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Celebrating **Diversity**

in Biology

For over a decade, The Color of Science™ Program has highlighted the amazing contributions to science, technology, engineering and math (STEM), made by women and persons of color. This "Passport to the Color of Science" showcases the genius, creativity and commitment to the scientific enterprise of just some of these great women and men. We hope you enjoy reading these short biographies of some of the brilliant minds that help make our world a better place and enhance our own living experience.

Dr. Frederic Bertley

COSI's President and CEO, and the founder of The Color of Science Program

Hopefully one day you can meet



Erica Conroy, PhD

Vice President of Specialty Business, CoverMyMeds

Dr. Conroy is a former chemist from Scripps Research Institute, and now works as a senior executive, directing emerging business products at CoverMyMeds.

Dr. Conroy and her team are responsible for delivering new specialty solutions that create value for patients, providers, and pharmacists, all in the space of healthcare. Like CoverMyMeds, Dr. Conroy's passion is to help patients get the medications they need to live happier and healthier lives.

Did you know?

Dr. Conroy has been a COSI Board of Trustee member since 2020!

Quinn Capers, MD

Interventional Cardiologist, OSU Wexner Medical Center

As an interventional cardiologist, Dr. Capers is trained to treat the entire spectrum of heart disorders. He performs procedures to open blocked arteries in the heart. These often involve advancing a catheter (tube) from the wrist up to the heart and using balloons, stents and other devices to open up the arteries. Dr. Capers was rated in the top 10 percent of physicians in the nation for patient satisfaction for 5 years in a row.

Interesting Fact:

Your heart will beat about 115,000 times each day.

Ramakanta Panda, MCh

Chief Consultant for Cardiovascular Thoracic Surgery and the Vice Chairman & Managing Director of the Asian Heart Institute, in Mumbai India

Dr. Panda is called "one of the safest heart surgeons in the world". He has performed over 20,000 cardiac surgeries including over 1,800 redo bypass surgeries and over 3,000 high risk surgeries. Dr. Panda's 99.6% success rate in bypass surgery is widely recognized as a world-class standard.

Did you know?

The average heart is the size of an adult fist.

Nieca Goldberg, MD

Cardiologist, Physician

Dr. Goldberg is a cardiologist and physician at NYU
Langone Medical
Center. The American
College of Cardiology
describes Goldberg as a
"clinical innovator" and
"a nationally recognized pioneer in women's heart



health". During Goldberg's early training as a doctor, she observed that many women were not being properly diagnosed in regards to heart diseases.

Did you know?

Your heart pumps about 2,000 gallons of blood every day.



Alka Kanaya, MD

Associate Professor of Medicine in the Division of General Internal Medicine at the University of California, San Francisco (UCSF)

Born in Mumbai and raised in California, Dr. Kanaya had seen firsthand the devastating toll heart disease and stroke were taking on family members, friends, and others in her community. Many were dying at relatively young ages, but there was little that explained why. "South Asians, who are almost 20 to 25 percent of the world's population, have high rates of cardiovascular disease, but few studies have focused on determining the risk factors for this population," said Kanaya.

Fun Fact:

The beating sound your heart makes is caused by the opening and closing of its valves.

Susumu Tonegawa, PhD

Immunologist, Neurologist, & Biologist Professor of Biology & Neuroscience; Director, RIKEN-MIT Center for Neural Circuit Genetics

Dr. Tonegawa is a
Japanese scientist who was
the sole recipient of the Nobel
Prize for Physiology or Medicine
in 1987, for his discovery of the genetic
mechanism that produces antibody diversity.
Tonegawa's Nobel Prize work highlighted
the genetic mechanism of the adaptive
immune system, which had been the central
question of immunology for over 100 years.
He now studies neuroscience, examining the
molecular, cellular and neuronal basis
of memory formation and retrieval.

Did you know?

The spleen helps your immune system work.

Alison Morris, MD, MS

Chief of Division of Pulmonary, Allergy

& Critical Care Medicine; Professor of Medicine & Immunology at the University of Pittsburgh Department of Medicine

Dr. Morris is a pioneering researcher in the new and rapidly expanding field that explores the complex variety

of microorganisms in the lung known as the lung microbiome, and the role it plays in health and disease. A better understanding of this microbiome could lead to new markers for improved disease diagnoses, as well as new therapies for a wide range of lung-related conditions, including HIV, COPD, and cystic fibrosis.

Interesting Fact:

You have immune cells in all of your tissues.

Federica Marelli-Berg,

PhD Professor of Cardiovascular Immunology

Dr. Marelli-Berg
is Professor of
Cardiovascular
Immunology at Queen
Mary University of London,
and one of the country's
leading experts on the immune

system. Her research is focused on finding ways to limit damaging immune responses which can cause rejection following a heart transplant. Professor Marelli-Berg's research program focuses on a type of white blood cell, called a T-cell. T-cells are essential for

Did you know?

body from infections.

Positive emotions and a healthy lifestyle may boost your immunity!

the immune response as they protect the

Charles Rotimi, PhD

Researcher

Dr. Rotimi is the Director of Research in genomics and global health at the National Institute of Health (NIH). Dr. Rotimi works to ensure that population genetics include control of the scientist Magazine genomes from all people, especially African populations, and founded the African Society of Human Genetics. Rotimi discovered that that hypertension and diabetes disease rates are significantly higher in African-American populations living in Chicago than Africans living in rural Africa. He determined that this difference was due to lifestyle factors, including weight, salt consumption and levels of physical activity.

Did you know?

Due to his various contributions to medical reseach, Dr. Rotimi was elected to the National Academy of Medicine in 2018.

