An annual nationwide festival of science taking place Sept 17-23, 2018 - events at UofT Libraries and UofT

About Science Literacy Week

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In celebration of the Canadian Space Agency (Outer Space) theme of Science Literacy Week 2018, try giving these books below a read!

Gerstein Science Information Centre
If you have ever wondered about space travel, now you have the opportunity to understand it more fully than ever before. Traveling into space and even emigrating to nearby worlds may soon become part of the human experience. Scientists, engineers, and investors are working hard to make space tourism and colonization a reality. As astronauts can attest, extraterrestrial travel is incomparably thrilling. To make the most of the experience requires serious physical and mental adaptations in virtually every aspect of life, from eating to intimacy.

Everyone who goes into space sees Earth and life on it from a profoundly different perspective than they had before liftoff. Astronomer and former NASA/ASEE scientist Neil F. Comins has written the go-to book for anyone interested in space exploration. He describes the wonders that travelers will encounter—weightlessness, unparalleled views of Earth and the cosmos, and the opportunity to walk on another world—as well as the dangers: radiation, projectiles, unbreathable atmospheres, and potential equipment failures. He also provides insights into specific trips to destinations including suborbital flights, space stations, the Moon, asteroids, comets, and Mars—the top candidate for colonization. Although many challenges are technical, Comins outlines them in clear language for all readers. He synthesizes key issues and cutting-edge research in astronomy, physics, biology, psychology, and sociology to create a complete manual for the ultimate voyage.

Earthrise tells the remarkable story of the first photographs of Earth from space and the totally unexpected impact of those images. The Apollo “Earthrise” and “Blue Marble” photographs were beamed across the world some forty years ago. They had an astounding effect, Robert Poole explains, and in fact transformed thinking about the Earth and its environment in a way that echoed throughout religion, culture, and science. Gazing upon our whole planet for the first time, we saw ourselves and our place in the universe with new clarity. Poole delves into new areas of research and looks at familiar history from fresh perspectives. With intriguing anecdotes and wonderful pictures, he examines afresh the politics of the Apollo missions, the challenges of whole Earth photography, and the story of the behind-the-scenes struggles to get photographs of the Earth put into mission plans. He traces the history of imagined visions of Earth from space and explores what happened when imagination met reality. The photographs of Earth represented a turning point, Poole contends. In their wake, Earth Day was inaugurated, the environmental movement took off, and the first space age ended. People turned their focus back toward Earth, toward the precious and fragile planet we call home.
Divided by continent, YOU ARE HERE represents one (idealized) orbit of the ISS. This planetary photo tour -- surprising, playful, thought-provoking, and visually delightful -- is also punctuated with fun, fascinating commentary on life in zero gravity. In the spirit of his bestselling An Astronaut’s Guide to Life on Earth, YOU ARE HERE opens a singular window on our planet, using remarkable photographs to illuminate the history and consequences of human settlement, the magnificence (and wit) of never-before-noticed landscapes, and the power of the natural forces shaping our world and the future of our species.

Fluid distribution during spaceflight and impact on brain and vision health is an emerging field of high-priority research in the NASA human space program. International Space Station astronauts have developed ocular refraction changes during prolonged spaceflight. Within this book, experts review current data related to fluid shifts during microgravity exposure and the impact of fluid shifts on astronaut health. This work also compares current astronaut health problems with Earth-based health conditions such as elevated intracranial pressure and glaucoma. Chapters include discussion of altered fluid distribution, including intracellular and extracellular fluid shifts, eye morphology and vision disturbances, and intraocular pressure. In addition, chapters will include a discussion of advanced non-invasive technologies to investigate the abovementioned fluid volume and pressure variables. As such, the book aims to bridge health professionals, researchers, and science professionals by a presentation of ophthalmology topics critical to future human space exploration, thus providing new perspectives to solve emerging brain and eye disease on Earth and in Space.

