

# Celebrate



### We believe science creates opportunities and shapes our world.

Countless scientific and technological accomplishments influence our lives and form the framework for our modern society, and most are led by individuals whose stories often go untold. As we honor Black History Month, we are pleased to highlight people whose groundbreaking accomplishments contributed to scientific understanding, broke barriers in medicine and technology, and helped improve lives of countless individuals and families you to seek out the outstanding individuals of today who are living and working right here in Buffalo and around the world.

By making observations, asking questions, and striving to understand how aspects of our world are connected, each of us is an explorer. At the Buffalo Museum of Science and Tifft Nature Preserve, we hope all of our guests will be inspired to seek out hidden stories, and recognize their own potential to explore, to discover, and to advance our

### countless individuals and families through education, mentorship, and support. We encourage

society.

## DR. CHARLES R. DREW 1904-1950 MEDICINE



"It is fundamentally wrong for any great nation to willfully discriminate against such a large group of its people... One can say quite truthfully that on the battlefields nobody is very interested in where the plasma comes from when they are hurt."



Dr. Charles R. Drew was an American surgeon and medical researcher whose work saved thousands of lives during World War II. As a child and young man he was a star athlete, lettering in four sports and attending Amherst College on an athletic scholarship. His interest in medicine came later, after the death of his sister from tuberculosis and influenza and his own hospitalization from a football injury.

Drew trained and mentored a generation of medical students and surgical residents at Howard University Medical School. He also campaigned against the exclusion of Black physicians from medical societies and medical specialty organizations, including the American Medical Association. location for donors to give blood and eventually developed into the American Red Cross Blood Bank.

During this time, blood was segregated between races. Drew protested this practice, arguing that there was no science supporting it. His advocacy led to eventual policy changes.



### Drew's work revolutionized how blood

#### could be donated, stored and transported.

#### His blood mobiles allowed for a centralized

## DR. JUNE BACON-BERCEY 1929-2019 METEOROLOGY



"When I chose my major, my adviser advised me to go into home economics ... I got a D in home economics and an A in thermodynamics."

June Bacon-Bercey is best known for her time as a television meteorologist during the 1970s - right here in Buffalo, NY on WGRZ.

She was the first woman and first African-American to be awarded the American Meteorological Society's Seal of Approval for her broadcast forecasting. During her career, she also worked for the National Weather Service (NWS) and the National Oceanic and Atmospheric Administration (NOAA).

She was a staunch advocate for STEM education for women and minorities, setting up the American Meteorological Society's Board on Women and Minorities show "The \$128,000 Question" to establish the June Bacon-Bercey Scholarship in Atmospheric Sciences for Women through the American Geophysical Union. Dr. June Bacon-Bercey was a broadcast meteorologist on what is now WGRZ!





## **ELIJAH MCCOY 1844-1929** MECHANICAL PATENTS



The popular expression "The Real McCoy," typically meaning the real thing, has been attributed to Elijah McCoy's oil-drip cup invention. One theory is that railroad engineers looking to avoid inferior copies requesting it by name and inquiring if a locomotive was fitted with "the real McCoy system".



Elijah McCoy was born free in Canada to parents who escaped enslavement in Kentucky through Underground Railroad. Elijah was one of twelve children, eleven of whom were born in Canada. The family moved to Michigan around 1860 and lived on the farm of John and Maryann Starkweather in Ypsilanti. The farm was a stop on the Underground Railroad, and Elijah's father George was a conductor.

In 1930 a short announcement titled "Negro Inventor" was published in the black-owned newspaper The Baltimore Afro-American. The segment described a lubricating cup developed for use on railroads and ships and mentioned the inventor had produced 50 other patents. Nothing was mentioned black ingenuity and innovation — a message that carried particular significance in the Jim Crow era, where doubts about African American intellect were rampant.

E. McCOY.

Improvement in Lubricators for Steam-Engines.

No. 129,843.

Patented July 23, 1872.

