

fellowship

The Newsletter of the Woodrow Wilson National Fellowship Foundation



THE WOODROW WILSON
National Fellowship Foundation

SPRING 2017

WW Academy Announces Initial Faculty Hires

With the first class of Design Fellows students headed to the Woodrow Wilson Academy of Teaching and Learning’s Cambridge campus this fall to test and refine its curriculum, the WW Academy has recently announced the appointment of its first two faculty members.

As the WW Academy’s inaugural Faculty Mentors, the two will work as program designers, teaching facilitators, and mentors to novice teachers. They will collaborate closely with teachers from the Academy’s partner school districts to support teacher candidates, helping them develop into confident and able educators who are ready to improve student learning on day one.

Julianna Stockton, the WW Academy’s founding faculty member, joined the Academy team as its inaugural Faculty Mentor in mathematics. Dr. Stockton brings a wide range of experience to the post. She left a tenured position as Associate Professor of Mathematics and Director of the 3+2 Engineering Program at Sacred Heart University in Fairfield, CT to join the WW Academy faculty. While at Sacred Heart, Dr. Stockton also served as co-PI on a \$1.2 million NSF grant to prepare math and biology majors for careers as teachers in high-need school districts. She holds a B.S.M.E. in mechanical engineering from Olin and an M.A., M.Phil., and Ph.D. in mathematics education from Teachers College, Columbia University.

An Olin Partner—one of the students at Olin College of Engineering who helped to design the curriculum and student experience—and a member of Olin’s first graduating class, Dr. Stockton has first-hand experience with educational start-ups. The WW Academy “was just too exciting an opportunity to pass up,” she



Julianna Stockton



Andrew Wild

said. “It has the potential to change the world. I really think Woodrow Wilson’s vision of the future of education is spot on.”

Andrew Wild joins the WW Academy team as Faculty Mentor in science. Formerly a Research Associate and Senior Fellow at the Knowles Science Teaching Foundation, Dr. Wild has designed, facilitated, and researched science-learning experiences. He taught science and served in teacher leadership roles in San Francisco Bay Area public high schools. He is a co-author of *Arguing From Evidence in Middle School Science: 24 Activities for Productive Talk and Deeper Learning* (Corwin, 2016). A *magna cum laude* graduate of Carleton College, he holds a master’s degree in teaching and a Ph.D. in science education from Stanford University.

Continued on page 3

inside

FELLOWSHIPS

- Virtual Reality Classrooms 3
- New Class of WW Women’s Studies Fellows Named 4
- WW Career Enhancement Fellowships 5
- WW HistoryQuest Expands, Names Second Class 6
- Local School, National Impact in Rwanda 6

Microgrants Bring New Opportunities to Georgia Classrooms 7

SPACE SCIENCE

- A Stellar Career 8
- Vast Views, Close to Home 9
- Exploring the Universe: Fellow Leads Development of Next-Generation NASA Observatory 10

From NASA to Ninth Grade: A New Kind of Launch 11

BOOK SPOTLIGHT 12

NOTES ON FELLOWS 13

FOUNDATION UPDATES 14

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From the Editor

For more than 70 years, Fellows from a variety of Woodrow Wilson Foundation programs have been shaping how we see the world. In this issue of *Fellowship*, we present a few Fellows who have, in fact, shaped how we see the Universe.

A number of Woodrow Wilson Fellows from the late 1950s and 1960s—more, it turns out, than we could feature here—have become pioneers in astronomy, creating new ways of both describing and observing the cosmos. More recently, one of the Woodrow Wilson Teaching Fellows has also been bringing space science to her high school classroom, expanding students' vision of what's "out there" for them.

Something very interesting emerged from conversations with these leading scientists: a common desire not only to look outward on a cosmic scale, but also to generate new insights and bring them to life for everyone. These Fellows are passionate about communicating a larger perspective on who we are, where we came from, and where we may be going. Perhaps their wider view has made them eager to reach for these great questions, beyond the boundaries of any one moment or field. As one of them says, "I'd like to connect with people who are interested in thinking about the future of the human race—not just in astronomy, but in the bigger picture."

It's a passion we believe many Fellows share, especially those of you who have amassed decades of expertise in your fields and, in the process, found connections to so many other areas of inquiry. What are your big ideas? What's the conversation about the future that you want in on? How would you like to have that conversation? If you'd care to weigh in, please email us at newsletter@woodrow.org.

The Foundation's more than 22,000 Fellows represent unparalleled intellectual leadership. We would love to hear your big ideas. 

Abbreviations used in this issue:

AF = Administrative Fellow

CEF = Career Enhancement Fellow

CN = Newcombe Fellow

HQ = HistoryQuest Fellow

IP = Institute for International Public Policy Fellow

MCI = Millicent C. McIntosh Fellow

MN = Mellon Fellow

RBF = Rockefeller Brothers Fund Fellow

TF = Teaching Fellow

WF = Woodrow Wilson Fellow

WS = Women's Studies Fellow

WT = Wilson Teacher

WW Academy Announces Initial Faculty Hires

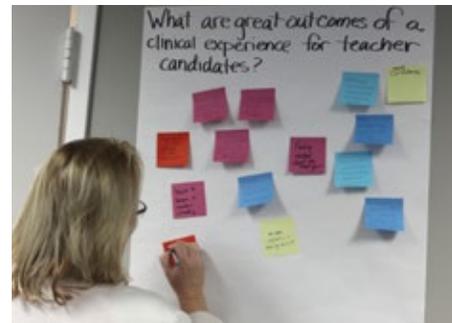
Continued from page 1

Dr. Wild has taught or mentored hundreds of teachers, in interactions ranging from one-day professional development to multiyear mentoring relationships. “Science education has the ability to engage and inspire all students,” he said. “The WW Academy will equip STEM educators with the tools and skills to do just that. I’m excited to be a part of this important effort.”

“The research is clear. Effective teachers are the key to success for our students, our economy, and our nation,” said Woodrow Wilson Foundation President Arthur Levine. “That success depends on educators who are prepared to teach in the schools of today while leading the creation of the schools of tomorrow. We are fortunate to have Dr. Stockton and Dr. Wild as part of our effort to reimagine teacher education, ensuring the next generation of teachers are fluent in both of those worlds.”

The faculty appointments are the latest steps forward for the WW Academy, which has spent the past year developing its competency-based curriculum, crafting innovative classroom simulations (*see sidebar*), forging agreements and partnerships with local school districts, consulting with faculty partners at MIT, and seeking perspectives on its clinical work from both local teachers and other experts in and beyond education.

