. Ho**, "Analytical Optimization Methods for Space Logistics," *AIAA Journal of Spacecraft and Rockets*, Vol. 55, No. 6, pp. 1582-1586, 2018.

[J30] **P. Sears** and **K. Ho**, "Impact Evaluation of In-Space Additive Manufacturing and Recycling Technologies for On-Orbit Servicing," *AIAA Journal of Spacecraft and Rockets*, Vol. 55, No. 6, pp. 1498-1508, 2018.

[J31] **H. Lee**, **P. Jakob**, **K. Ho**, S. Shimizu, and S. Yoshikawa, "Optimization of Satellite Constellation Deployment Strategy Considering Uncertain Areas of Interest," *Acta Astronautica*, Vol. 153, pp. 213-228, 2018.

[J32] **B. Jagannatha** and **K. Ho**, "Optimization of In-Space Supply Chain Design Using High-Thrust and Low-Thrust Propulsion Technologies," *AIAA Journal of Spacecraft and Rockets*, Vol. 55, No. 3, pp. 648-659, 2018.

[J33] **H. Chen** and **K. Ho**, "Integrated Space Logistics Mission Planning and Spacecraft Design with Mixed-Integer Nonlinear Programming," *AIAA Journal of Spacecraft and Rockets*, Vol. 55, No. 2, pp. 365-381, 2018.

[J34] D. Conte, M. Di Carlo, **K. Ho**, D. Spencer, and M. Vasile, "Earth-Mars Transfers through Moon Distant Retrograde Orbits," *Acta Astronautica*, Vol. 143, pp. 372–379, 2018.

[J35] P. Grogan, **K. Ho**, A. Golkar, and O. de Weck, "Multi-Actor Value Modeling for Federated Systems," *IEEE Systems Journal,* Vol. 12, No. 2, pp. 1193-1202, 2018.

[J36] **T. Sarton du Jonchay** and **K. Ho**, "Quantification of the Responsiveness of On-Orbit Servicing Infrastructure for Modularized Earth-Orbiting Platforms," *Acta Astronautica*, Vol. 132, pp. 192-203, 2017.

[J37] **K. Ho**, O. de Weck, J. Hoffman, and R. Shishko, "Campaign-Level Dynamic Network Modelling for Spaceflight Logistics for the Flexible Path Concept," *Acta Astronautica*, Vol. 123, pp. 51-61, 2016.

[J38] S. Do, A. Owens, **K. Ho**, S. Schreiner, and O. de Weck, "An Independent Assessment of the Technical Feasibility of the Mars One Mission Plan - Updated Analysis," *Acta Astronautica*, Vol. 120, pp. 192-228, 2016.

[J39] **K. Ho**, O. de Weck, J. Hoffman, and R. Shishko, "Dynamic Modeling and Optimization for Space Logistics Using Time-Expanded Networks," *Acta Astronautica*, Vol. 105, No. 2, pp. 428-443, 2014.

[J40] **K. Ho**, K. Gerhard, A. Nicholas, A. Buck, and J. Hoffman, "On-orbit Depot Architectures Using Contingency Propellant," *Acta Astronautica*, Vol. 96, pp. 217-226, 2014.

[J41] **K. Ho**, J. Green, and O. de Weck, "Concurrent Design of Scientific Crewed Space Habitats and Their Supporting Logistics System," *AIAA Journal of Spacecraft and Rockets*, Vol. 51, No. 1, pp. 76-85, 2014.

[J42] **K. Ho**, "A Survey of Algorithms for Star Identification with Low-Cost Star Trackers," *Acta Astronautica*, Vol. 73, pp. 156-163, 2012.

Conference Papers

[C1] W. Huang, R. Andrada, K. Holman, D. Borja, and **K. Ho**, "A Preliminary Availability Assessment of A LEO Satellite Constellation," Annual Reliability & Maintainability Symposium (RAMS), Albuquerque, NM, Jan. 2024.

[C2] **Y. Shimane**, A. Shirane, **K. Ho**, "Lunar Communication Relay Architecture Design via Multiperiod Facility Location Problem," International Astronautical Congress, Baku, Azerbaijan, Oct. 2023.

[C3] **Y. Shimane**, **K. Tomita**, and **K. Ho**, "Strategic Regions for Monitoring Incoming Low-Energy Transfers to Low-Lunar Orbits," Advanced Maui Optical and Space Surveillance Technologies (AMOS), Maui, HI, Sep. 2023.

[C4] **K. Tomita**, **Y. Shimane**, and **K. Ho**, "Multi-Spacecraft Predictive Sensor Tasking for Cislunar Space Situational Awareness," Advanced Maui Optical and Space Surveillance Technologies (AMOS), Maui, HI, Sep. 2023.

[C5] G. Badura, M. Gilmartin, **Y. Shimane**, S. Crum, **L. Visonneau**, C. Valenta, M. Steffens, S. Cimtalay, F. Humphrey, M. Borowitz, B. Gunter, J. Christian, and **K. Ho**, "Optimizing Distributed Space-Based Networks for Cislunar Space Domain Awareness in the Context of Operational Cost Metrics, Advanced Maui Optical and Space Surveillance Technologies (AMOS), Maui, HI, Sep. 2023 (Poster presentation with Proceedings).

[C6] **Y. Shimane**, A. Shirane, **K. Ho**, Lunar Communication Relay Architecture Design via Multiperiod Facility Location Problem," International Astronautical Congress, Baku, Azerbaijan, Oct. 2023.

[C7] **Y. Takubo**, **Y. Shimane**, and **K. Ho**, "Optimization of Earth-Moon Low-Thrust-Enhanced Low-Energy Transfer," AAS/AIAA Astrodynamics Specialist Conference, Big Sky, MT, Aug. 2023.

[C8] **Y. Shimane**, D. Izzo, and **K. Ho**, "Costates Feedback Control for Mass-Optimal Low-Thrust Transfers," AAS/AIAA Astrodynamics Specialist Conference, Big Sky, MT, Aug. 2023.

[C9] **Y. Shimane**, **D. Preston**, and **K. Ho**, "Characterizing Low-Thrust Transfers from Near-Rectilinear Halo Orbits to Low Lunar Orbits with Q-Law," AAS/AIAA Astrodynamics Specialist Conference, Big Sky, MT, Aug. 2023.

[C10] **L. I. Nolton**, **K. Tomita**, **Y. Shimane**, and **K. Ho**, "Sensitivity Analysis of Separation Time along Weak Stability Boundary Transfers," AAS/AIAA Astrodynamics Specialist Conference, Big Sky, MT, Aug. 2023.

[C11] **N. Gollins**, **Y. Shimane**, and **K. Ho**, "Translunar Logistics With Low-Energy Transfers", AAS/AIAA Astrodynamics Specialist Conference, Big Sky, MT, Aug. 2023.

[C12] **M. Patel**, **Y. Shimane**, **H. Lee,** and **K. Ho**, "Cislunar Satellite Constellation Design Via Integer Linear Programming," AAS/AIAA Astrodynamics Specialist Conference, Big Sky, MT, Aug. 2023.

[C13] **T. Sasaki**, **K. Ho**, and E. G. Lightsey, "Model Predictive Path Integral Control for Spacecraft Rendezvous and Proximity Operations on Elliptic Orbits," AAS/AIAA Astrodynamics Specialist Conference, Big Sky, MT, Aug. 2023.

[C14] **K. Tomita**, **B. Jo**, and **K. Ho**, "Learning Reachability for Hazard Detection and Avoidance in Planetary Landing," AAS/AIAA Astrodynamics Specialist Conference, Big Sky, MT, Aug. 2023.

[C15] **N. Gollins** and **K. Ho**, "A Heuristic Method for Determining Payload-to-Vehicle Assignment & Launch Order for Multi-Vehicle Exploration Campaigns," AIAA SciTech 2023, National Habor, MD & Virtual, Jan. 2023.

[C16] **S. Han** and **K. Ho**, "Terminal Landing Guidance Law using Analytic Gravity Turn Trajectory," AAS/AIAA Space Flight Mechanics Meeting, Austin, TX, Jan. 2023.

[C17] T. Driver¶, **K. Tomita**¶, **K. Ho**, and P. Tsiotras, "Deep Monocular Hazard Detection for Safe Small Body Landing," AAS/AIAA Space Flight Mechanics Meeting, Austin, TX, Jan. 2023. (¶these authors contributed equally to this work.)