Extending the spatial and temporal boundaries of human space flight is an important goal for the nation and for the
National Aeronautics and Space Administration (NASA). However, human space flight remains an endeavor with substantial risks, and these risks must be identified, managed, and mitigated appropriately to achieve the nation's goals in space. The Bioastronautics Roadmap (BR) is the result of extensive, commendable efforts on the part of NASA to prioritize research efforts to meet these challenges. In 2003, NASA asked the Institute of Medicine (IOM), in collaboration with the Division on Engineering and Physical Sciences of the National Academies, to conduct a review of the BR. Specifically, NASA asked the committee to (1) conduct a comprehensive assessment and report of the strengths and weaknesses of the content and processes of the Bioastronautics Roadmap as applied to the missions described in the President's exploration initiative and (2) identify the unique challenges for accomplishing its goals and objectives. In September 2004, the committee released its preliminary report to NASA entitled Preliminary Considerations Regarding NASA's Bioastronautics Critical Path Roadmap. That document presented the committee's preliminary conclusions about the strengths and weaknesses of the April 2004 version of the BR. This report, A Risk Reductions Strategy for Human Exploration of Space, builds on those preliminary conclusions and provides recommendations to NASA about how to address the issues identified by the committee.

Health Standards for Long Duration and Exploration Spaceflight by Jeffrey Kahn (Editor); Catharyn T. Liverman (Editor); Margaret A. McCoy (Editor); Ethics Principles and Guidelines for Health Standards for Long Duration and Exploration Spaceflights Committee; Board on Health Sciences Policy; Institute of Medicine

Call Number: Book Display in Main Lobby: RC1128 .U6 H43 2014
ISBN: 0309296579
Publication Date: 2014-07-23

Since its inception, the U.S. human spaceflight program has grown from launching a single man into orbit to an ongoing space presence involving numerous crewmembers. As the U.S. space program evolves, propelled in part by increasing international and commercial collaborations, long duration or exploration spaceflights - such as extended stays on the International Space Station or missions to Mars - become more realistic. These types of missions will likely expose crews to levels of known risk that are beyond those allowed by current health standards, as well as to a range of risks that are poorly characterized, uncertain, and perhaps unforeseeable. As the National Aeronautics and Space Administration (NASA) and Congress discuss the next generation of NASA's missions and the U.S. role in international space efforts, it is important to understand the ethical factors that drive decision making about health standards and mission design for NASA activities. NASA asked the Institute of Medicine to outline the ethics principles and practices that should guide the agency's decision making for future long duration or exploration missions that fail to meet existing health standards. Health Standards for Long Duration and Exploration Spaceflight identifies an ethics framework, which builds on the work of NASA and others, and presents a set of recommendations for ethically assessing and responding to the challenges associated with health standards for long duration and exploration spaceflight. As technologies improve and longer
exploration. As technologies improve and longer and more distant spaceflight becomes feasible, NASA and its international and commercial partners will continue to face complex decisions about risk acceptability. This report provides a roadmap for ethically assessing and responding to the challenges associated with NASA's health standards for long duration and exploration missions. Establishing and maintaining a firmly grounded ethics framework for this inherently risky activity is essential to guide NASA's decisions today and to create a strong foundation for decisions about future challenges and opportunities.

**The Interstellar Age** by Jim Bell
Call Number: Book Display in Main Lobby:
QB601 .B45 2015X
ISBN: 0525954325
Publication Date: 2015-02-24

Voyager 1 left the solar system in 2012; its sister craft, Voyager 2, will do so in 2015. The fantastic journey began in 1977, before the first episode of Cosmos aired. The mission was planned as a grand tour beyond the moon; beyond Mars, Jupiter, and Saturn; and maybe even into interstellar space. The fact that it actually happened makes this humanity's greatest space mission. In The Interstellar Age, award-winning planetary scientist Jim Bell reveals what drove and continues to drive the members of this extraordinary team.

**All These Worlds Are Yours** by Jon Willis
Call Number: Book Display in Main Lobby:
QH326 .W55 2016Y
ISBN: 0300208693
Publication Date: 2016-08-23

Where would you look for alien life? An astronomer and science popularizer explains the basics of astrobiology to outline five plausible scenarios for finding extraterrestrials. Long before space travel was possible, the idea of life beyond Earth transfixed humans. In this fascinating book, astronomer Jon Willis explores the science of astrobiology and the possibility of locating other life in our own galaxy. Describing the most recent discoveries by space exploration missions, including the Kepler space telescope, the Mars Curiosity rover, and the New Horizons probe, Willis asks readers to imagine—and choose among—five scenarios for finding life. He encourages us to wonder whether life might exist within Mars’s subsurface ice. He reveals the vital possibilities on the water-ice moons Europa and Enceladus. He views Saturn’s moon Titan through the lens of our own planet’s ancient past. And, he even looks beyond our solar system, investigating the top candidates for a “second Earth” in a myriad of exoplanets and imagining the case of a radio signal arriving from deep space. Covering the most up-to-date research, this accessibly written book provides readers with the basic knowledge necessary to decide where they would look for alien life.