### about who Elijah McCoy was or why these inventions were important. The mere fact of his patents powerfully demonstrated



## DR. R. ARLINER YOUNG 1899-1964 MICROBIOLOGY



"The trouble is that for two years I've tried to keep going under responsibilities that were not wholly mine but were not shared and the weight of it has simply worn me out." (on failing her first doctoral qualifying exams)



**Roger Arliner Young, about 1927-1929.** *Photo courtesy of Marine Biological Laboratory* 

Dr. Roger Arliner Young was the first Black woman to earn a PhD in Zoology. After completing her Bachelor's degree in 1923 at Howard University, Young joined the faculty as an assistant professor and research assistant to fellow Black scientist Dr. Ernst Everett Just.

Young enrolled in graduate studies at University of Chicago from 1924 – 1930. In 1924 she published her work on the structure of paramecium in Science as the first Black woman to publish in the prestigious journal.

In 1929 Young was leading the Howard Zoology department due to Dr. Just's travels abroad. Young's studies suffered from both her PhD at the University of Pennsylvania in 1940. Previously, Just described Young as a "real genius in zoology."

The Roger Arliner Young (RAY) Marine Conservation Diversity Fellowship supports young African Americans who want to become involved in marine environmental conservation work.





### DR. J. DREW LANHAM **1965-PRESENT CONSERVATION SCIENCE**



"In me, there is the red of miry clay, the brown of spring floods, the gold of ripening tobacco. All of these hues are me; I am, in the deepest sense, colored."

Photo courtesy of Dr. J. Drew Lanham

J. Drew Lanham, is an naturalist, writer, and **MacArthur Fellow from rural South Carolina** who is a Distinguished Alumni Professor and Alumni Master Teacher of Conservation **Biology at Clemson University.** His work deepens conservation science through personal, historical, and cultural narratives. Lanham has mentored nearly fifty graduate students to date.

Dr. Lanham first non-academic book, The Home Place – Memoirs of a Colored Man's Love Affair with Nature won awards included the 2017 Southern Book Prize, the Reed Award from the Southern Environmental Law Center, and a "Best Scholarly Book of the Decade" by The Chronicle of Higher Education.

by connecting heart and knowledge. He has been board member for the National Audubon Society, Audubon South Carolina, South Carolina Wildlife Federation, Aldo Leopold Foundation, Bird Note and The American Birding Association.

"The Root" named Dr. Lanham one of the 100 most influential Black Americans in 2022. He has an extensive online presence on





THE HOME PLACE

Memoirs of a Colored Man's Love Affair with Nature







#### As an eco-social advocate and activist and

### progressive rural southerner, Lanham seeks

#### to make a difference for his homeplace

#### YouTube and

#### social media.

"A groundbreaking work about race and the American landscape. Thoughtful, sincere, wise, and beautiful." -HELEN MACDONALD, AUTHOR OF H IS FOR HAWK

## LEWIS LATIMER 1848-1928 CARBON LIGHTBULB FILAMENT



*"We create our future, by well improving present opportunities: however few and small they are."* 

Lewis Howard Latimer was the son of selfemancipated enslaved people, a self-taught draftsman, and contributed to the invention of the lightbulb and the telephone. Some of his own inventions are the early air conditioning unit and the railroad car bathroom.

Latimer drew the diagrams for Alexander Graham Bell's telephone patent and developed a more efficient transmitter which improved sound quality. In 1884, Latimer joined Thomas Edison in developing and commercializing incandescent lightbulbs. His longer-lasting carbon filament made home lighting more practical and affordable for families.

Edison encouraged Latimer to write the book, Incandescent Electric Lighting: A Practical Description of the Edison System. Published in Today the Lewis Latimer House is a historic house museum in Flushing, Queens, New York that functions as a public, cultural institutional institution that provides primary research materials dedicated to Latimer's legacy and that of other innovators of color.



### 1890, it was extremely popular as it explained how an incandescent lamp produces light in an easy-to-understand manner.



### DR. PATRICIA BATH 1942-2019 CATARACT SURGERY



"Sometimes even now when I'm told I was a "first," it comes as a surprise, because it's only through history that you understand that kind of thing ... I was just doing my thing, and I wanted to serve humanity along the way- to give the gift of sight."