[C18] **K. Tomita** and **K. Ho**, "Stochastic Hazard Detection For Landing Under Topographic Uncertainty," AAS/AIAA Space Flight Mechanics Meeting, Austin, TX, Jan. 2023.

[C19] **J. Tepper**, **Y. Fassi**, **T. Sarton du Jonchay**, **K. Ho**, and **Y. Shimane**, "Optimization and Modeling of Active Debris Removal using a Time-Expanded Network," AIAA ASCEND, Las Vegas, NV, Oct. 2022.

[C20] **Y. Shimane**, **D. Preston**, and **K. Ho**, "Concurrent Optimization of Gravity-Assist Low-Thrust Trajectory with Power and Propulsion Subsystem Sizing," AAS/AIAA Astrodynamics Specialist Conference, Charlotte, NC, Aug. 2022.

[C21] G. Badura, **Y. Shimane**, A. Gregoire, R. Patel, M. Gilmartin, K. Gangolli, **L. Visonneau**, **J. Tysor**, S. Manojkumar, F. Humphrey, C. Valenta, R. Blair, A. Sudol, M. Borowitz, B. Gunter, J. Christian, and **K. Ho**, "System Design and Analysis for Cislunar Space Domain Awareness through Distributed Sensors," AAS/AIAA Astrodynamics Specialist Conference, Charlotte, NC, Aug. 2022.

[C22] **T. Sasaki**, **K. Ho**, and E. G. Lightsey, "Nonlinear Spacecraft Formation Flying Using Constrained Differential Dynamic Programming," AAS/AIAA Astrodynamics Specialist Conference, Charlotte, NC, Aug. 2022.

[C23] **H. Lee**, **H. Chen**, and **K. Ho**, "Maximizing Observation Throughput via Multi-Stage Satellite Constellation Reconfiguration," AAS/AIAA Astrodynamics Specialist Conference, Charlotte, NC, Aug. 2022.

[C24] **K. Tomita**, **Y. Shimane**, and **K. Ho**, "Small Body Reconnaissance by Multiple Spacecraft via Deep Reinforcement Learning," AAS/AIAA Astrodynamics Specialist Conference, Charlotte, NC, Aug. 2022.

[C25] **T. Nakagawa**, **K. Tomita**, and **K. Ho**, "Missing and Noisy Data Recovery for Planetary Landing by Conditional Generative Adversarial Network," AAS/AIAA Astrodynamics Specialist Conference, Charlotte, NC, Aug. 2022.

[C26] **P. Clifton**, **H. Lee**, A. Honda, S. Yoshikawa, and **K. Ho**, "Optimization Framework for Minimal Conjunction Satellite Constellation Design and Post-Mission Disposal Trajectories," IEEE Aerospace Conference, Big Sky, MT, Mar. 2022.

[C27] **K. Tomita** and **K. Ho**, "Adaptive Hazard Detection and Avoidance for Planetary Landing via Bayesian Semantic Segmentation," AIAA Scitech 2022, San Diego, CA & Virtual, Jan. 2022.

[C28] **Y. Shimane** and **K. Ho**, "Robustness Assessment of Low-Thrust Trajectory via Sequentially Truncated Sims-Flanagan Problems," AIAA ASCEND Conference, Las Vegas, NV & Virtual, Nov. 2021.

[C29] **M. Isaji**, **Y. Takubo**, and **K. Ho**, "Multidisciplinary Design Optimization Approach to Integrated Space Mission Planning and Spacecraft Design," AIAA ASCEND Conference, Las Vegas, NV & Virtual, Nov. 2021.

[C30] **H. Lee** and **K. Ho**, "A Lagrangian relaxation-based heuristic approach to regional constellation reconfiguration problem," AAS/AIAA Astrodynamics Specialist Conference, Virtual, Aug. 2021.

[C31] **Y. Shimane** and **K. Ho**, "Interplanetary Low-Thrust Trajectory Design to Libration Point Orbits via Sims-Flanagan Transcription," AAS/AIAA Astrodynamics Specialist Conference, Virtual, Aug. 2021.

[C32] **T. Sarton du Jonchay**, **Y. Shimane**, **M. Isaji**, **H. Chen**, and **K. Ho**, "On-Orbit Servicing Logistics Framework Generalized to the Multi-Orbit Case," AAS/AIAA Astrodynamics Specialist Conference, Virtual, Aug. 2021.

[C33] **K. Skinner**, **K. Tomita**, and **K. Ho**, "Uncertainty-Aware Deep Learning for Safe Landing Site Selection," AAS/AIAA Space Flight Mechanics Meeting, Virtual, Feb. 2021.

[C34] **T. Sarton du Jonchay**, **H. Chen**, **O. Gunasekara**, and **K. Ho**, "Rolling Horizon Optimization Framework for the Scheduling of On-Orbit Servicing Operations under Servicing Demand Uncertainties," AIAA ASCEND Conference, Virtual, Nov. 2020.

[C35] **K. Tomita**, **K. Skinner**, K. Iiyama, B. Jagatia, T. Nakagawa, and **K. Ho**, "Hazard Detection Algorithm for Planetary Landing Using Semantic Segmentation," AIAA ASCEND Conference, Virtual, Nov. 2020.

[C36] **H. Chen**, B. Gardner, P. Grogan, and **K. Ho**, "Flexibility Management for Space Logistics Through Decision Rules," AIAA ASCEND Conference, Virtual, Nov. 2020.

[C37] **Y. Takubo**, **H. Chen**, and **K. Ho**, "Performance Analysis of Hierarchical Reinforcement Learning Framework for Stochastic Space Logistics," AIAA ASCEND Conference, Virtual, Nov. 2020.

[C38] **H. Lee** and **K. Ho**, "Binary Integer Linear Programming Formulation for Optimal Satellite Constellation Reconfiguration," AAS/AIAA Astrodynamics Specialist Conference, Virtual, Aug. 2020 [First author **H. Lee** received the *John V. Breakwell Student Travel Award*].

[C39] K. Iiyama, **K. Tomita**, **B. Jagatia**, T. Nakagawa, and **K. Ho**, "Deep Reinforcement Learning for Safe Landing Site Selection with Concurrent Consideration of Divert Maneuvers," AAS/AIAA Astrodynamics Specialist Conference, Virtual, Aug. 2020.

[C40] **H. Lee** and **K. Ho**, "Regional Constellations as Alternative Business Strategy: Overcoming Startups' Challenges in the Space-Based Communications Industry," AAS John Glenn Memorial Symposium, Virtual, Jul. 2020 [First author **H. Lee** received the *Molly K. Macauley Award*].

[C41] **K. Ikeya**, H. Sakamoto, **H. Chen**, and **K. Ho**, "Integrated Orbit Design and Network-Based Optimization of Interplanetary Mission Architectures," AIAA SciTech 2020, Orlando, FL, Jan. 2020.

[C42] **H. Chen**, M. Ornik, and **K. Ho**, "Incentive Design for Commercial Participation in Space Logistics Infrastructure Development and Deployment," International Astronautical Congress, Washington DC, Oct. 2019 [First author **H. Chen** received the *Luigi G. Napolitano Award*].

[C43] **T. Sarton du Jonchay**, **H. Chen**, A. Wieger, Z. Szajnfarber, and **K. Ho**, "Space System Architecting for Commercial Suitability: A Case Study in Cislunar Space Transportation," International Astronautical Congress, Washington DC, Oct. 2019.

[C44] A. Wieger, **H. Chen**, **T. Sarton du Jonchay**, **K. Ho**, and Z. Szajnfarber, "An Approach to Endogenously Incentivizing Commercial Participation through System Architecture Choices," International Astronautical Congress, Washington DC, Oct. 2019.

[C45] **H. Chen**, **T. Sarton du Jonchay**, L. Hou, and **K. Ho**, "Space Resource Logistics for Human Exploration to Mars," International Astronautical Congress, Washington DC, Oct. 2019.

[C46] **H. Chen** and **K. Ho**, "Hierarchical Reinforcement Learning Framework for Space Exploration Campaign Design," AIAA Propulsion and Energy Forum, Indianapolis, IN Aug. 2019.

[C47] **H. Chen**, **T. Sarton du Jonchay**, **L. Hou**, and **K. Ho**, "Multi-Fidelity Space Mission Planning and Space Infrastructure Design Framework for Space Resource Logistics," AIAA Propulsion and Energy Forum, Indianapolis, IN Aug. 2019.