**Planet Hunters** by Lucas Ellerbroek; Andy Brown (Translator)
Call Number: Book Display in Main Lobby:
QB54 .E4513 2017
ISBN: 1780238142
Publication Date: 2017-10-15

Astronomers are on the verge of answering one of our most profound questions: are we alone in the universe? The ability to detect life in remote solar systems...
is at last within sight, and its discovery—even if only in
microbial form—would revolutionize our self-image. Planet
Hunters is the rollicking tale of the search for
extraterrestrial life and the history of an academic
discipline. Astronomer Lucas Ellerbroek takes readers on a
fantastic voyage through space, time, history, and even to
the future as he describes the field of exoplanet research,
from the early ideas of sixteenth-century heretic Giordano
Bruno to the discovery of the first exoplanet in 1995 to the
invention of the Kepler Space Telescope. We join him on his
travels as he meets with leading scientists in the field,
including Michel Mayor, who discovered the first exoplanet,
and Bill Borucki, principal investigator for NASA's Kepler
mission. Taken together, the experiences, passion, and
perseverance of the scientists featured here make the book
an exciting and compelling read. Presenting cutting-edge
research in a dynamic and accessible way, Planet Hunters is
a refreshing look into a field where new discoveries come
every week and paradigms shift every year.

Cosmological Enigmas by Mark Kidger
Call Number: Book Display in Main Lobby: QB982 .K53 2007X
ISBN: 0801884608
Publication Date: 2007-10-31
The universe is big. Really big. And it gets
bigger every day. In Cosmological Enigmas, Mark Kidger
weaves together history, science, and science fiction to
consider questions about the bigness of space and the
strange objects that lie trembling at the edge of infinity.
What are quasars, blazars, and gamma-ray bursters? Could
we ever travel to the stars? Can we really expect aliens to
contact us? From the profound (what evidence do we have
to support the big bang theory?) to the bizarre (can there
be more than one universe and, if so, how many
dimensions does it possess?) to the everyday-yet-profound
(why is the sky dark at night?), Kidger explains not only
what we know but how we came to know it. Reflecting on
how stars shine and what may lie beyond the edge of the
universe, Kidger takes us on the ultimate cosmic journey.

Safe Passage by Institute of Medicine
Staff (Editor); John R. Ball (Editor); Charles
H. Evans (Editor); Board on Health
Sciences Policy Staff; Creating a Vision for
Space Medicine During Travel Beyond
Earth Orbit Committee
Call Number: Book Display in Main Lobby: RC1135 .I576
2001
ISBN: 0309075858
Publication Date: 2001-12-20
Safe Passage: Astronaut Care for Exploration Missions sets
forth a vision for space medicine as it applies to deep space
voyage. As space missions increase in duration from
months to years and extend well beyond Earth (TM)s orbit,
so will the attendant risks of working in these extreme and
isolated environmental conditions. Hazards to astronaut
health range from greater radiation exposure and loss of
bone and muscle density to intensified psychological stress
from living with others in a confined space. Going beyond
the body of biomedical research, the report examines
existing space medicine clinical and behavioral research
and health care data and the policies attendant to them. It
describes why not enough is known today about the
dangers of prolonged travel to enable humans to venture
into deep space in a safe and sane manner. The report
into deep space in a safe and sane manner. The report makes a number of recommendations concerning NASA's structure for clinical and behavioral research, on the need for a comprehensive astronaut health care system and on an approach to communicating health and safety risks to astronauts, their families, and the public.