Patricia Era Bath was an American ophthalmologist, inventor, humanitarian, and academic. She earned many 'firsts' in her career, including being the first person to invent and demonstrate laser cataract surgery.

During her medical internship, Bath observed large proportions of blind patients at Harlem Hospital in comparison to Columbia University Eye Clinic patients. She was the first to document that Blacks suffered blindness disproportionately to other racial groups. In 1976 she co-founded the American Institute for Prevention of Blindness to address vision inequities. Bath coined the concept of "community ophthalmology" to address preventable blindness through education, public health outreach, and local medical services. treatment is one of the most important surgical tools in the history of ophthalmology. In 1988, Dr. Bath became the first Black woman to receive a medical patent. She currently holds five U.S. patents; Three related to the Laserphaco Probe, and two additional patents for improved methods of removing cataracts using ultrasound and laser.



### Dr. Bath's 1986 invention of the Laserphaco Probe for minimally-invasive cataract

## VALERIE THOMAS 1948-PRESENT DATA SCIENCE AND 3D MOVIES



"I also took every opportunity I had to let young people know how important it was to take advanced mathematics courses in high school, because nobody had ever told me."



Valerie Thomas is a data scientist and inventor of the technology for 3-D movies. Thomas joined NASA in 1964 and in 1970 she began processing satellite images of earth as part of the Landsat program. Thomas' work in data processing expanded our ability to visualize Earth from space.

As the world expert on data quality processing from Landsat, many scientists globally contacted Thomas to ask questions about the data from Landsat. Tired of answering the same questions, Thomas wrote and released a document that became the basis for all future versions of the Landsat documentation.

In 1980, Thomas was awarded a patent for an illusion transmitter inspired by an exhibition she visited in 1976. The transmitter uses parabolic mirrors to transmit 3-D illusions via

An active advocate, at NASA Thomas organized the Humanitarian United Effort to unite managers with a diverse group representing "African-American women, Hispanics, people with disabilities," demonstrating to management the importance of diversity and highlighting the work of overlooked individuals."



#### a camera. NASA continues to use it today, and

it is adapted for use in surgery, and television

and video screens.

## MAMIE PHIPPS CLARK 1917-1984 SOCIAL PSYCHOLOGY



"This is probably one of the most dangerous things facing mankind today! a use and training of intelligence excluding moral sensitivity."



Throughout her career Mamie Phipps Clark recognized a shortage of psychological services available to the African American community. Her work on the impact of racial discrimination and stereotypes was invaluable to developmental psychology and the psychology of racial identity.

In her groundbreaking "Doll Tests" Black and white preschoolers were asked to name their preferences between black and white dolls in order to test what biases they may have. Her research showed that racial segregation has a negative impact on black children and their self-esteem. The results of her research helped lawyers in the case of Brown vs. Board of Education in 1954, ending legal segregation in US public schools. Development. When they opened Northside it was the only organization providing mental health services to Black children. Quickly expanding to provide academic support the Center became a hub for activism and advocacy for Harlem, working to alleviate some of the social barriers to success.



#### In 1946 Clark and her husband Kenneth

#### founded the Northside Center for Child

## **GERALD ANDERSON "JERRY" LAWSON** 1940-2011 PROGRAMMER / TECHNOLOGY



*"With some people, it's become an issue."* I've had people look at me with total shock. Particularly if they hear my voice, because they think that all black people have a voice that sounds a certain way, and they know it. And I sit there and go, 'Oh yeah? Well, sorry, I don't." [On being one of the few black engineers in the video-game industry.]"

**Electrical engineer Jerry Lawson's** invention revolutionized video gaming worldwide. He led the development of the Fairchild Channel F home gaming system, which was released in 1976 and was the first interchangeable cartridge-based game console. Cartridge-based games allowed gamers to purchase single games and to build their own libraries. Within a year, Larson's technology was in use by video game giant Atari.

Lawson's invention pushed the gaming industry out of arcades and into houses around the world, changing the face of entertainment. In 2011, the International **Game Developers Association named him** an industry pioneer. Lawson's contributions

to the gaming industry are on permanent display at The World Video Game Hall of Fame at The Strong National Museum of Play in Rochester, New York.