Founded in collaboration with MIT in 2015, the WW Academy of Teaching and Learning is reinventing American teacher preparation for the 21st century. The WW Academy has two components: an educator preparation program and a research and development laboratory. It will initially offer competency-based teacher preparation programs in middle and secondary school math, science, and technology (STEM) teacher education, with other fields to follow. [WW](#)



Teachers from Burlington Public Schools, a WW Academy partner district, participate in a design workshop looking at the mentor teacher relationship.



Virtual Reality Classrooms

If you’ve ever asked your smartphone or digital assistant to take dictation or search the Internet, you already know that interacting with artificial intelligence (AI) is tricky.

So how could one ever use AI to practice teaching?

“Could you imagine trying to teach Siri complex content?” asks Carrie Straub, Executive Director of Educational Programs and Research at Mursion. “Siri doesn’t have emotions and she’s not tired because she hasn’t eaten lunch yet—you’re not dealing with the whole interpersonal side of teaching.”

The Woodrow Wilson Academy of Teaching and Learning has partnered with Mursion, a virtual reality simulation platform, to develop a set of competency-based simulations to prepare teachers.

While other teacher preparation programs are exploring the use of simulation, the WW Academy is taking it a step further by developing specific simulations that reflect the Academy’s competency-based curriculum—the set of skills and information that a teacher candidate must master before entering the classroom.

By building these tailored simulations, says Dr. Straub, the WW Academy is giving prospective teachers a space to learn: “Here’s a skill we want you to demonstrate mastery in, and here’s a simulation where you can do that in a safe environment, and you can do it multiple times until you’ve developed mastery in that skill.”

Mursion’s virtual reality blends AI with human intelligence by placing human actors, called simulation specialists, behind each student avatar in a simulated classroom. The specialists drive the avatars’ responses to the teacher candidate.



A demo of the Mursion classroom technology.

More than making the simulations more lifelike, the human-driven avatars also make it easy to customize content. “It’s very agile,” says Dr. Straub. “The WW Academy can say, ‘These are the skills the school systems are saying they want, so we can design scenarios that are custom to what the school system’s current needs are.’”

Because Mursion’s technology is no substitute for classroom practice—at least, not yet—the WW Academy will continue to blend simulation with real-world clinical experience. On the other hand, even spending months in a classroom, a teacher candidate may never encounter an angry or intoxicated parent, an extreme student meltdown, or a situation in which every student in class fails a test. WW Academy simulations, with Mursion’s help, can create those challenges and test candidates’ readiness for the classroom in new ways.

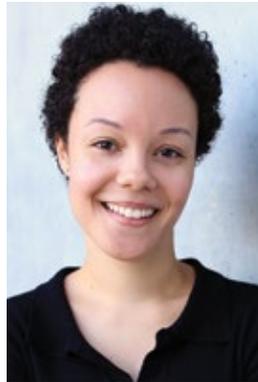
New Class of WW Women's Studies Fellows Named



Danica Savonick



Tatiana Rabinovich



Dana Murphy



Anne Gray Fischer



Rosie Bermudez

For the past 43 years, the Woodrow Wilson Dissertation Fellowship in Women's Studies has been identifying emerging leaders in the field of women's and gendered issues. This spring, ten outstanding Ph.D. candidates have been chosen as WW Women's Studies Fellows (see full list in sidebar).

The 2017 Fellows are completing doctoral work at the University of Arizona, Brown University, CUNY Graduate Center, University of California—Irvine, University of California—Santa Barbara, Indiana University, New York University, and Rutgers University. They represent departments such as history, political science, comparative literature, and feminist studies.

The WW Women's Studies Fellowship, still the only national program of its kind, supports the final year of dissertation writing for Ph.D. candidates in the humanities and social sciences whose work addresses women's and gendered issues in interdisciplinary and original ways.

This year's Fellows are covering topics such as sexual policing of women in the twentieth century; Arab women's literature in France, Britain, and the United States; the history of international adoption from Guatemala; and Republican women and the evolution of women's representation in Congress.

All Fellows receive \$5,000 towards expenses from research-related travel, data collection, and/or supplies connected with completing their dissertations. At the conclusion of the dissertation year, Fellows' titles are publicized with leading scholarly publishers.

Since 1974, the program has supported more than 500 Ph.D.s in various fields. Woodrow Wilson Women's Studies Fellows include a Pulitzer Prize winner, two MacArthur Fellows, numerous Guggenheim and Fulbright Fellows, and many others who have achieved significant distinctions in their fields. 

2017 Women's Studies Fellows

Rosie Bermudez • University of California Santa Barbara, Chicana and Chicano studies • *Doing Dignity Work: Alicia Escalante and the East Los Angeles Welfare Rights Organization, 1967–1974*

Lindsey Breitwieser • Indiana University, gender studies • *Dead Mothers, Live Births: Postmortem Pregnancies and the Necropolitics of Biological Life*

Anne Gray Fischer • Brown University, history • *Arrestable Behavior: Women, Police Power, and the Making of Law-and-Order America, 1930-1980*

Karen Hanna • University of California, Santa Barbara, feminist studies • *Makibaka!: A Feminist Social History of the Transnational Filipina/o American Left, 1969-1992*

Alexandra Magearu • University of California, Santa Barbara, comparative literature • *Phenomenologies of Embodiment in Transnational Arab Women's Literature in French and English*

Dana Murphy • University of California, Irvine, English • *Divine Quiet: Phillis Wheatley's Gentle Mastery of Meter, Genre, and Address*

Rachel Nolan • New York University, history • *"Children for Export": A History of International Adoption from Guatemala*

Tatiana Rabinovich • University of Arizona, Middle Eastern and North African studies • *Laboring on the Margins: Muslim Women, Precarity, and Potentiality in Russia*

Danica Savonick • CUNY Graduate Center, English • *The Promise of Aesthetic Education: On Pedagogy, Praxis, and Social Justice*

Catherine Wineinger • Rutgers University, political science • *Gendering the GOP: Republican Women and the Evolution of Women's Representation in Congress*

WW Career Enhancement Fellowships Awarded to Junior and Adjunct Faculty



Daniel Rodriguez



Yomaira Figueroa



Jeffrey Coleman

This spring, the Woodrow Wilson National Fellowship Foundation announced the names of 30 new Woodrow Wilson Career Enhancement Fellows—10 junior faculty members who will receive 12-month Fellowships and 20 who will receive six-month Fellowships. Also announced was the second class of Career Enhancement Adjunct Faculty Fellows.

This year's Fellows are working in fields that include English, critical dance studies, history, Mexican American and Latino/a studies, sociology, music, American studies, and philosophy. They represent some of the nation's top institutions. (Full list of Fellows, institutions, and departments at right.)