**Planets and Life** by Woodruff T. Sullivan (Editor); John Baross (Editor)
Call Number: Book Display in Main Lobby: QH326 .P535 2007
ISBN: 0521531020
Publication Date: 2007-09-13

Astrobiology involves the study of the origin and history of life on Earth, planets and moons where life may have arisen, and the search for extraterrestrial life. It combines the sciences of biology, chemistry, palaeontology, geology, planetary physics and astronomy. This textbook brings together world experts in each of these disciplines to provide the most comprehensive coverage of the field currently available. Topics cover the origin and evolution of life on Earth, the geological, physical and chemical conditions in which life might arise and the detection of extraterrestrial life on other planets and moons. The book also covers the history of our ideas on extraterrestrial life and the origin of life, as well as the ethical, philosophical and educational issues raised by astrobiology. Written to be accessible to students from diverse backgrounds, this text will be welcomed by advanced undergraduates and graduates who are taking astrobiology courses.

**Astronaut observations from the Apollo-Soyuz mission** by Farouk El-Baz
Call Number: Book Display in Main Lobby: QB631.E48
Publication Date: 1977

During the Gemini, Apollo, and Skylab flights, orbiting astronauts collected valuable information by means of observations and photography of Earth. Strengthened by the experience gained on these flights, the Earth Observations and Photography Experiment was carried out as one of the American objectives of the Apollo-Soyuz Test Project in July 1975. The main goal of the experiment was to utilize the special capabilities of trained observers (namely, the American astronauts of the joint mission) in visually studying and photographing specific Earth features and dynamic phenomena. These special capabilities include the sensitivity of the human eye to subtle color variations (e.g., to desert sands or sea water), and the speed with which the eye-brain interaction results in interpretation of the scene and recognition of important features. This latter capability allows instantaneous selection of important sites for photographic documentation at any moment, which in turn, enhances the quality of photographic data from space platforms. Another goal of the experiment was to establish the role of human observers in future space programs, particularly the Space Shuttle. This book contains a detailed account of the experiment objectives, training of astronauts, preparation of aids for their use, and the results of experiment performance. These details serve as a historical-archival record and as a guide for conducting similar projects in the future. The scientific objectives of the experiment included the collection of data in support of ongoing research in the fields of geology (particularly desert studies), oceanography, hydrology, meteorology, and environmental science. A summary of significant
results in given; however, detailed scientific analyses are currently being performed by a number of investigators in various fields in the United States and abroad and their results will be published later, as a special publication of the National Aeronautics and Space Administration.

**The Space Age Photographic Atlas** by Ken Fitzgerald  
Call Number: Book Display in Main Lobby: QB637 .F58 1970  
ISBN: 1125266996  
Publication Date: 1970

Photographs from space

**Survival in Space** by Richard Harding; Joe Kerwin (Introduction by)  
Call Number: Book Display in Main Lobby: RC1135 .H37 1989  
ISBN: 0415002532  
Publication Date: 1989-01-01

The first book to provide a serious and successful attempt at bringing the technical medical problems of space travel to a general audience.

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Teaching Space in K-12 Classrooms - OISE Library

**Hidden Figures** by Margot Lee Shetterly; Laura Freeman (Illustrator)  
ISBN: 9780062742469  
Publication Date: 2018-01-16

Based on the New York Times bestselling book and the Academy Award-nominated movie, author Margot Lee Shetterly and illustrator Laura Freeman bring the incredibly inspiring true story of four black women who helped NASA launch men into space to picture book readers! Dorothy Vaughan, Mary Jackson, Katherine Johnson, and Christine Darden were good at math...really good. They participated in some of NASA's greatest successes, like providing the calculations for America's first journeys into space. And they did so during a time when being black and a woman limited what they could do. But they worked hard. They persisted. And they used their genius minds to change the world. In this beautifully illustrated picture book edition, we explore the story of four female African American mathematicians at NASA, known as "colored computers," and how they overcame gender and racial barriers to succeed in a highly challenging STEM-based career. "Finally, the extraordinary lives of four African American women who helped NASA put the first men in space is available for picture book readers," proclaims Brightly in their article "18 Must-Read Picture Books of 2018." "Will inspire girls and boys alike to love math, believe in themselves, and reach for the stars."