[C48] R. Beeson, **K. Tomita**, **O. Gunasekara**, A. Sinclair, and **K. Ho**, "Space-Based Target Search Methods using an Optical Sensor Model for Space Situational Awareness," AAS/AIAA Astrodynamics Specialist Conference, Portland, ME, Aug. 2019.

[C49] **T. Silva** and **K. Ho**, "Spacecraft Trajectory Tracking and Parameter Estimation in the Presence of a Splitting Contact Binary Asteroid," AAS/AIAA Astrodynamics Specialist Conference, Portland, ME, Aug. 2019.

[C50] B. Hamdan, **K. Ho**, P. Wang, "Staged-Deployment Design for Resilient Expansion Planning of Large Scale Complex Systems," AIAA SciTech 2019, San Diego, CA, Jan. 2019.

[C51] **H. Chen**, **A. Lapin**, C. Lei, **K. Ho**, and T. Ukai, "Optimization for Large-Scale Multi-Mission Space Campaign Design by Approximate Dynamic Programming," AIAA SPACE 2018 Conference and Exposition, Orlando, FL, Sep. 2018.

[C52] **H. Chen** and **K. Ho**, "Multi-Actor Analysis Framework for Space Architecture Commercialization," AIAA SPACE 2018 Conference and Exposition, Orlando, FL, Sep. 2018.

[C53] **M. Patel**, A. Sinclair, H. Yeong, R. Beeson, and **K. Ho**, "Dynamic Sensor Steering for Target Search for Space Situational Awareness," AAS/AIAA Astrodynamics Specialist Conference, Snowbird, UT, Aug. 2018.

[C54] **B. Jagannatha** and **K. Ho**, "Event-Driven Space Logistics Network Optimization for Cislunar Supply Chain Design with High-Thrust and Low-Thrust Propulsion Technologies," AAS/AIAA Astrodynamics Specialist Conference, Snowbird, UT, Aug. 2018.

[C55] **H. Lee**, **K. Ho**, S. Shimizu, and S. Yoshikawa, "A Semi-Analytical Approach to Satellite Constellation Design for Regional Coverage," AAS/AIAA Astrodynamics Specialist Conference, Snowbird, UT, Aug. 2018.

[C56] **M. Patel**, A. Sinclair, and **K. Ho**, "Information-Theoretic Target Search for Space Situational Awareness," AIAA/AAS Space Flight Mechanics Meeting, AIAA SciTech 2018, Kissimmee, FL, Jan. 2018.

[C57] **P. Sears** and **K. Ho**, "Impact Evaluation of In-Space Additive Manufacturing on Modularized Geostationary Platforms," AIAA SPACE 2017 Conference and Exposition, Orlando, FL, Sep. 2017 (Conference canceled due to Hurricane Irma; Papers published in online proceedings).

[C58] **H. Chen**, **K. Ho**, B. Gardner, and P. Grogan, "Built-in Flexibility for Space Logistics Mission Planning and Spacecraft Design," AIAA SPACE 2017 Conference and Exposition, Orlando, FL, Sep. 2017 (Conference canceled due to Hurricane Irma; Papers published in online proceedings).

[C59] **H. Chen**, **H. Lee**, and **K. Ho**, "Space Transportation System and Infrastructure Design for Regular Interplanetary Cargo Missions," AIAA SPACE 2017 Conference and Exposition, Orlando, FL, Sep. 2017 (Conference canceled due to Hurricane Irma; Papers published in online proceedings).

[C60] **Z. Chen**, **H. Chen**, and **K. Ho**, "Analytical Model of Space Infrastructure Staged Deployment Strategy in Space Logistics," AIAA SPACE 2017 Conference and Exposition, Orlando, FL, Sep. 2017 (Conference canceled due to Hurricane Irma; Papers published in online proceedings).

[C61] **A. Golpashin**, **K. Ho**, and N. Namachchivaya, "Stochastic Attitude Control of Spacecraft under Thrust Uncertainty," AIAA/AAS Astrodynamics Specialist Conference, Stevenson, WA, Aug. 2017.

[C62] **B. Jagannatha**, V. Shah, R. Beeson, and **K. Ho**, "Exploration of Low-Thrust Trajectories to Earth-Moon Halo Orbits," AIAA/AAS Astrodynamics Specialist Conference, Stevenson, WA, Aug. 2017.

[C63] **K. Ho**, **H. Chen**, and H. Kim, "Value of Bootstrapping Staged Deployment of Infrastructure: Case Study in Space Infrastructure Deployment," ASME International Design Engineering Technical Conferences and Computers and Information in Engineering Conference, Cleveland, OH, Aug. 2017.

[C64] **H. Lee**, **P. Jakob**, **K. Ho**, S. Shimizu, and S. Yoshikawa, "Optimization of Satellite Constellation Deployment Strategy Considering Uncertain Areas of Interest," 9th International Workshop on Satellite Constellations and Formation Flying, Boulder, CO, Jun. 2017.

[C65] R. McCormick, A. Austin, L. Cubrich, B. Marth, R. Mukherjee, **T. Wenger**, **M. Patel**, and **K. Ho**, "Development of Miniature Robotic Manipulators to Enable SmallSat Clusters," IEEE Aerospace Conference, Big Sky, MT, Mar. 2017.

[C66] **H. Chen** and **K. Ho**, "Integrated Space Mission Planning and In-Orbit Infrastructure Design with Mixed-Integer Programming," AIAA SPACE 2016 Conference and Exposition, Long Beach, CA, Sep. 2016.

[C67] **B. Jagannatha** and **K. Ho**, "Campaign-Level Mission Planning with Integrated Trajectory Design and Propulsion Technology Trades," AIAA SPACE 2016 Conference and Exposition, Long Beach, CA, Sep. 2016.

[C68] **T. Sarton du Jonchay** and **K. Ho**, "Quantification of the Responsiveness of On-Orbit Servicing Infrastructure for Modularized Earth-Orbiting Platforms," AIAA SPACE 2016 Conference and Exposition, Long Beach, CA, Sep. 2016.

[C69] P. Grogan, **K. Ho**, A. Golkar, and O. de Weck, "Bounding the Value of Collaboration in Federated Systems," IEEE Systems Conference, Orlando, FL, Apr. 2016.

[C70] **K. Ho**, O. de Weck, J. Hoffman, and R. Shishko, "Campaign-Level Dynamic Network Modelling for Spaceflight Logistics for the Flexible Path Concept," International Astronautical Congress, Jerusalem, Israel, Oct. 2015.

[C71] D. Conte, M. Di Carlo, **K. Ho**, D. Spencer, M. Vasile, "Earth-Mars Transfers through Moon Distant Retrograde Orbit," AAS/AIAA Astrodynamics Specialist Conference, Vail, CO, Aug. 2015.

[C72] **K. Ho**, O. de Weck, J. Hoffman, and R. Shishko, "Dynamic Modeling and Optimization for Space Logistics Using Time-Expanded Networks," International Astronautical Congress, Toronto, Canada, Sep. 2014.

[C73] S. Do, **K. Ho**, S. Schreiner, A. Owens, and O. de Weck, "An Independent Assessment of the Technical Feasibility of the Mars One Mission Plan," International Astronautical Congress, Toronto, Canada, Sep. 2014.

[C74] **K. Ho**, O. de Weck, J. Hoffman, and R. Shishko, "Dynamic Network Modeling for Spaceflight Logistics," AIAA Modeling and Simulation Technologies Conference, AIAA SciTech 2014, National Harbor, MD, Jan. 2014.

[C75] E. Capparelli, L. Delgado-Lopez, N. Bosanac, A. Burg, **K. Ho**, J. Kluger, S. Langston, V. Lo Gatto, O. Mansurov, P. Nizenkov, A. Vrolijk, L. Zea, and J. Battat, "Evaluating International Collaboration for Human Exploration beyond LEO," IAA Space Exploration Conference, Washington D.C., Jan. 2014. (not refereed)

[C76] **K. Ho**, J. Green, and O. de Weck, "Improved Concurrent Optimization Formulation of Crewed Space Habitats and Their Supporting Logistics Systems," AIAA SPACE 2013 Conference and Exposition, San Diego, CA, Sep. 2013.

[C77] Kornienko, R. Harris, P. Temporelli, and **K. Ho**, "Disturbance Torque Compensation of the BepiColombo Spacecraft during Interplanetary Cruise Flight using Solar Sailing Effect," AIAA Guidance, Navigation, and Control Conference, Boston, MA, Aug. 2013.

[C78] **K. Ho**, J. Green, and O. de Weck, "Integrated Framework for the Design of Crewed Space Habitats and their Supporting Logistics System," AIAA SPACE 2012 Conference and Exposition, Pasadena, CA, Sep. 2012.