The WW Career Enhancement Fellowship, funded by the Andrew W. Mellon Foundation and administered by the Woodrow Wilson Foundation, creates career development opportunities for selected faculty fellows with promising research projects. The program provides Fellows with a six-month or one-year sabbatical stipend (up to \$30,000); a research, travel, or publication stipend (up to \$1,500); mentoring; and participation in a late summer professional development retreat.

At the Career Enhancement retreat, an integral part of the program, Fellows present their work and meet at length with mentors they have selected—senior academics who help advise these early-career faculty on next steps in professional development. Fellows also connect, during the retreat, with Career Enhancement Fellows from past years and other special guest scholars.

This also marked the second year for the Career Enhancement Adjunct Faculty Fellowship, which seeks to increase the presence of Mellon Mays Undergraduate Fellows (MMUF)—promising scholars previously supported by Mellon Foundation grants—among tenure-track faculty in core fields of the humanities and social sciences. Fellows are awarded a six-month stipend (up to \$10,000) and matched with a mentor and small professional network of tenured former Career Enhancement Fellows.

Created in 2001, the Career Enhancement Fellowship has supported nearly 370 junior faculty members over the past 17 years. The program seeks particularly to increase the presence of junior faculty members who are underrepresented in their fields, as well as other faculty members committed to eradicating racial disparities in core fields in the arts and humanities. 

Career Enhancement Junior Faculty Fellows and Adjunct Faculty Fellows, 2017

12-MONTH FELLOWS

- Allison Curseen • Boston College, English
- Faustina DuCros • San Jose State University, sociology
- Yomaira Figueroa • Michigan State University, English
- Irvin Hunt • University of Illinois at Urbana-Champaign, English
- Brandon Manning • University of Nevada, Las Vegas, African American/gender & sexuality studies
- Veronica Martinez-Matsuda • Cornell University, Labor Relations, Law, and history
- Stacie McCormick • Texas Christian University, English and American literature
- Stephanie Rivera-Berruz • William Paterson University, philosophy
- Claudia Rueda • Texas A&M Corpus Christi, history
- Shante Smalls • St. John's University, Queens, English

6-MONTH FELLOWS

- Yousuf Al-Bulushi • Goucher College, geographies of justice and cultures
- Darius Bost • San Francisco State University, sexuality studies
- Tamara Butler • Michigan State University, English
- Dana Byrd • Bowdoin College, art history
- Jeffrey Coleman • Marquette University, Spanish
- Teresa Gonzalez • Knox College, anthropology and sociology
- Octavio Gonzales • Wellesley College, English
- Rachel Gonzalez-Martin • University of Texas – Austin, Mexican American and Latino/a studies
- Aneeka Henderson • Amherst College, sexuality, women's and gender studies
- Imani Johnson • UC Riverside, critical dance studies
- Stephanie Jones-Rogers • UC Berkeley, history
- Zakiya Luna • UC Santa Barbara, Sociology
- Monica Martinez • Brown University, American studies
- Imani Owens • University of Pittsburgh, English
- Cassi Pittman • Case Western Reserve University, sociology
- Elliott Powell • University of Minnesota, American studies
- Junaid Quadri • University of Illinois at Chicago, history and religious studies
- Patrick Rivers • University of New Haven, music
- Daniel Rodriguez • Brown University, history
- Rocio Rosales • UC Irvine, sociology

ADJUNCT FACULTY FELLOWS

- Rosa Ficek • University of Puerto Rico at Cayey, Institute of Interdisciplinary Studies
- Anita Thompson • Georgia College, sociology

WW HistoryQuest Expands, Names Second Class

In April the Woodrow Wilson Foundation named 55 middle- and high-school U.S. history teachers to its 2017 class of WW HistoryQuest Fellows. This year's HistoryQuest Fellows, who come from Connecticut, Massachusetts, New Jersey, and Pennsylvania, will take part in a summer institute in Princeton to explore game-like learning practices for their classrooms. The Fellowship also includes follow-up visits and workshops during the course of the 2017–18 school year.

Launched in 2016 with a class of nearly 50 Fellows from New Jersey, the WW HistoryQuest professional development initiative, led by the New York City-based Institute of Play, prepares teachers to develop and use games to teach American history in their classrooms—but it also does much more. WW HistoryQuest Fellows—and their students—learn to think like game designers about historical events, social movements, and cultural and economic variables, coming to understand how changes in rules, conditions, and resources shape history.

Fellows from the initial 2016 class have already gone on to present their work at statewide and regional teaching conferences. One participant, evaluating the Fellowship experience, wrote, “The process has transformed how I approach project design, and my students are the beneficiaries.” Another commented, “Through this experience I regained my passion for and love of teaching.” In addition, a team of 2016 Fellows is now working with the Woodrow



2016 WW HQ Fellows playtest a new game at a mid year professional development workshop.

Wilson Foundation to develop a game that teaches the dynamics of westward expansion and settlement in the United States, with plans to make that game available to history teachers in late summer 2017.

As a result of these early successes, the two Woodrow Wilson Trustees who created and support the program—Walter W. Buckley, Jr. and William Lilley III—chose to expand WW HistoryQuest to three more states in 2017–18. Several of the 2016 Fellows will serve as mentors for the new group, and a study of the program's classroom impact is under way. [WW](#)

Local School, National Impact in Rwanda

Rwanda, a country the size of Rhode Island, has two to three million school-aged children and 3,000 schools—yet it is still struggling, in the aftermath of the genocide of the 1990s, to provide equal access to education for all students, including those from the country's minority groups.

Phillip Haynes RBF '96 is working to change that—both nationwide and through a four-room schoolhouse in a Southern Rwanda village.

During a 2009 mission trip to the East African nation, Dr. Haynes became fascinated both with the hunger for education in Rwanda, where previous generations were more inclined to put children to work than send them to school, and with the national effort to strengthen its educational system. He resolved to help address the problem himself by building a school in Gihara.

In 2011, Dr. Haynes' Crimson Academy welcomed 180 students. One local leader who had never himself seen much need for schooling sent his son to Crimson Academy, and two weeks later, told Dr. Haynes, “I will sell everything I have to make sure he can attend the school. He is learning things I could never dream about.” The \$45 annual tuition is as much as many Rwandan families make in a year.

Since opening in 2011, Crimson Academy has expanded from four to 13 classrooms serving 620 primary school-aged children.