**Wings and Rockets** by Jeannine Atkins; Dusan Petricic (Illustrator)  
ISBN: 0374384509  
Publication Date: 2003-03-03  
Celebrating the hundredth anniversary of powered flight From Katharine Wright, sister of the Wright brothers, to Eileen Collins, the first woman commander of a spacecraft, scores of women have played
commander of a spacecraft, scores of women have played critical roles in our country's history of aviation. Wilbur and Orville Wright, who pioneered powered flight in 1903, knew how much they owed to Katharine. "When the world speaks of the Wrights," said Orville, "they should not forget our sister." Although Katharine Wright was among the first women to ride in an airplane, Blanche Stuart Scott was the first to sit at the controls. To achieve her dream, Blanche overcame sexism and other obstacles. The same can be said of every woman whose piloting career is highlighted here – Bessie Coleman, Amelia Earhart, Jackie Cochran, Ann Baumgartner Carl, Jerrie Cobb, Shannon Wells Lucid, and others. Their stories are sure to fire the imaginations of readers and encourage them to "follow their hearts into the sky" – or anywhere at all. This beautifully articulated history of American women who broke barriers to achieve an especially satisfying success is enhanced by clever, captivating halftone illustrations.

**Mission to Space** by John Herrington
ISBN: 9781935684480
Publication Date: 2016-10-01
Go on a Mission to Space with Chickasaw astronaut John Herrington, as he shares his flight on the space shuttle Endeavour and his thirteen-day mission to the international Space Station. Learn what it takes to train for space flight, see the tasks he completed in space, and join him on his spacewalk 220 miles above the earth.

**Max Goes to the Space Station** by Jeffrey Bennett; Michael Carroll (Illustrator)
ISBN: 9781937548285
Publication Date: 2013-11-01
Winner of: 2015 Golden Duck Picture Book Award, Children's Science Fiction The long-awaited prequel to the other books in the Science Adventures with Max the Dog series, this installment follows Max on his trip to the International Space Station where he shares in the adventures of astronaut life and helps save everyone from a potential disaster along the way. The book teaches children to see themselves and the planet in a new light and encourages readers to discover how they can help make the world a better place. Accompanying the story of how Max saves the day are numerous "Big Kid Box" sidebars that offer science facts and other pieces of fascinating information. Grown-ups and kids learn about science together with this fun and educational picture book.

**Roberta Bondar** by Judy Wearing
ISBN: 9780778725404
Publication Date: 2010-08-15
By the time Roberta Bondar became Canada's first woman in space in 1992, she already had careers as a doctor, a scientist, and a professional photographer. Today this well known astronaut is working on behalf of the planet, writing, appearing on TV and in documentaries, covering Space Shuttle launches, and shedding new light on the needs of the natural world.

**The Space Place** by Helen Sharman; Mic Rolph (Illustrator); Fran Balkwill (Editor)
ISBN: 1855780925
Publication Date: 1997-03-01
Most astronauts train for two to ten years before their first
Most astronauts train for two to ten years before their first space mission. This book follows their training, and describes the excitement of launch day and the weird and wonderful life without gravity. It describes how in the future, humans might be able to explore parts of the universe outside the earth's solar system, and may work in international space cities, making things to send back to earth.

Our Universe: The Thrill of Extragalactic Exploration, As Told By Leading Experts by S. Alan Stern (Editor)
Call Number: QB500.24 .O87 2001
ISBN: 0521783305
Publication Date: 2001

The Universe in which we live is unimaginably vast and ancient, with countless star-systems, galaxies and extraordinary phenomena as different and strange as black holes, dark-matter, gamma-ray bursts and nearly-invisible galaxies. From our earliest days humankind has looked to these heavens in awe. Our Universe is a fascinating collection of articles on extra-galactic astronomy and cosmology at the dawn of the 21st century. This accessible, wonderfully illustrated book has been written by some of the world's foremost astrophysicists. Some are theorists, some computational modellers, some observers, but all provide deep insight into the most cutting-edge, difficult, and bizarre topics of astrophysics. These highly personal perspectives, however, reveal more than the wonders and achievements of modern astronomy, more than its techniques and state of knowledge. Our Universe also describes what drives these extraordinary scientists and how their careers and very lives have been shaped by a burning desire to understand our Universe.