[C79] **K. Ho**, "Software Development of Star Trackers for Small Satellites," International Astronautical Congress, Prague, Czech Republic, Oct. 2010 [Received the *Hermann Oberth Medal* (2nd Best Paper in Graduate Category)].

[C80] **K. Ho** and S. Nakasuka, "New Star Identification Algorithm for Multiple Star Trackers with Unequal Qualities," IFAC Symposium on Automatic Control in Aerospace, Nara, Japan, Sep. 2010.

[C81] **K. Ho** and S. Nakasuka, "Novel Star Identification Method Combining Two Star Trackers with Extended FOVs," AIAA Guidance, Navigation, and Control Conference and Exhibit, Toronto, Canada, Aug. 2010.

[C82] **K. Ho**, N. Sako, and S. Nakasuka, "Thermal Design and Testing of a Micro-satellite for Infrared Astrometry (Nano-JASMINE)," AIAA/ASME/ASCE/AHS/ASC Structures, Structural Dynamics, and Materials Conference, Orlando, FL, Apr. 2010.

[C83] **K. Ho** and S. Nakasuka, "Novel Star Identification Algorithm Utilizing Images of Two Star Trackers," IEEE Aerospace Conference, Big Sky, MT, Mar. 2010.

[C84] **K. Ho** and S. Nakasuka, "Star Identification Algorithms for Micro Star Trackers," Symposium on Space Science and Technology (Japanese), Kyoto, Japan, Sep. 2009. (not refereed)

[C85] **K. Ho**, "Optimization for the Communication Network of a Micro-satellite Cluster by the Multilayer Hierarchy via a Genetic Algorithm," International Symposium on Space Technology and Science, Tsukuba, Japan, Jul. 2009 [Received the *JSASS (The Japan Society for Aeronautical and Space Sciences) President Award*].

Magazine Articles

[M1] **H. Chen** and **K. Ho**, "Development of On-Orbit Servicing, Assembly and Manufacturing Creates New Capabilities in Spacefaring Operations," *AIAA Aerospace America*, 2022.

[M2] **H. Chen** and **K. Ho**, "Gateway Leads the Era of Deep Space Infrastructure Development," *AIAA Aerospace America*, 2021.

[M3] **O. Gunasekara**, **H. Lee** and **K. Ho**, "Commercial Human Spaceflight Leads Year of Firsts," *AIAA Aerospace America*, 2020.

[M4] **H. Lee** and **K. Ho**, "Supplying the Space Station, Preparing to Put Humans Back on the Moon," *AIAA Aerospace America*, 2019.

[M5] **K. Ho**, "Falcon Heavy, New Shepard Achieve Important Test Flights," *AIAA Aerospace America*, 2018.

[M6] **K. Ho**, "Potential for More Affordable Exploration," *AIAA Aerospace America*, 2017.

Other Publications

[O1] C. Carr, M. Samnani, J. Tani, J. McKaig, E. Hammons, D. Newman, **K. Ho**, A. Ekblaw, N. Truelove, "Space Drones: An Opportunity to Include, Engage, Accelerate, and Advance," Position paper submitted to Planetary Science and Astrobiology Decadal Survey 2023-2032, 2020.

PRESENTATIONS   * Ho and Ho's PostDoc/students (thesis or independent study advisee) are in boldface.

Keynote Addresses and Plenary Lectures

[K1] **K. Ho**, "System Design and Optimization of Space Mission and Infrastructure," Keynote Speech at the Symposium on Commercialization Strategy and Model-Based Decision Making for Ocean Utilization Systems, Tokyo, Japan (virtual presentation), Feb. 2023.

[K2] **K. Ho**, "Space Logistics Modeling and Optimization for Space Exploration and On-Orbit Servicing," Keynote Speech at the On-Orbit Servicing, Debris & Proximity Operations Workshop, organized by EPFL Space Center (eSpace) and Skoltech Space Center, Virtual, Mar. 2021.

[K3] **K. Ho**, "Logistics of Lunar Missions," Keynote Speech at the Middle East Space Generation Workshop, Istanbul, Turkey (online presentation), Dec. 2019.

Invited Conference/Workshop Presentations

[I1] **K. Ho**, "Space Logistics and Mission Design," Invited Talk at AIAA SciTech 2023, National Habor, MD & Virtual, Jan. 2023.

[I2] **K. Ho**, "State of the Art on Space Logistics Research," Invited Speech at the Sustainable Space Logistics Workshop organized by the European Space Agency (ESA), European Space Research and Technology Centre (ESTEC), Noordwijk, the Netherland, Jan. 2020.

Invited Technical Talks/Seminars

[T1] **K. Ho**, "The Logistics of Space Exploration," Georgia Tech Supply Chain and Logistics Institute Interdisciplinary Research Center Seminar Series, Atlanta, GA, Nov. 2022.

[T2] **K. Ho**, "Space Economy and In-Situ Resource Utilization," Seminar at Blue Origin (Special Session: Advanced Development Programs (ADP) Flight Sciences Community of Practice (CoP) Tech Talk), Virtual, Sep. 2022.

[T3] **K. Ho**, "Space Logistics and Mission Design: Their Grand Challenges and Future," Seminar at OrbitCamp 2022, Virtual, Jun. 2022.

[T4] **K. Ho**, "CNN-based Hazard Detection Algorithm for Lunar Landing Applications," Virtual Research Seminar for NASA, Virtual, Apr. 2021.

[T5] **K. Ho**, "Research at Space Systems Research Group," Seminar at Hiekata Laboratory, Graduate School of Frontier Sciences, The University of Tokyo, Virtual, Nov. 2021.

[T6] **K. Ho**, "Space Logistics and Mission Design: Their Grand Challenges and Future," Seminar at Engineering Systems Design Group, Department of Mechanical Engineering, Texas A&M University, Virtual, Oct. 2021.

[T7] **K. Ho**, "Space Logistics and Mission Design: Their Grand Challenges and Future," Seminar at Engineering Systems Laboratory, Department of Aeronautics and Astronautics, Massachusetts Institute of Technology, Virtual, Mar. 2021.

[T8] **K. Ho**, "Space Logistics and Mission Design: Their Grand Challenges and Future," Seminar at Department of Aerospace Engineering, University of Texas at Austin, Virtual, Mar. 2021.

[T9] **K. Ho**, "Real-Time Terrain Mapping and Processing for Safe Landing via Supervised Learning," Artificial Intelligence Center of Excellence (AICOE) Seminar, NASA Goddard Spaceflight Center, Virtual, Feb. 2021.

[T10] **K. Ho**, "Space Logistics with In-Situ Resource Utilization," Space Resources Hangout (online discussion forum organized by AIAA Space Resources Technical Committee), May 2019.

[T11] **K. Ho**, "Space Logistics and Mission Design: Their Grand Challenge and Future," Seminar at Intelligent Space Systems Laboratory, Department of Aeronautics and Astronautics, The University of Tokyo, Tokyo, Japan, Dec. 2018.

[T12] **K. Ho**, "Responsive On-Orbit Servicing Infrastructures for Earth-Orbiting Satellites," Space Systems/Loral, Palo Alto, CA, Aug. 2018.

[T13] **K. Ho**, "Stochastic Control of Spacecraft with Multiplicative Thrust Noises," Air Force Research Laboratory, Albuquerque, NM, Aug. 2017.

[T14] **K. Ho**, "Space Logistics Research at the University of Illinois at Urbana-Champaign," Seminar at Aerospace Micro-Nano Engineering/Aerospace Vehicle Dynamics Research Group, Department of Micro-nano System Engineering/Department of Aerospace Engineering, Nagoya University, Nagoya, Japan, Jul. 2017.

[T15] **K. Ho**, "Campaign-Level Dynamic Network Modelling for Spaceflight Logistics for the Flexible Path Concept," Future In-Space Operations Telecon Colloquium, Jun. 2016.

[T16] **K. Ho**, "Analysis of ISRU Insertion into Mars DRM 5.0: Dynamic Network Modeling for Spaceflight Logistics with Time-Expanded Networks," ISRU Seminar, NASA Headquarters, Washington, DC, Feb. 2016.

[T17] **K. Ho**, L. Pinault, A. Diaz Artiles, and W. Roush, "Should we go to Mars?," MIT Faculty Forum Online, Alumni Edition, Feb. 2016.