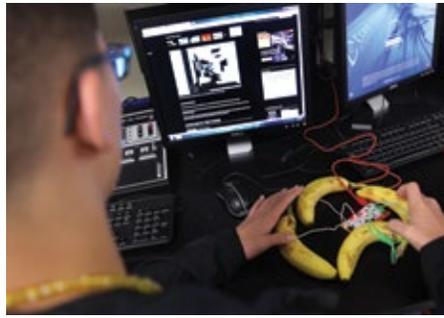
The students of Primary 4 class at Crimson Academy in Rwanda.

The Academy also now has buses to provide transportation to school for students who live far away. In 2016, Crimson Academy was named the number one school in Rwanda's Southern Province based on scores in the Rwanda National Exams.

To support the school in Gihara, Dr. Haynes founded the Crimson Foundation, which not only raises funds but also conducts service learning activities, helps prepare teachers, provides learning materials, and evaluates student progress.

Continued on page 14

Microgrants Bring New Opportunities to Georgia Classrooms



In 2015 the Goizueta Foundation of Atlanta made a three-year, \$910,000 grant to provide professional enrichment for WW Georgia Teaching Fellows working in the metro Atlanta area. Grant recipients can choose to attend conferences, buy teaching materials for their classrooms, or complete community-based service learning projects. The funding aims to benefit not only the Fellows, but also the schools and communities where they teach, their students, and the other educators with whom they work, providing rich opportunities that are unusual in high-need schools, even for veteran teachers.

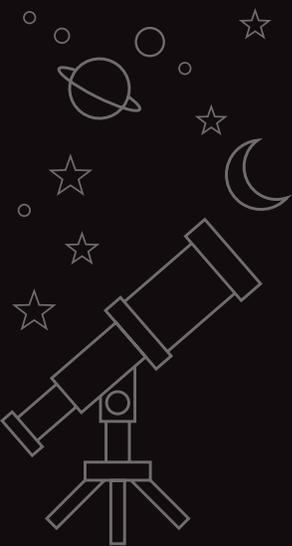
Fellows are currently working on projects in schools in the Atlanta Public and Marietta City School districts as well as schools in Cobb, Henry, DeKalb, Gwinnett, and Fulton counties and have been able to bring materials like Chromebooks, 3D printers, and touchscreen digital microscopes into their classrooms. For example, funds from the grant have allowed Michael Fusia's students at Wheeler High School to explore conductivity with Makey-Makey sets, while Derikson Rivera Rios' biology students at Meadowcreek High School now work with virtual reality headsets and phones to get up-close-and-personal with the inside of a cell.

The funding also makes possible a series of workshops for all the Fellows who receive microgrants. Throughout the year, Fellows report back to other Fellows on what they learn or accomplish. At a recent Goizueta-funded workshop on assessment and assessment tools (pictured above), Fellows worked in groups to come up with strategies to measure student engagement and learning over the course of their projects.

Tyler Kinner is in his first year of teaching. Through a portion of his microgrant, he purchased lab equipment for his science class at Meadowcreek. When the students began working with the equipment during labs, "it was exciting to have something that was given to them that was unique and for them to use," says Mr. Kinner. "Seeing their engagement when they realized that there are people who want them to be successful in science and math and to have cool stuff to help do it, versus just a worksheet, was really great."

Tiffany Witter is completing her clinical placement at Stone Mountain High School. "At my school, they just don't have access to these things," she says of the basic lab equipment she was able to purchase. "Because I have the grant money, I've been given the opportunity to really expose the kids to something that they might not have seen." **WW**





A Stellar Career



Supermassive black hole gouache painting by Dmytro Ivashchenko



Kip S. Thorne WF '62 (Kavli Prize)

In September 2015, two massive detectors—one in eastern Washington and one in Louisiana, each 4km long—simultaneously confirmed the existence of gravitational waves, recorded direct evidence of black holes, observed two black holes colliding, and launched a new discipline, gravitational wave astronomy.

It was a remarkable day's work for Kip S. Thorne WF '62, Feynman Professor of Theoretical Physics Emeritus at Caltech, and last year it garnered him and his colleagues a remarkable array of awards: the Special Breakthrough Prize in Fundamental Physics (twice as large as the Nobel), the Shaw Prize, the Gruber Prize in Cosmology, the Tomalla Prize, the Georges Lemaître Prize, and, most recently, the Kavli Prize in Astrophysics. *Science* called it "the breakthrough of the year."

And all that, of course, on top of the five 2015 Oscars for his movie.

"I feel a profound sense of satisfaction and great enthusiasm for the future," Dr. Thorne said last year in a Kavli Prize roundtable discussion of his discoveries. "I had thought since the early 1980s that the first thing we would see is what we saw, the signature of black holes merging. It all worked out the way that I had expected."

The 2015 discovery by LIGO (the Laser Interferometer Gravitational Wave Observatory), which Dr. Thorne co-founded in 1984, was just the latest in a string of findings about gravitational waves, spacetime, and black holes that have made Dr. Thorne a legend in astrophysics. After completing his Ph.D. at Princeton University in 1962 on a Woodrow Wilson Fellowship, Dr. Thorne began a 42-year career at Caltech. He soon gained a reputation not only as a pioneering theoretician and researcher, but also as a generous mentor and a gifted explainer of science to lay audiences.

The latter bent led Dr. Thorne, in 2009, to leave the Feynman Professorship and undertake new writing projects, including the creation of *Interstellar*, the

2014 blockbuster movie that won the 2015 Academy Award for Best Visual Effects. Dr. Thorne, who served as executive producer and science advisor, crafted the understanding of black holes and relativity that lay at the heart of the film.

"To a great extent, my motivation here was to try to use the movie as a lure to get people who might otherwise not have much interest in science curious about it, by exposing them to strange, exotic phenomena like wormholes," said Dr. Thorne in an interview with *Scientific American* in 2014. "The central thing is to get people excited by this so that they focus on real science and technology and on making a big difference in our world with those tools."

Well before *Interstellar*, Dr. Thorne was writing on advanced physics and astrophysics in ways that captured the imagination of physicists and non-physicists alike. The massive 1973 textbook *Gravitation*, which he co-authored with colleagues Charles Misner and John Wheeler, remains so widely known in the field that it is frequently referred to as "MTW," for its authors' initials, with no further explanation needed. On the other hand, his 1994 *Black Holes and Time Warps: Einstein's Outrageous Legacy*, written for a general audience, has been translated into ten languages. Dr. Thorne has also authored more than 150 articles for scholarly journals, and has also written frequently for such popular publications as *Scientific American* and *Collier's Encyclopedia*. *TIME* magazine named him one of its 100 Most Influential People for 2016.