Introduction to Modeling Convection in Planets and Stars: Magnetic Field, Density Stratification, Rotation by Gary A. Glatzmaier
Call Number: QB462.3 .G53 2014
ISBN: 069114172X
Publication Date: 2013

This book provides readers with the skills they need to write computer codes that simulate convection, internal gravity waves, and magnetic field generation in the interiors and atmospheres of rotating planets and stars.
Using a teaching method perfected in the classroom, Gary Glatzmaier begins by offering a step-by-step guide on how to design codes for simulating nonlinear time-dependent thermal convection in a two-dimensional box using Fourier expansions in the horizontal direction and finite differences in the vertical direction. He then describes how to implement more efficient and accurate numerical methods and more realistic geometries in two and three dimensions. In the third part of the book, Glatzmaier demonstrates how to incorporate more sophisticated physics, including the effects of magnetic field, density stratification, and rotation. Featuring numerous exercises throughout, this is an ideal textbook for students and an essential resource for researchers.

**The Magnetic Universe: The Elusive Traces of an Invisible Force** by J. B. Zirker
Call Number: QC754.2 .M3 Z57 2009
ISBN: 0801893011
Publication Date: 2009

Magnetic fields permeate our vast universe, urging electrically charged particles on their courses, powering solar and stellar flares, and focusing the intense activity of pulsars and neutron stars. Magnetic fields are found in every corner of the cosmos. For decades, astrophysicists have identified them by their effects on visible light, radio waves, and x-rays. J. B. Zirker summarizes our deep knowledge of magnetism, pointing to what is yet unknown about its astrophysical applications. In clear, nonmathematical prose, Zirker follows the trail of magnetic exploration from the auroral belts of Earth to the farthest reaches of space. He guides readers on a fascinating journey of discovery to understand how magnetic forces are created and how they shape the universe. He provides the historical background needed to appreciate exciting new research by introducing readers to the great scientists who have studied magnetic fields. Students and amateur astronomers alike will appreciate the readable prose and comprehensive coverage of The Magnetic Universe.

**Cosmic Catastrophes: Exploding Stars, Black Holes, and Mapping the Universe** by J. Craig Wheeler
Call Number: QB843 .S95 W48 2007
ISBN: 0521857147
Publication Date: 2007

From supernovae and gamma-ray bursts to the accelerating Universe, this is an exploration of the intellectual threads that lead to some of the most exciting ideas in modern astrophysics and cosmology. This fully updated second edition incorporates new material on binary stars, black holes, gamma-ray bursts, worm-holes, quantum gravity and string theory. It covers the origins of stars and their evolution, the mechanisms responsible for supernovae, and their progeny, neutron stars and black holes. It examines the theoretical ideas behind black holes and their manifestation in observational astronomy and presents neutron stars in all their variety known today. This book also covers the physics of the twentieth century, discussing quantum theory and Einstein's gravity, how these two theories collide, and the prospects for their reconciliation in the twenty-first century. This will be essential reading for undergraduate students in astronomy and astrophysics, and an excellent, accessible introduction for a wider audience.
Unlike the myriad points of light we gaze at in the night sky, our nearest star allows us to study the wonders of stellar workings at blindingly close range - from a mere 93 million miles away. And what do we see? In this book, two of the world's leading solar scientists unfold all that history and science - from the first cursory observations to the measurements obtained by the latest state-of-the-instruments on the ground and in space - have revealed about the Sun. Following the path of science from the very centre of this \(380,000,000,000,000,000,000\)-megawatt furnace to its explosive surface. This text invites readers into an open-ended narrative of discovery about what we know about the Sun and how we have learned it.

From mobile phones and desktop computers to washing machines and microwave ovens, the graphical user interface (GUI) is a part of everyday life. Interface Design traces these amazing developments and offers tested techniques and practical advice for constructing clear, dynamic GUIs that combine functionality with cutting-edge design. Readers will find an in-depth overview of the various graphic elements of an interface - including icons, galleries, color palettes, and dialogue boxes. Then, they'll find a comprehensive discussion on the interfaces used by popular animation and 3D software packages, and learn how to design interfaces that aid efficient navigation with links. Finally, hundreds of dazzling, full-color examples of the best in interface design offer a treasury of creative inspiration.

This newly revised and updated Second Edition of ASTRONOMY: THE SOLAR SYSTEM AND BEYOND succeeds in engaging students as it illustrates their place in the universe -- not just their location, but also their role as planet dwellers in an evolving universe. In a clear and conversational writing style, Seeds shows students how science works, and how scientists depend on evidence to test hypotheses. Through a discussion of this interplay between evidence and hypothesis, the book provides not just a series of facts, but also a conceptual framework for understanding the logic of astronomical knowledge. Fascinating and vivid, the book conveys the author's love of the subject, shows students how the universe can be described by a small set of physical laws, and illustrates how they can comprehend their place in the universe by understanding these laws and not through memorization of facts. With the math set off in boxes, the book's presentation is flexible and allows instructors to teach to
Presentation is flexible and allows instructors to teach to differing student levels. This is the first text from Mike Seeds that uses a planets-first approach.