[T18] **K. Ho**, "Campaign-Level Dynamic Network Modelling for Spaceflight Logistics for the Flexible Path Concept," Mars Advanced Studies Meeting, NASA Jet Propulsion Laboratory, California Institute of Technology, Pasadena, CA, Oct. 2015.

[T19] **K. Ho**, "Dynamic Optimization of Space Logistics Networks: Exploration of Impacts of ISRU on the Moon as an Enabler of Human Mars Exploration," MIT and the Martian: A panel discussion on MIT's research towards sustaining humans on the Red Planet, Cambridge, MA, Oct. 2015.

[T20] **K. Ho**, "Dynamic Network Modeling for Spaceflight Logistics with Time-Expanded Networks," Seminar at Kawaguchi Laboratory, Institute of Space and Astronautical Science, Japan Aerospace Exploration Agency (JAXA), Sagamihara, Japan, Jul. 2015.

[T21] **K. Ho**, "Dynamic Network Modeling for Spaceflight Logistics with Time-Expanded Networks," Seminar at Intelligent Space Systems Laboratory, Department of Aeronautics and Astronautics, The University of Tokyo, Tokyo, Japan, Jul. 2015.

[T22] **K. Ho**, "Dynamic Network Modeling for Spaceflight Logistics with Time-Expanded Networks," Seminar at Artificial Intelligence Laboratory, Department of Aeronautics and Astronautics, The University of Tokyo, Tokyo, Japan, Jul. 2015.

[T23] **K. Ho**, "Dynamic Network Modeling for Spaceflight Logistics with Time-Expanded Networks," Seminar at Iwata-Takeda-Nakatsukasa Laboratory, Department of Mathematica Informatics, The University of Tokyo, Tokyo, Japan, Jul. 2015.

[T24] S. Do, **K. Ho**, S. Schreiner, and A. Owens, "An Independent Assessment of the Technical Feasibility of the Mars One Mission Plan," Presentation and Discussion Session at Interdisciplinary Space Group, Harvard University, Cambridge, MA, Nov. 2014.

[T25] **K. Ho**, "Dynamic Space Logistics Optimization," MIT Aerospace Centennial Symposium Lightning Talks, Massachusetts Institute of Technology, Cambridge, MA, Oct. 2014.

[T26] **K. Ho**, "Introduction to Space Logistics," Seminar at Intelligent Space Systems Laboratory, Department of Aeronautics and Astronautics, The University of Tokyo, Tokyo, Japan, Feb. 2014.

Other Presentations

[P1] **Y. Shimane** and **K. Ho**, "Cislunar Astrodynamics for Space Logistics," Spring Southeastern Sectional Meeting of the American Mathematical Society, Virtual, Mar., 2021.

[P2] M. Hirabayashi, D. Bodewits, T. Hewagama, J. M. Soderblom, J. K. Steckloff, E. Heggy, D. Guzzetti, K. Zacny, W. B. Brinckerhoff, R. S. Park, M. Moghaddam, **K. Ho**, H. Yano, M. Arakawa, and G. L. Villanueva, "Centaur Environment and Surface Activity Measurement Experiment (Cesame)," AGU Fall Meeting, Virtual, Dec. 2020.

[P3] **H. Chen** and **K. Ho**, "Time-expanded Network For Long-term Human Space Mission Planning," INFORMS Annual Meeting, Virtual, Nov. 2020.

[P4] **H. Chen**, **T. Sarton du Jonchay**, **L. Hou**, and **K Ho**, "Integrated Analysis Framework for Space Propellant Logistics: Production, Storage, and Transportation," Lunar ISRU Workshop, Columbia, MD, Jul. 2019.

[P5] **K. Ho** and **H. Chen**, "Space Transportation Network Analysis for CisLunar Space Economy with Lunar Resources," Annual Meeting of the Lunar Exploration Analysis Group, Columbia, MD, Oct. 2017.

[P6] **T. Ukai**, **H. Chen**, and **K. Ho**, "Optimization for Campaign-level Human Space Mission Design," INFORMS Annual Meeting, Houston, TX, Oct. 2017.

[P7] **K. Ho**, "Operations Research in Space Engineering," INFORMS Annual Meeting, Nashville, TN, Nov. 2016.

RESEARCH FUNDING

- ATLAS: Advancing Technologies for Logistics Architectures in Space
  - ➢ Role: **PI**
  - ➢ Source: ***AFRL/AFOSR Space University Research Initiative (SURI) program***
  - ➢ Period of Performance: **Sep. 2023 – Sep. 2026** (+ **2-year** pending option).
  - ➢ Amount: **$3,000,000** (+ **$2,000,000** pending option)
  - ➢ Ho's share: **~17%**
- Autonomous Landing and Proximity Operation Technology for Poorly-Characterized Small Bodies
  - ➢ Role: **PI** (Faculty Advisor)
  - ➢ Source: ***NASA Space Technology Graduate Research Opportunities (NSTGRO)***
  - ➢ Period of Performance: **Aug. 2023 – Aug. 2027** (annually renewed).
  - ➢ Amount: **$335,780**
  - ➢ Ho's share: **~13%**
- Cislunar Space Domain Awareness (SDA) through Distributed Sensors (Phase III)
  - ➢ Role: **Georgia Tech Academic Units PI**
  - ➢ Source: ***GTRI***
  - ➢ Period of Performance: **Jul. 2023 – Jun. 2022.**
  - ➢ Amount: **$250,000**

- Ho's share: **~18% ($45,910)**
- Modeling and Optimization of Discrete CONOPS in Campaign Architectures
  - ➤ Role: **Subaward PI (Technical PI)** (Processed as subaward due to administrative reasons)
  - ➤ Source: *NASA* (Subaward from *Jacobs Space Exploration Group*)
  - ➤ Period of Performance: **April 2023 – May 2024.**
  - ➤ Amount: **$85,300** (Subaward amount)
  - ➤ Ho's share: **100%**
- Novel Design of a Resilient Constellation in the Era of Mega Constellation
  - ➤ Role: **PI**
  - ➤ Source: *Mitsubishi Electric Corporation*
  - ➤ Period of Performance: **Feb. 2023 – Mar. 2025.**
  - ➤ Amount: Not included per the sponsor's request
  - ➤ Ho's share: **100%**
- Logistical Feasibility of Rapid OOS Capabilities in GEO (Phase I)
  - ➤ Role: **Subaward PI**
  - ➤ Source: *Space Force Orbit Prime STTR* (Subaward from *Galactiv, Inc.*)
  - ➤ Period of Performance: **Sep. 2022 – Jan. 2023.**
  - ➤ Amount: **~$250,000**; subaward amount: **$100,000**
  - ➤ Ho's share: **40% ($100,000)**
- Cislunar Space Domain Awareness (SDA) through Distributed Sensors (Phase II)
  - ➤ Role: **Georgia Tech Academic Units PI**
  - ➤ Source: *GTRI*
  - ➤ Period of Performance: **Jul. 2022 – Jun. 2023.**
  - ➤ Amount: **$250,000**
  - ➤ Ho's share: **~19% ($48,534)**
- Space Object Understanding and Reconnaissance of Complex Events (SOURCE)
  - ➤ Role: **Co-I**
  - ➤ Source: *AFRL/AFOSR Space University Research Initiative (SURI) program* (Subaward from *SUNY Buffalo*)
  - ➤ Period of Performance: **Mar. 2022 – Feb. 2025** (+ **2-year** pending option).
  - ➤ Amount: **~$3,000,000** (+ **~$2,000,000** option); subaward amount: **$610,475** (+ **$438,118** option)
  - ➤ Ho's share: **~10% (~$300K + ~$215K option)**
- Cislunar Space Domain Awareness (SDA) through Distributed Sensors (Phase I)
  - ➤ Role: **Georgia Tech Academic Units PI**
  - ➤ Source: *GTRI*
  - ➤ Period of Performance: **Nov. 2021 – Jun. 2022.**
  - ➤ Amount: **$250,000**
  - ➤ Ho's share: **~18% ($45,536)**
- Guided Capture and Removal of Space Debris
  - ➤ Role: **Co-I**
  - ➤ Source: *GTRI*
  - ➤ Period of Performance: **Nov. 2021 – Jun. 2022.**
  - ➤ Amount: **$250,000**
  - ➤ Ho's share: **~16% ($40,000)**
- TeamAstro: Coordination and Sensing for a Team of Spacecraft Swarm
  - ➤ Role: **Subaward PI**
  - ➤ Source: *NASA SBIR Phase I* (subaward from *EpiSys Science Inc.*)
  - ➤ Period of Performance: **May 2021 – Oct. 2021.**
  - ➤ Amount: **~$125,000**; subaward amount: **$29,500**
  - ➤ Ho's share: **~24% ($29,500)**
- CAREER: Designing Flexible Complex Systems with Coupled and Co-Evolving Subsystems Under Operational Uncertainties
  - ➤ Role: **PI**
  - ➤ Source: *NSF CAREER Award*
  - ➤ Period of Performance: **Jul. 2020 – Jun. 2025.**
  - ➤ Amount: **$500,000**
  - ➤ Ho's share: **100%**
- Real-Time Terrain Mapping and Processing for Safe Landing via Deep Neural Networks
  - ➤ Role: **PI**
  - ➤ Source: *NASA Early Career Faculty Award*
  - ➤ Period of Performance: **Oct. 2019 – Oct. 2023.**