While the discovery of gravitational waves comes after a long and already impressive career, Dr. Thorne told the Kavli Prize roundtable that it is just the beginning. "I think we succeeded in getting across the fact that we really are opening up a whole new way of observing the Universe, a way that is going to be central to the human race's exploration of the Universe around us, not just for years or decades, but for centuries into the future." [WWW](#)

Vast Views, Close to Home

Sandra Moore Faber WF '66 H has been studying the formation of galaxies for more than 40 years. She has played key roles in the discovery of dark matter in the Universe and supermassive black holes in the nuclei of galaxies. Widely considered one of the world's leading authorities on telescopes, she diagnosed the flaw in the Hubble Space Telescope's mirror in the early 1990s. In 2013 she received the National Medal of Science.

Now this is all bringing Dr. Faber right back to Earth.

University Professor Emerita of Astronomy and Astrophysics at the University of California, Santa Cruz, and Interim Director of the University of California Observatories from 2012 to 2014, Dr. Faber has been focusing recently on the perspective that cosmology brings to intelligent? life on this planet.

Through astronomical observation and the laws of physics, she notes, "We can understand where we came from and we can understand our fate. We can see how Earth got here, and we can see that we still have hundreds of millions of years of good living here on this Earth; what are we going to do with it? What is our destiny here? Astronomy is creating the stage on which these questions can be discussed for the first time in human history."

In the early 1980s Dr. Faber and her colleagues Joel Primack (also WF '66 H) and George Blumenthal (now UCSC Chancellor) articulated a theory of galaxy formation, based on "cold dark matter," that has since been borne out by observations and simulations. The theory, she is quick to point out, "doesn't explain the origin of our Universe"—it takes the Big Bang as a given—"but it does explain the Universe of galaxies that see today."

In an infinitesimal fraction of a second after the Big Bang, Dr. Faber explains, quantum mechanics produced slight fluctuations in the density of the Universe's energy. "These density fluctuations in turn," she explains, "created larger peaks of energy density, generating more gravity, slowing the expansion of the Universe, and drawing matter in. These microscopic peaks grew to become the giant galaxies of today."

While other observers had proposed similar models, Dr. Faber's team accurately calculated the quantity and quality of the galaxies that would be generated by such a process. "I've had the pleasure," she says, "of watching the scientific community elucidate and try to prove a theory that I helped to generate as a young person."

Dr. Faber's subsequent work—including the Faber-Jackson relation, a scaling law of galaxies; her studies with the Nuker Team on supermassive black holes at the hearts of galaxies; and, most recently, CANDELS, a survey of the early universe and the largest project in the Hubble Telescope's history—has continued to pioneer new understandings of the structure of the Universe. To date, her career has encompassed more than 350 scientific publications with over 50,000 citations.

Retirement notwithstanding, Dr. Faber remains closely involved in new astronomical developments, including more sophisticated observation of exoplanets and planetary formation, which the James Webb Space Telescope will make possible (see p. 10). She is particularly enthusiastic about the next generation of ground-



Sandra Faber WF '66 (Elena Zhukova/UC Santa Cruz)

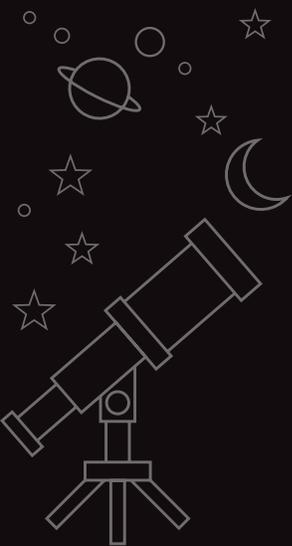
based telescopes, which, through adaptive optics, will counter the distortion created by Earth's atmosphere. "These telescopes will be ten times sharper than Hubble," she says, "and have the capability of capturing light 100 times fainter—from the ground. Every time in astronomy we've opened up a new part of parameter space by that amount we've found very interesting things."

When she applied for the Woodrow Wilson Fellowship in fall 1965, then-student Sandy Moore wrote of being inspired, as a young observer, by "the overwhelming presence of the Universe." The Swarthmore senior added, "Through its ability to transcend our tiny sphere of human thought and action, [astronomy] to me imbues each small fact about the Universe with tremendous importance."

Today, as she told a TEDx audience in 2011, "After 40 years in this field, the cosmologist on the left brain is meeting the citizen on the right brain, and they are trying to inhabit the same body, and struggling." The scale of cosmology, she observes, makes it clear that runaway use of Earth's resources cannot be remedied by a quick move to another nearby home or by help from other intelligent beings. "Astronomy tells us that help, if there is help, is very far away. No one is coming to save us. We are hanging in a void and it's only 10 miles away, through a thin atmosphere that's easy to destroy." As the first generation with scientific evidence to show just how true this is, Dr. Faber argues, we must think urgently about how to protect the planet.

The most important lesson from all this for the average layperson, she says: "This makes Earth rare and precious. And if Earth is rare and precious, then so are we." 

Whether it's a matter of translating the cosmic scale to human ethics or broadening perspectives on learning, what is your big idea? What is the planet-sized conversation you'd like to have? If you have thoughts, send them to newsletters@woodrow.org.



From NASA to Ninth Grade: A New Kind of Launch

After her master's program in electrical engineering at the Georgia Institute of Technology, and a year as project manager for an electrical contractor, Wanda Harding TF '16 decided to float her résumé.

When it landed in the right hands at NASA, Ms. Harding left her native Atlanta for a three-to-five-year stint in Florida—or so she thought.

"It was so unique and different," says Ms. Harding. "The challenges kept coming and I kept growing, and when I thought it would be a good opportunity to leave, a new challenge or opportunity would present itself." As a result, her planned five years with NASA quickly turned into 20-plus years.

Shortly after Ms. Harding began her NASA career, she was presented with the opportunity to join the program responsible for launching satellites. "Once I got hooked into that," says Ms. Harding, "being exposed to the science behind the various missions and the excitement and the thrill that comes with being able to see something get off the planet and knowing you had a part in it—it was attractive enough to keep me there."

Ms. Harding would go on to work for both NASA and NOAA, serving as a systems engineer on the International Space Station program team and as Senior Mission Manager in the Launch Services Program at NASA/Kennedy Space Center.

As a mission manager and member of the NASA Launch Day management team, Ms. Harding was polled to provide a "go" for launch of the Mars Science Laboratory (MSL) Curiosity Rover, Demonstration of Autonomous Rendezvous Technology (DART), and the Gravity Probe-B missions.