Destiny or Chance Revisited: Planets and Their Place in the Cosmos by Stuart Ross Taylor
Call Number: QB501 .T2485 2012
ISBN: 1107016754
Publication Date: 2012

This exciting tour of our Universe explores our current knowledge of exoplanets and the search for another Earth-like planet. Beginning with the basic concepts of planet formation and the composition of the Universe, Stuart Ross Taylor summarises our knowledge of exoplanets, how they compare with our planets and why some stars have better habitable zones. Further sections provide a detailed study of our Solar System, as a basis for understanding exoplanetary systems, and a detailed study of the Earth as our only current example of a habitable planet. The book concludes with a philosophical and historical discussion of topics surrounding planets and the development of life, including why our chances of finding aliens on exoplanets is very low. This is an engaging and informative read for anyone interested in planetary formation and the exploration of our Universe.

Sun, Earth and Sky by Kenneth R. Lang
Call Number: QB521.4 .L36 2006
ISBN: 0387304568
Publication Date: 2006

Written in a light and friendly style, this lavishly illustrated book introduces the Sun and its physics, and describes all aspects of the Sun's interaction with us on Earth. The second edition of this book updates the popular text by providing comprehensive accounts of the most recent discoveries made by five modern solar spacecraft during the past decade. It contains a number of images never before seen in print. Breakthrough observations with the underground Sudbury Neutrino Observatory are also included. The new edition further provides modern interpretations of ozone depletion and global warming.

The Stars of Heaven by Clifford A. Pickover
Call Number: QB801 .P53 2001
ISBN: 0195148746
Publication Date: 2001

Do a little armchair space travel, rub elbows with alien life forms, and stretch your mind to the furthest corners of our uncharted universe. With this astonishing guide book, The Stars of Heaven, you need not be an astronomer to explore the mysteries of stars and their profound meaning for human existence. Stars have fascinated humankind since the dawn of history and have allowed us to transcend ordinary lives in our literature, art, and religions. In fact, humans have always looked to the stars as a source of inspiration and transcendence that lifts us beyond the boundaries of ordinary intuition. In the tradition of One Two Three... Infinity, Pickover tackles a range of topics from stellar evolution to the fundamental and awe-inspiring reasons why the universe permits life to flourish. Where did we come from? What is the universe's ultimate fate? Pickover alternates sections that explain the mysteries of the cosmos with sections that dramatize mind-
expanding concepts through a fictional dialog between futuristic humans and their alien peers who embark on a journey beyond the reader’s wildest imagination. This highly accessible and entertaining approach turns an intimidating subject into a scientific game open to all dreamers. Told in Clifford Pickover’s inimitable blend of fascinating state-of-the-art science and whimsical science fiction, and packed with numerous diagrams and illustrations, The Stars of Heaven unfolds a world of paradox and mystery, one that will intrigue anyone who has ever pondered the night sky with wonder.
The Science Education Programme (SEP), established in 2003, is the main mechanism used by IAP to help achieve this goal. IAP SEP activities are guided by a Global Council made up of experts nominated by IAP member academies and currently chaired by Dato Lee Yee Cheong (Malaysia). Since the start of the programme, major efforts have been focused on promoting inquiry-based science education (IBSE), especially in primary schools. In 2013, the IAP Executive Council also charged the SEP Global Council with developing activities in the area of science literacy. Below is a list of relevant meetings.

A new scientific report from psychological researchers aims to resolve the so-called ‘reading wars,’ emphasizing the importance of teaching phonics in establishing fundamental reading skills in early childhood. The report shows how early phonics skills are advanced with a rich reading curriculum throughout the school years. Beyond the ‘Reading Wars:’ How the science of reading can improve literacy. Date: June 12, 2018. Source: Association for Psychological Science. Summary: A new scientific report from psychological researchers aims to resolve the so-called ‘reading wars,’ emphasizing the importance of teaching phonics in establishing fundamental reading skills in early childhood.