- Amount: **$593,390**
    - Ho's share: **100%**
- Debris Management and Removal for Large-Scale Constellations
    - Role: **PI**
    - Source: ***Mitsubishi Electric Corporation***
    - Period of Performance: **Sep. 2019 – Mar. 2022.**
    - Amount: Not included per the sponsor's request
    - Ho's share: **100%**
- Time-Expanded Space Logistics Network Modeling and Optimization for On-orbit Servicing, Assembly, and Manufacturing
    - Role: **PI**
    - Source: ***DARPA Young Faculty Award***
    - Period of Performance: **Jul. 2019 – Jun. 2021.**
    - Amount: **$499,214**
    - Ho's share: **100%**
- ARTEMIS: Advanced Reusable Transport for Exploration Missions
    - Role: **PI**
    - Source: **National Institute of Aerospace**
    - Period of Performance: **Jun. 2019.**
    - Amount: **$6,000**
    - Ho's share: **100%**
- Enhancing Opportunities for Research and Training in Space Engineering
    - Role: **Key Personnel**
    - Source: ***Department of Education***
    - Period of Performance: **Jan. 2019 – Dec. 2021.**
    - Amount: **$1,700,580** (including matching $506,680 by the University)
    - Ho's share: 0% due to departure from the University of Illinois)
- Integrated Architecture Trade Studies on ISRU Technologies for Human Space Exploration (NextSTEP-2 Program)
    - Role: **PI**
    - Source: ***NASA***
    - Period of Performance: **Sep. 2018 – Sep. 2019.**
    - Amount: **$62,500** (including matching $12,500 by the University)
    - Ho's share: **100%**
- ARIES: Adaptable Rotating Interplanetary Spacecraft
    - Role: **PI**
    - Source: **National Institute of Aerospace**
    - Period of Performance: **Jun. 2018.**
    - Amount: **$6,000**
    - Ho's share: **100%**
- An Integrated Framework and Tool for Effective Participation of Commercial Enterprise in Space Development
    - Role: **PI**
    - Source: ***NASA***
    - Period of Performance: **Jan. 2018 – Dec. 2019.**
    - Amount: **$100,000**
    - Ho's share: **~85% (~$85,000)**
- Next Space Technologies for Exploration Partnerships – 2 (NextSTEP-2), Power and Propulsion Element (PPE) Study
    - Role: **Subaward PI**
    - Source: ***NASA*** (subaward from ***Space Systems/Loral***)
    - Period of Performance: **Dec. 2017 – Apr. 2018.**
    - Amount: **~$500,000**; subaward amount: **$20,000**
    - Ho's Share: **~4% ($20,000)**
- SYNERGEO: Cooperative Reconfigurable Persistent Geostationary Support Platform (Phase II)
    - Role: **Subaward PI**
    - Source: ***DARPA SBIR Phase II*** (subaward from ***CU Aerospace***)
    - Period of Performance: **Jul. 2017 – Jul. 2019.**
    - Amount: **~$1,500,000**; subaward amount: **$170,227**
    - Ho's Share: **~10% ($170,227)**
- ECHO: Expandable Commercially-Enabled Habitable Orbiter
    - Role: **PI**
    - Source: **National Institute of Aerospace**

- ➢ Period of Performance: **Jun. 2017.**
- ➢ Amount: **$6,000**
- ➢ Ho's share: **100%**
- Transportation Network Design Optimization for Cis-Lunar Space Economy (Phases II)
  - ➢ Role: **PI**
  - ➢ Source: ***United Launch Alliance***
  - ➢ Period of Performance: **Jan. 2017 – Aug. 2017.**
  - ➢ Amount: **$58,963**
  - ➢ Ho's share: **100%**
- Transportation Network Design Optimization for Cis-Lunar Space Economy (Phases I)
  - ➢ Role: **PI**
  - ➢ Source: ***United Launch Alliance***
  - ➢ Period of Performance: **Aug. 2016 – Dec. 2016.**
  - ➢ Amount: **$36,710**
  - ➢ Ho's share: **100%**
- Constellation Design for Communication Network in Low Earth Orbits
  - ➢ Role: **PI**
  - ➢ Source: ***Mitsubishi Electric Corporation***
  - ➢ Period of Performance: **Aug. 2016 – Aug. 2018.**
  - ➢ Amount: Not included per the sponsor's request
  - ➢ Ho's share: **100%**
- SYNERGEO: Cooperative Reconfigurable Persistent Geostationary Support Platform (Phase I)
  - ➢ Role: **Subaward PI**
  - ➢ Source: ***DARPA SBIR Phase I*** (subaward from ***CU Aerospace***)
  - ➢ Period of Performance: **Jul. 2016 – Dec. 2016.**
  - ➢ Amount: **~$150,000**; subaward amount: **$30,000**
  - ➢ Ho's share: **~20% ($30,000)**

POSTDOC/STUDENT ADVISING

- Postdoctoral Associates/Fellows, Supervisor
  Completed
  - ➢ **Byeong-Un Jo**, Postdoctoral Fellow, Oct. 2022 – Aug. 2023.
    - ➢ Placement: Assistant Professor at Sejong University, Korea.
  - ➢ **Hao Chen**, Postdoctoral Fellow, Jul. – Aug. 2021.
    - ➢ Placement: Assistant Professor at the Stevens Institute of Technology.
  - ➢ **Katherine Skinner**, Postdoctoral Fellow, May – Dec. 2020 (co-sponsored with Dr. Panagiotis Tsiotras from May – Aug. 2020; with Dr. Britney Schmidt from Aug. – Dec. 2020).
    - ➢ Placement: Assistant Professor at the University of Michigan.
- Ph.D. Thesis, Supervisor
  Completed
  - ➢ **Andrew Maxwell**, "Analyzing Sparing Policy in the Operations of Space Habits," Ph.D., Georgia Institute of Technology, 2023.
    - ➢ Placement: Aerospace Corporation.
  - ➢ **Tristan Sarton Du Jonchay**, "Framework for the Design and Operations of Sustainable On-Orbit Servicing Infrastructures Dedicated to Geosynchronous Satellites," Ph.D., Georgia Institute of Technology, 2022.
  - ➢ **Hang Woon Lee** (NSF Graduate Fellow), "Design and Operations of Satellite Constellations for Complex Regional Coverage," Ph.D., Georgia Institute of Technology, 2022.
    - ➢ Placement: Assistant Professor at West Virginia University.
  - ➢ **Hao Chen**, "Interdisciplinary Space Logistics Optimization Framework for Large-Scale Space Exploration," Ph.D., Georgia Institute of Technology, 2021.
    - ➢ Placement: PostDoc at Georgia Tech (Jul. – Aug. 2021) -> Assistant Professor at the Stevens Institute of Technology.
  - ➢ **Bindu Jagannatha**, "Space Logistics Network Optimization with Embedded Propulsion Technology Selection," Ph.D., University of Illinois at Urbana-Champaign, 2018.
    - ➢ Placement: CU Aerospace.
  In Progress
  - ➢ **Kayla Garoust** (In Progress).
  - ➢ **Malav Patel** (In Progress).