Most recently she served as Technical Director with the Joint Polar Satellite System (JPSS) Program, providing leadership in programmatic and technical integration for NOAA's next generation polar-orbiting environmental satellite system.

But Ms. Harding always knew she would become a teacher. "My favorite professor as an undergrad at Hampton University was a retired IBM engineer," she says. "I appreciated the way that he was able to bring some of his real-world experience to the classroom. The fact that he had been in industry added credibility to the lessons. I decided then that was the type of teacher I wanted to be. I wanted to walk into the classroom with more than just what I had gotten in college."

Ms. Harding is now preparing to bring her varied experiences and deep content knowledge into the



Wanda Hardin, left, talks with NASA colleagues in front of the United Launch Alliance Atlas V first stage booster at the Cape Canaveral Air Force Station in 2011. (NASA/Bill Ingalls)

classroom as a WW Georgia Teaching Fellow. This summer, she will complete her master's program at Piedmont College and her clinical placement at Cedar Shoals High School in Athens, Georgia.



Wanda Harding TF '16

Her ninth-grade students had two questions about her aerospace background: Why did you leave? Did you get paid more than teachers?

"To the first question," recalls Ms. Harding, "I told them that I was ready to come and contribute to their success because they're going to be the ones running things when I retire. And to the second, yes, absolutely, I made a lot more than teachers do. But at this stage, I think making an investment in them is worth it."

Once in her own classroom, Ms. Harding hopes that her experiences will inspire students for whom math and science can be daunting, serving "as an entry point for them to go out and start exploring where their interests might lie." Recent pop culture has been a help, too: "It is so exciting to have come out of NASA and then have *Hidden Figures* in the backdrop," she says. "It has been a great boost and link for this generation of students."

"When you look at all the advancements that we have made in the exploration of space," says Ms. Harding, "it helps us appreciate and understand the Universe that we live in. It highlights the fact that we know a lot, but it is also humbling to acknowledge we have a lot more to learn. That is what makes discovery so important. We definitely need to inspire and motivate our next generation so that we don't stop growing. More importantly, we need to help them understand and accept the fact that we are counting on them to contribute not only to the STEM fields, but in service as we work to make life better for us all." 

Exploring the Universe: Fellow Leads Development of Next-Generation NASA Observatory



Far left:
John C. Mather WF '68

Left: A full-scale model of the JWST is assembled on the lawn at Goddard Space Flight Center, and displayed during September 19–25, 2005. The JWST team is gathered in front. (NASA)

Five years ago, John C. Mather WF '68—Nobel Laureate in Physics and Senior Astrophysicist in the Observational Cosmology Laboratory at NASA's Goddard Space Flight Center—talked with *Fellowship* about the James Webb Space Telescope (JWST), on which he is Senior Project Scientist. "I would think if we were really lucky," he said in 2012, "we'd find a planet a lot like Earth around a star a lot like the sun, and we'd be able to learn a lot about it."

This year, NASA scientists and European colleagues identified seven planets orbiting the ultra-cool dwarf star TRAPPIST-1, just under 40 light-years from Earth. While they're initially classed as terrestrial-type planets, it will take a much more sophisticated instrument—like the Webb Space Telescope, due to launch in October 2018—to see how Earth-like these planets really are.

Dr. Mather points out that TRAPPIST-1 is not much like the sun, and its seven planets are probably not so similar to Earth. "They're much more like satellites of Jupiter," he observes. "Some of them are about the right size and temperature. They could have atmospheres, or they could be dry rocks, and they are a wonderful target for us. We'll try something called transit spectroscopy, looking at the light of their star through their atmosphere, to find out more."

This will be one of many tasks for the Webb Space Telescope. Where the Hubble, the best-known of NASA's four current Great Observatories, makes observations in the near-ultraviolet, visible, and near-infrared ranges, the

Webb can see into the mid-infrared, with more sensitivity to more distant light. "The main point of using an infrared telescope is to see things you could never see at shorter wavelengths," Dr. Mather explains. But he is quick to emphasize that the Webb is an extension of Hubble, not a replacement for it.

In 2006, Dr. Mather shared the Nobel Prize with George Smoot for his work on NASA's Cosmic Background Explorer (COBE), launched in 1989 to measure background radiation from the Big Bang. In his Nobel biography, however, Dr. Mather called the JWST his "major passion." It's a project to which he has devoted more than 21 years—"different work every day," he adds.

The Webb team, he says, is "just beginning to settle on what we're going to look at. We still want to look at the first events that happened after the Big Bang—light from the formation of stars and galaxies and black holes. We'll also be able to look at stars being born today." Exoplanets like those in the TRAPPIST-1 system will also remain on the agenda. "There are over 3,000 in the catalog of good possibilities," Dr. Mather says.

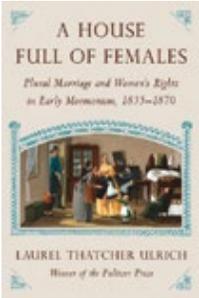
And beyond the Webb? ("That in itself will be a huge accomplishment," says Dr. Mather drily.) Already in the works, the Wide Field Infrared Survey Telescope (WFIRST), though smaller than JWST, can scan 100 times as much sky as the Hubble. There are also plans for even larger, more powerful telescopes that operate in light's visible wavelengths, with adaptive optics—which adjusts for the atmosphere's shimmer—to make ground-based telescopes more accurate.

"Assuming all the hardware works," Dr. Mather says, "we will have observatories everywhere."

At a moment when new observatories and "startling" discoveries in quantum mechanics are giving rise not only to wider perspectives on the cosmos but to new understandings of time and space themselves, Dr. Mather is "campaigning a little bit" for a clearer public image of the origins of the Universe. "The Big Bang is not a giant firecracker," he says. "That's what people picture, but it's misleading. It's an infinite Universe expanding into itself, and there is no first moment. I want people to think more seriously about this instead of arguing about whether the theory of a Big Bang is correct."

Overall, observing the Universe remains an essential human need, Dr. Mather notes. "Just in general, the job of science is to discover truth—the truthful evidence of how the Universe works, evidence we can trust. We've noticed so much lately about how we can be confused or deceived, as on the Internet. The Webb is primarily pure scientific value—giving us evidence to explore questions like 'Where did we come from?' and 'Are we alone in the Universe?'"

He points out that the Internet also provides amazing opportunities for education, including ways to get the public—and young people—engaged in science. "I heard recently about a young woman in a high school that didn't teach physics, so she taught herself online. Growing up in a remote location with 'only' an Internet connection means you can teach yourself. So young people clearly have opportunities they never had before." 