- ➢ **Logan Feld** (In Progress).
- ➢ **Polina Verkhovodova** (In Progress).
- ➢ **Seungyeop Han** (In Progress).
- ➢ **Nicholas Gollins** (In Progress).
- ➢ **Kento Tomita** (In Progress).
- ➢ **Masafumi Isaji** (In Progress).
- ➢ **Yuri Shimane** (In Progress).
- ➢ **Tomohiro Sasaki** (In Progress; co-advised by Prof. E. Glenn Lightsey).
- Ph.D. Thesis, Committee Member
  Completed
  - ➢ **Chloe Downs**, "A Methodology for the Inclusion of Uncertainty in Space Logistics Campaign Planning and Optimization," Ph.D., Georgia Institute of Technology, 2023 (Advisor: Dimitri Mavris).
  - ➢ **Matthew Rines**, "A Methodology For Resilience-Based Design of An Environmental Control And Life Support System," Ph.D., Georgia Institute of Technology, 2023 (Advisor: Dimitri Mavris).
  - ➢ **Andrew Fear**, "Implementing Model Predictive Control for Autonomous Rendezvous and Docking of Small Satellites," Ph.D., Georgia Institute of Technology, 2023 (Advisor: E. Glenn Lightsey).
  - ➢ **Akshay Prasad**, "A Methodology to Enable Concurrent Trade Space Exploration of Space Campaigns and Transportation Systems," Ph.D., Georgia Institute of Technology, 2022 (Advisor: Dimitri Mavris).
  - ➢ **Zhenyu Gao**, "Representative Data and Models for Complex Aerospace Systems Analysis," Ph.D., Georgia Institute of Technology, 2022 (Advisor: Dimitri Mavris).
  - ➢ **Bryon Davis**, "The Improvement of Multi-Satellite Orbit Determination through the Incorporation of Intersatellite Ranging Observations," Ph.D., Georgia Institute of Technology, 2021 (Advisor: Brian Gunter).
  - ➢ **Jack Ridderhof**, "Applied Spacecraft Optimal Control for Spacecraft Guidance," Ph.D., Georgia Institute of Technology, 2021 (Advisor: Panagiotis Tsiotras).
  - ➢ **Hyeongmin Han**, "Design Analysis for Product Family Optimization," Ph.D., University of Illinois at Urbana-Champaign, 2019 (Advisor: Harrison Kim).
  - ➢ **Rebecca Foust**, "Optimal Guidance and Control of Heterogeneous Swarms for In-Orbit Self-Assembly of Large Space Structures: Algorithms and Experiments," Ph.D., University of Illinois at Urbana-Champaign, 2019 (Advisor: Soon-Jo Chung).
  - ➢ **Ning Quan**, "Formulations and Methods for Wind Farm Layout Optimization," Ph.D., University of Illinois at Urbana-Champaign, 2018 (Advisor: Harrison Kim).
  - ➢ **Erik Kroeker**, "Magnetic Attitude Control with Aerodynamic Stabilization of LAICE Satellite," Ph.D., University of Illinois at Urbana-Champaign, 2017 (Advisor: Victoria Coverstone).

  In Progress
  - ➢ **Stephanie Zhu**; at the Georgia Institute of Technology (In Progress: Advisor: Dimitri Mavris).
  - ➢ **Elizabeth Scott**; at Colorado School of Mine (In Progress; Advisor: George Sowers).
- M.S. Thesis, Supervisor
  Completed
  - ➢ **Julia Tepper**, "Optimization and Modeling of Multimodal Active Debris Removal Using a Time-Expanded Network," M.S., Georgia Institute of Technology, 2023.
  - ➢ **Thomas Claudet**, "Semantic Segmentation for Safe Planetary Landing Site Selection." M.S., Georgia Institute of Technology (co-advised by Prof. Mark Costello), 2022.
  - ➢ **Brian Hardy**, "Long-Term Effects of Satellite Megaconstellations on the Debris Environment in Low Earth Orbit," M.S., University of Illinois at Urbana-Champaign, 2020.
  - ➢ **Jeffrey Perez**, "Stochastic Design Optimization of Modular, Reconfigurable, Persistent Support Platforms in Earth Orbit," M.S., University of Illinois at Urbana-Champaign, 2019.
  - ➢ **Tiago Silva**, "Spacecraft Trajectory Tracking and Parameter Estimation in the Presence of a Splitting Contact Binary Asteroid," M.S., University of Illinois at Urbana-Champaign, 2019.
  - ➢ **Jean-Baptiste Bouvier**, "Orbit Control for a Spacecraft around a Splitting Contact Binary Asteroid," M.S., University of Illinois at Urbana-Champaign, 2018.
  - ➢ **Alen Envieh Golpashin**, "Stochastic Hamiltonian-Jacobi-Bellman Equations: Applications to Spacecraft Attitude Control," M.S., University of Illinois at Urbana-Champaign (co-advised by Prof. N Sri Namachchivaya), 2018.
  - ➢ **Pauline Jakob**, "Optimal Satellite Constellation Spare Strategy Using Multi-Echelon Inventory Control with Stochastic Demand and Lead Times," M.S., University of Illinois at Urbana-Champaign, 2018.
  - ➢ **Hang Woon Lee**, "Optimization of Satellite Constellation Deployment Strategy Considering Uncertain Areas of Interest," M.S., University of Illinois at Urbana-Champaign, 2018.
  - ➢ **Mihir Patel**, "Target Search Methods for Space Situational Awareness," M.S., University of Illinois at Urbana-Champaign, 2018.

- ➤ **Patrick Sears**, "Impact Evaluation of In-Space Additive Manufacturing and Recycling Technologies for On-Orbit Servicing," M.S., University of Illinois at Urbana-Champaign, 2018.
- ➤ **Domenico Teodonio**, "Autonomous Landing on Asteroids Environment: State-of-the-Art Control Methods and Artificial Intelligence Algorithms," M.S., Politecnico di Torino (co-advised by Prof. Sabrina Corpino), thesis completed at the University of Illinois at Urbana-Champaign, 2018.
- ➤ **Tristan Sarton Du Jonchay**, "Modeling and Simulation of Permanent On-Orbit Servicing Infrastructures Dedicated to Modularized Earth-Orbiting Platforms," M.S., University of Illinois at Urbana-Champaign, 2017.
- ➤ **Thibaut Wenger**, "Modeling and Simulation of Permanent On-Orbit Servicing Infrastructures Dedicated to Modularized Earth-Orbiting Platforms," M.S., University of Illinois at Urbana-Champaign, 2017.

In Progress
- ➤ **Lois Visonneau** (In Progress).
- M.S. Thesis, Committee Member

Completed
- ➤ **Richard Hunter**, "Optimal Phasing and Performance Mapping for Translunar Satellite Missions across the Earth-Moon Nodal Cycle," M.S., Georgia Institute of Technology, 2019 (Advisor: Brian Gunter).

In Progress
- ➤ **Stef Crum**; at the Georgia Institute of Technology (In Progress: Advisor: Brian Gunter).
- M.S. Non-Thesis, Special Problem Advisee