A House Full of Females: Plural Marriage and Women's Rights in Early Mormonism, 1835-1870

Laurel Thatcher Ulrich WS '78

Pulitzer Prize-winning historian Laurel Thatcher Ulrich is once again examining a previously unexplored history. Stitching together diary entries, letters, meeting minutes, and quilt patterns, Dr. Ulrich tells the story of early Mormon women living in “plural marriage” in her new book *A House Full of Females: Plural Marriage and Women's Rights in Early Mormonism, 1835–1870*.

Dr. Ulrich brings to life the daily dealings of these women, all the while painting a complicated portrait of women who shaped the early tenets of the Mormon faith, fought to protect the practice of plural marriage, and helped women win the right to vote in Utah in 1870.

“This book is a kind of quilt,” says Dr. Ulrich in the opening chapter, is “an attempt to find an underlying unity in a collection of fragments.”

Richard Brown, University of Connecticut Board of Trustees Distinguished Professor of History, Emeritus, praises Dr. Ulrich’s ability to “convey an appreciation of why Mormons committed to their faith— notwithstanding the persecution and privations they faced crossing the country and building their pioneer settlements. Ulrich even enables outsiders to understand how polygamy functioned and why Mormon women embraced and defended it against Victorian condemnation.”

The New York Times Book Review writes, “In the best ways, *A House Full of Females* remains a work of traditional ‘women’s history,’ a straightforward exploration of women’s lives and experiences on their own terms.”

Dr. Ulrich is a 1978 Women’s Studies Fellow and the 300th Anniversary University Professor of History at Harvard University. Her 1991 book *A Midwife’s Tale* won the Pulitzer Prize and the Bancroft Prize for History.

Wild Nights: How Taming Sleep Created Our Restless World

Benjamin Reiss MN '89

The prescription is widely known: eight hours for a good night’s sleep. Yet for many Americans, a good night’s sleep is an elusive thing. In Benjamin Reiss’ new book, *Wild Nights*, he traces the complicated history of sleep and the place it has taken in our daily lives.

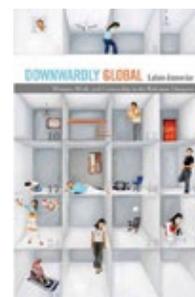
Dr. Reiss pulls from literature, medical history, and cultural touchstones to show how our relationship with sleep has changed. What was once a communal activity, with families sleeping in common rooms,

became a “privatized” affair with the onset of the industrial revolution. People no longer slept and woke with the sun, but rather had to adjust to the clock.

“Only over the past few hundred years,” he writes, “did sleep come to be privatized, packaged into one standard time slot, and removed from nature’s great rhythmic cycles of temperature and light.”

With this bedtime isolation came problems like insomnia and a new obsession with trying to discover the secret to sleep.

“From the very beginning, Reiss argues against popular conceptions of what is considered ‘normal’ sleep,” says *Publishers Weekly*. “This is a captivating examination and Reiss gives readers much to ponder long into the night.”



Downwardly Global: Women, Work, and Citizenship in the Pakistani Diaspora

Lalaie Ameeriar CEF '14

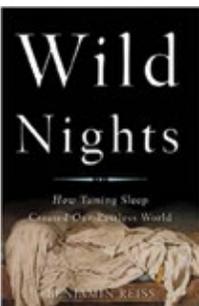
The women Lalaie Ameeriar CEF '14 profiles in her first book, *Downwardly Global*, are trained doctors, engineers, and lawyers.

But as Pakistani immigrants in Toronto, they experience exceptionally high rates of poverty and unemployment.

Rather than being seen as a byproduct of a racialized system, the downward mobility that these women face is ascribed to culture. Dr. Ameeriar highlights the contradiction between the women’s experiences at state-funded unemployment programs—where they’re instructed to shed their traditional clothing and make sure they don’t smell of Indian spices—and their experiences at cultural festivals, where these very things are celebrated.

The portrait of Canadian multiculturalism that emerges is complicated. As Dr. Ameeriar explores in the book, “this form of multiculturalism privileges whiteness while using race, gender, and cultural difference as a scapegoat for the failures of Canadian neoliberal policies.”

This “critical examination of multiculturalism offers ethnographic nuance to long-existing—and largely theoretical—debates about gender, cultural difference, and the multicultural state,” says Smitha Radhakrishnan, Associate Professor of Sociology at Wellesley College. “By bringing these debates to life through the everyday lives of the women she interviews, Dr. Ameeriar highlights the urgency of these debates, as well as the lessons that we as scholars and citizens have yet to fully learn.” **WW**



NOTES ON FELLOWS

The National Book Critics Circle included two WW Fellows among their 2016 finalists. **Mark Greif MN '00** is a finalist in criticism for his essay collection, *Against Everything*, and **Robert Pinsky WF '62** is a finalist in poetry for his latest work *At the Foundling Hospital*. The NBCC will also present **Margaret Atwood WF '61** with a lifetime achievement award.



Clinton Bartholomew TF '12

Clinton Bartholomew TF '12 has been named Teacher of the Year by *Jackson Magazine*.

Mr. Bartholomew is a science teacher and department chair at Jackson Preparatory and Early College Academy in Jackson, MI.

In April, the New-York Historical Society presented **Jane Kamensky MN '87** with its annual book prize in American history for *A Revolution in Color: The World of John Singleton Copley*.

Gary S. Schiff's WF '71 first book, *Tradition and Politics: The Religious Parties of Israel* (Wayne State University Press, 1977),



Mary Beth Norton WF '64
(Frank DiMeo/Cornell)

has now been selected under a \$773,761 grant from the National Endowment for the Humanities and the Andrew W. Mellon Foundation as a “great humanities book” deserving of being preserved forever by being digitized and reissued in print.

Mary Beth Norton WF '64, the Mary Donlon Alger Professor of American History at Cornell University, has been elected president of the American Historical Association (AHA). Her one-year term as president will begin in January 2018.

Anne Lambright MCI '09 was awarded the Modern Language Association's 2016 Katherine Singer Kovacs Prize for her 2015 book, *Transitional Justice, Ethnicity, and Cultural Production in Post-Shining Path Peru*. The prize recognizes outstanding books published in English or Spanish in the field of Latin American and Spanish literatures and cultures 

fellowship

RECENT PUBLICATIONS

Edward J. Balleisen MN '87—*Fraud: An American History From Barnum to Madoff* (Princeton University Press)

George Butte WF '67—*Suture and Narrative: Deep Intersubjectivity in Fiction and Film* (Ohio State University Press)

Susan Letzler Cole WF '62—*Serious Daring: The Fiction and Photography of Eudora Welty and Rosamond Purcell* (University of Arkansas Press)

Julie R. Enszer WS '13 (edited)—*The Complete Works of Pat Parker* (A Midsummer Night's Press)

Kpakpundu Ezeze AF '85—*Dream College: How to Help Your Child Get into the Top Schools, second edition* (SuperCollege)

Lisa A. Freeman MN '88—*Antitheatricality and the Body Public* (University of Pennsylvania Press)

Curtis A. Gruenler CN '96—*Piers Plowman and the Poetics of Enigma: Riddles, Rhetoric, and Theology* (University of Notre Dame Press)

Charles F. Howlett WT '90 (co-authored)—*John Dewey, America's Peace-Minded Educator* (Southern Illinois University Press)

Adam Jortner CN '08—*Blood from the Sky: Miracles and Politics in the Early American Republic* (University of Virginia Press)

Jan Keily CN '99 and J. Brooks Jessup CN '08 (edited)—*Recovering Buddhism in Modern China* (Columbia University Press)

Paula McQuade CN '96—*Catechisms and Women's Writing in Seventeenth-Century England* (Cambridge University Press)

Lori Merish CN '91—*Archives of Labor: Working-Class Women and Literary Culture in the Antebellum U. S.* (Duke University Press)

Frances V. Moulder WF '65—*Exiting the Extraordinary: Returning to the Ordinary World After War, Prison and Other Extraordinary Experiences* (Lexington Books)

Sydney Nathans WF '62—*A Mind to Stay: White Plantation, Black Homeland* (Harvard University Press)

Deborah E. Nord WS '76 (co-authored)—*At Home in the World: Women Writers and Public Life from Austen to the Present* (Princeton University Press)

Elliott Oring WF '69—*Joking Asides: The Theory, Analysis, and Aesthetics of Humor* (Utah State University Press)

Raymond I. Orr IP '95—*Reservation Politics: Historical Trauma, Economic Development, and Intratribal Conflict* (University of Oklahoma Press)

Louis Ruprecht Jr. CN '89 (contributing editor)—*Subterranean Histories: Constantine Cavafy and the Poetics of Memory, 'Studies in the Literary Imagination 48:2*

Edward J. Watts MN '97—*Hypatia: The Life and Legend of an Ancient Philosopher* (Oxford University Press) 

FOUNDATION UPDATES

WW Board Honors Shirley Strum Kenny WF '56

At its February 2017 meeting the Woodrow Wilson Foundation Board of Trustees passed a resolution to honor **Shirley Strum Kenny WF '56**, who stepped down from the Board in fall 2016. Dr. Kenny, a Charter Trustee of the Board at the time of her retirement, is former president of the State University of New York at Stony Brook, as well as former president of Queens College. A scholar of 17th- and 18th-century British drama, Dr. Kenny has also taught at the University of Texas, Gallaudet University, the Catholic University of America, the University of Delaware, and the University of Maryland. She joined the National Advisory Board of the Woodrow Wilson Foundation in 1995, and was elected to the Board of Trustees in 2005, having been named a Charter Trustee in 2014.



The resolution in her honor notes, “Dr. Kenny has given generously of her time and effort in all Board initiatives, has engaged her fellow Trustees thoughtfully, with a never-ending focus on the mission of the Foundation, and has brought wisdom, great heart, and constant collegiality to all her efforts on behalf of the Foundation... . The Woodrow Wilson Board of Trustees extends its highest commendation to Dr. Kenny as a Fellow, leader, colleague, and friend, as well as its lasting gratitude for her service during her more than 60 years of affiliation with the Foundation, and expresses its utmost respect, affection, and admiration for her.” 

Local School, National Impact in Rwanda

Continued from page 6

At the same time, for his doctorate in educational leadership at the University of Georgia, Dr. Haynes was completing a dissertation on factors in Rwandan students’ academic success. While Rwanda offers free public education from nursery school to ninth grade, not all children had access to nearby schools, or to schools with a coherent curriculum. Rwanda’s Ministry of Education took an interest and commissioned Dr. Haynes to turn his analysis into a national study.

Few educators have the chance both to build and run a school and to shape a new national education policy. Says Dr. Haynes, “This is an opportunity to dramatically impact educational policy and practice in Rwanda.”

More information about the Crimson Foundation can be found online at www.CrimsonFoundation.com. 



Phillip Haynes, right, and John Bland, Executive Director of Amigos for Christ, during the grand opening of the new school in La Chuscada, Nicaragua. The Crimson Foundation and Amigos for Christ were partners in opening the school.

WW Annual Report Available

Now posted on the Woodrow Wilson Foundation’s website is the *Foundation Report* for its 2016 fiscal year. The report, which includes a commentary by Arthur Levine on shifts in the basic structure and assumptions of education in the global, digital, information

economy, also features highlights of the Foundation’s work in 2015–16, an overview of its financial wellbeing, and recognition of key donors. The report can be found at <http://woodrow.org/news/publications>. 

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From the time she was seven years old, Donna E. Weistrop WF '65 knew she wanted to be an astronomer. When she graduated Wellesley College in 1965 she had her heart set on one institution: The California Institute of Technology.

At a time when Caltech, according to a flyer advertising their graduate programs, only accepted women under exceptional circumstances, and when not many women received fellowships from the National Science Foundation, Dr. Weistrop was thrilled to receive both admissions to Caltech and a Woodrow Wilson Fellowship.

“That enabled me to go where I wanted to go,” says Dr. Weistrop. “It also freed me up from worrying about how I was going to support myself for the first year or two. It was as simple and as wonderful as that.”

Dr. Weistrop received her Ph.D. in astronomy in 1971, becoming one of the first women to do so at Caltech. She went on to teach astronomy at Tel Aviv University, work at the Kitt Peak National Observatory, and work for NASA at the Goddard Space Flight Center, among many other roles. She is currently an emeritus professor of physics at the University of Nevada, Las Vegas, and a foundation trustee at the Lowell Observatory.

She began supporting WW as a way to pay it back and pay it forward. “I got to follow my dream,” says Dr. Weistrop. “Why shouldn't today's Fellows?”

Dr. Weistrop's passion for astronomy is palpable; she sees it as a terrific entry point for today's students.

“Astronomy is a good introduction to science, especially for kids,” she says. “It's important for students to understand how science works and to establish an evidence-based way of looking at things. They need to be able to evaluate what's real and what is just wishful thinking.” 

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In 2015 the Goizueta Foundation of Atlanta made a three-year, \$910,000 grant to provide professional enrichment for WW Georgia Teaching Fellows working in the metro Atlanta area. *Read more about the program and see more photos inside on page 7.*



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