Completed
- ➤ **Firas Sheikh**, M.S. (Non-Thesis; Distance Learning Special Problem); at Georgia Tech, 2022.
- ➤ **Onalli Gunasekara**, M.S. (Non-Thesis; Special Problem; DoD NDSEG Fellow); at Georgia Tech, 2022.
- ➤ **Joshua Tysor**, M.S. (Non-Thesis; Distance Learning Special Problem); at Georgia Tech, 2022.
- ➤ **Youssof Fassi**, M.S. (Non-Thesis; Special Problem); at Georgia Tech, 2022.
- ➤ **Philippe Clifton**, M.S. (Non-Thesis; Special Problem); at Georgia Tech, 2021.
- Undergraduate Students (Independent Study Advisee/Funded Student Researcher)
- ➤ **Zachary Grieser**; at Georgia Tech, Aug. 2022 – Dec. 2022, Aug. 2023 – Present.
- ➤ **Lauren I. Nolton**; at Georgia Tech, Aug. 2022 – Present.
- ➤ **Dyllon Preston**; at Georgia Tech, Jan. 2022 – Present.
- ➤ **Yuji Takubo**; at Georgia Tech, Jan. 2020 – May 2023.
- ➤ **Kylie Phelps**; at Georgia Tech, Aug. 2022 – May 2023.
- ➤ **Tatsuwaki Nakagawa**; at Georgia Tech, Aug. 2020 – Dec. 2020.
- ➤ **Jacob Clayton**; at Georgia Tech, Aug. 2020 – Dec. 2020.
- ➤ **Gerardo Andres Mora Arjona**; at Georgia Tech, Jan. 2020 – May 2020.
- ➤ **Danny Nguyen**; at Georgia Tech, Jan. 2020 – May 2020.
- ➤ **Jishnu Medisetti**; at Georgia Tech, Jan. 2020 – May 2020.
- ➤ **Kathleen Xu**; at the University of Illinois at Urbana-Champaign, Jan. 2019 – Aug. 2019.
- ➤ **Linyi Hou**; at the University of Illinois at Urbana-Champaign, Aug. 2018 – May 2019.
- ➤ **Samuel Wagner**; at the University of Illinois at Urbana-Champaign, Jan. 2018 – May 2018.
- ➤ **Dean Romanchek**; at the University of Illinois at Urbana-Champaign, Nov. 2017 – Aug. 2019.
- ➤ **Douglas Garza**; at the University of Illinois at Urbana-Champaign, Jun. 2017 – May 2019.
- ➤ **Zhengyu Chen**; at the University of Illinois at Urbana-Champaign, Jan. 2017 – Aug. 2018.
- ➤ **Yukti Kathuria**; at the University of Illinois at Urbana-Champaign, Jan. 2017 – May 2017.
- ➤ **Steven Kosvick**; at the University of Illinois at Urbana-Champaign, Sep. 2016 – Aug. 2019.
- ➤ **Austin Scott**; at the University of Illinois at Urbana-Champaign, Aug. 2016 – Dec. 2018.
- ➤ **Sashank Gummella**; at the University of Illinois at Urbana-Champaign, Aug. 2016 – Oct. 2016; Aug. 2017 – Dec. 2017.
- ➤ **Brian Hardy**; at the University of Illinois at Urbana-Champaign, Jul. 2016 – Aug. 2018; continued as a master's student after that.
- ➤ **Kaushik Ponnapalli**; at the University of Illinois at Urbana-Champaign, Jul. 2016 – Dec. 2016.
- ➤ **Isabel Anderson**; at the University of Illinois at Urbana-Champaign, Jul. 2016 – Mar. 2019.
- ➤ **Lui Suzuki**; at the University of Illinois at Urbana-Champaign, Jul. 2016 – Dec. 2016.
- Visiting Researchers
- ➤ **Akane Umeda**, Visiting Researcher, Sep. – Dec. 2023.
- ➤ **Atsushi Shirane**, Visiting Researcher, Nov. 2022 – Mar. 2023.
- Other
- ➤ **Ryne Beeson**, Graduate Research Assistant, University of Illinois at Urbana-Champaign, Jan. – Aug. 2019. (Ph.D. Advisor: N Sri Namachchivaya; Graduate Research Assistant with Prof. Ho after his Advisor's retirement).
  - ➤ Placement: Assistant Professor at Princeton University.

TEACHING EXPERIENCE

Georgia Institute of Technology, Atlanta, GA
- Instructor, AE 6353 Orbital Mechanics (Graduate Level) **Fall 2020, Fall 2021, Fall 2022**
- Instructor, AE 4532 Spacecraft Flight Dynamics (Undergraduate Level) **Fall 2019, Spring 2020**

University of Illinois at Urbana-Champaign, Urbana, IL
- Instructor, AE 352 Aerospace Dynamical Systems (Undergraduate Level) **Fall 2016, Fall 2017**
- Instructor, AE 403 Spacecraft Attitude Control (Undergraduate/Graduate Level)
  Spring 2016, Spring 2017, Spring 2018, Spring 2019
- Instructor, AE 598 STS Spacecraft Transportation System Design (Graduate Level; co-taught by Dr. S. D'Urso)
  Spring 2017

Massachusetts Institute of Technology, Cambridge, MA
- Teaching Assistant, 1.203J/6.281J/15.073J/16.76J/ESD.216J Logistical and Transportation Planning Methods (Graduate Level) **Fall 2014**
- Teaching Assistant, 16.842: Fundamentals of Systems Engineering (Graduate Level) **Fall 2012**

EDUCATIONAL INNOVATIONS AND CONTRIBUTIONS

- Faculty Advisor, Students for the Exploration and Development of Space (SEDS) at Georgia Tech, Sep. 2023 – Present.
- Refined and improved course materials for AE 4532 (Spacecraft Flight Mechanics; Undergradute; 3-credit) and AE 6353 (Orbital Mechanics; Graduate; 3-credit) at Georgia Tech; the newly developed material by Dr. Ho contained MATLAB-based examples that apply the learned concepts to realistic or historical space missions.
- Developed a new course AE 598STS (Spacecraft Transportation System Design; Graduate; 4-credit) in collaboration with Dr. S. D'Urso in Fall 2017 at the University of Illinois at Urbana-Champaign.
- Faculty Advisor, Illinois Space Society, University of Illinois at Urbana-Champaign, Sep. 2016 – Aug. 2019.
- Faculty advisor for a student team at NASA RASC-AL Design Competition, University of Illinois at Urbana-Champaign, 2016, 2017, 2018, 2019.
- Operational strategist for a student team at NASA RASC-AL Exploration Robo-Ops Competition: Robotics Systems (2nd Prize), Massachusetts Institute of Technology, 2014.
- Instructor team member (teaching assistant) of a Lifelong Education course "Fundamentals of Systems Engineering" organized by the École Polytechnique Fédérale de Lausanne (EPFL) in Emmen, Switzerland, in Summer 2013; the contribution by Dr. Ho include the co-organization of a LEGO-Mindstorms-based systems engineering workshop.

SERVICES

Editorial Board Memberships
- Review Editor, Editorial Board, *Frontiers in Robotics and AI: Space Robotics*, 2016-Present.

Society Offices, Activities, and Membership
- Chair of the AIAA Space Logistics Technical Committee, 2017-2023.
- AIAA Senior Member

Organization and Chairmanship of Technical Sessions, Workshops, and Conferences
- Deputy Chair, AIAA ASCEND Program Committee, 2022-2023.
- Session Chair, AIAA SciTech Conference, Jan. 2023.
- Member, AIAA ASCEND Technical Working Group, 2019-2020.
- Session Co-Chair, ASME International Design Engineering Technical Conferences and Computers and Information in Engineering Conference, Cleveland, OH, Aug. 2017.
- Session Chair, Decision Support Systems II, INFORMS Annual Meeting, Nashville, TN, Nov. 2016.

Technical Journal or Conference Referee Activities
- Reviewer, *AIAA SciTech*, 2024.
- Reviewer, *AIAA Journal of Guidance, Control, and Dynamics*, 2017, 2018, 2019, 2021, 2022, 2023 (Selected as an Excellent Reviewer, Oct. 2019 – Sep. 2020 and Oct. 2021 – Sep.2022).
- Reviewer, *AIAA Journal of Spacecraft and Rockets*, 2012, 2013, 2015, 2018, 2019, 2020, 2021, 2022, 2023.
- Reviewer, *Acta Astronautica,* 2015, 2016, 2017, 2018, 2019, 2020, 2021, 2022, 2023.
- Reviewer, *Optimization and Engineering*, 2020, 2022, 2023.
- Reviewer, *The Journal of Astronautical Sciences*, 2023.
- Reviewer, *IEEE Transactions on Aerospace and Electronic Systems*, 2013, 2015, 2017, 2018, 2020, 2021, 2022, 2023.
- Reviewer, *AIAA ASCEND,* 2022, 2023.
- Reviewer, *Advances in Space Research*, 2014, 2022.

- Reviewer, *AIAA Journal of Aerospace Information Systems*, 2015, 2019, 2021, 2022.
- Reviewer, *Systems Engineering*, 2017, 2018, 2021, 2022.
- Reviewer, *Frontiers in Space Technologies*, 2022.
- Reviewer, *SIAM Journal on Applied Dynamical Systems*, 2021.
- Reviewer, *AIAA Journal*, 2021.
- Reviewer, *IEEE Systems Journal*, 2016, 2017, 2021.
- Reviewer, *ASME International Design Engineering Technical Conferences*, 2017, 2018, 2019, 2020.
- Reviewer, *ASME Journal of Mechanical Design*, 2017, 2019.
- Reviewer, *Transportation Research Part C*, 2019.
- Reviewer, *Proceedings of the 2017 Academic High Altitude Conference/Journal of High Altitude Ballooning,* 2017.
- Reviewer, *The Aeronautical Journal*, 2016.
- Reviewer, *International Conference on Environmental Systems*, 2015.
- Reviewer, *Aerospace Science and Technology*, 2014.
- Reviewer, *Engineering Optimization*, 2014.
- Reviewer, *Aircraft Engineering and Aerospace Technology*, 2012.

Proposal Panels and Reviews
- International Space Station (ISS) National Lab Proposal Reviewer, 2020, 2021, 2022.
- EPFL Leaders4impact Fellowship Program External Reviewer, 2022.
- NSF Proposal Review Panel, 2018, 2020.