Ream Al-Hasani, PhD

Assistant Professor of Department of Pharmaceutical & Administrative Sciences & in Department of Anesthesiology at Washington State University of Medicine

Dr. Al-Hasani studies the endogenous opioid system to understand how a to target it therapeutically to treat addiction, affective

disorders, and chronic pain. In her lab, she continues to use multidisciplinary approaches to further our understanding of the negative affective behaviors associated with the withdrawal phase of addiction and the interaction of endogenous opioid systems with commonly prescribed opioid analgesics.

Fun Fact:

Your brain's storage capacity is considered virtually unlimited.

Alexa Canady, MD

Neurosurgeon

In 1981, Dr. Canady became the first Black female neurosurgeon in the United States. In 1984, Canady was certified by the American Board of Neurological

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Surgery, another first for a female
African American. Three years later, she
became director of neurosurgery at the
Children's Hospital. Under her guidance, the
department was soon viewed as one of the
best in the country. Canady specialized as a
pediatric neurosurgeon and served as chief
of neurosurgery at the Children's Hospital in
Michigan from 1987 to 2001.

Women in STEM fact:

48 percent of neurology residents are women, and 54 percent of faculty at the instructor level are women.

Stephen Shore, PhD

Professor of Special Education at Adelphi University

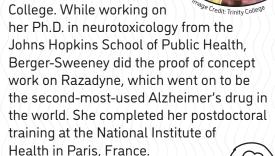
Dr Shore is an autistic professor of special education at Adelphi University, where his research focuses on matching best practice to the needs of people with autism. His most recent book, College for Students with Disabilities, combines personal stories and research for promoting success in higher education. In addition to working with children and talking about life on the autism spectrum, Stephen is internationally renowned for presentations, consultations and writings on lifespan issues pertinent to education, relationships, employment, advocacy, and disclosure.

"The potential of those of us on the autism spectrum is unlimited – just like with everyone else." Stephen Shore

Joanne E. Berger-Sweeney, PhD

Neuroscientist & President of Trinity College

Dr. Berger-Sweeny is a neuroscientist, She is the first Black woman and the first woman to serve in the position as President of Trinity



Did you know?

60% of the human brain is made of fat.

Marian Cleeves Diamond, PhD

Neuroscientist

Dr. Marian Diamond was a pioneering scientist and educator who is considered one of the founders of modern neuroscience. She and her team were the first to publish evidence that the brain can change with experience and improve with enrichment, what is now called neuroplasticity. Dr. Diamond is famously known as the scientist who discovered evidence of Neuroplasticity in the brain of Albert Einstein.

Fun Fact:

Your brain isn't fully formed until age 25.



Nicte I. Mejia, MD, MPH, FAAN

Assistant Professor of Neurology at Harvard Medical School & Assistant in Neurology at Massachusetts General Hospital

Born in Guatemala and raised in Mexico, Dr. Mejia graduated medical school

with honors from the Monterrey Institute of Technology, then moved on to get her Masters of Public Health from Harvard University. With several publications in well respected peer-reviewed medical journals, her research has allowed her to characterize ways to improve neurology care for racial and linguistic minority populations.

Interesting fact:

8% of human DNA is now made up of ancient viruses that used to infect us and make us ill.

Darrell M. Gray, II, MD, MPH, FACG

Medical Director, Endoscopy & Gastroenterology Services, Ohio State East Hospital; Deputy Director, Center for Cancer Health Equity, OSUCCC-James

Dr. Gray is an associate professor of medicine at The Ohio State University, where he serves as Medical Director of Endoscopy and Gastroenterology Services. In his role, he leads a nationally recognized initiative aimed at improving colorectal cancer screening rates. He also directs initiatives to enrich the pipeline of diverse health professionals and support the advancement of underrepresented minorities in the field of gastroenterology.

High paying career alert!

Gastroenterologists typically make between 200k-500k a year!

Adelle Davis, MS

Dietitian and Nutritionist

Adelle Davis is an author and nutritionist, and widely considered "the most famous nutritionist in the early to mid-20th century." She was as an advocate for improved health through better nutrition. After earning a Masters of Science in Biochemistry, she worked as a consulting nutritionist. She prescribed diets to the patients that were referred to her by numerous specialists. By the end of her career she had helped approximately 20,000 referred patients.

Did you know?

Vitamin D helps our bodies absorb calcium from foods.

Linda Buck, PhD

Biologist

Linda Buck discovered how hundreds of genes in our DNA code for the odorant sensors located in the olfactory sensory neurons in our noses. Each



receptor is a protein that changes when an odorant attaches itself to the receptor. This causes an electric signal to be sent to the brain Small differences between different odorant sensors mean that certain odorants cause a signal to be released from a certain receptor. Smells are composed of a large number of different substances and we interpret the varying signals from our receptors as specific scents.

Interesting Fact:

DNA is found in every human cell and if you unraveled each strand it is nearly 6.5 feet long!

Dr. Dale Okorodudu, MD

Pulmonary & Critical Care Physician

In addition to being a practicing Pulmonary & Critical Care Physician, Dr. Dale, as his patients call him, is an award-winning physician, speaker, and best-selling author. He is hest known as the founder of Diverse Medicine Inc. – an initiative to increase ethnic and socioeconomic diversity in the medical workforce via the implementation of community programs that expose underrepresented students to the field of medicine.

Did you know?

A person usually breathes an average of 13 pints of air every minute.

Dorothy Hansine Andersen, MD

Pathologist & Pediatrician

Dr. Andersen was the first person to identify cystic fibrosis, progressive, genetic disease that causes persistent lung infections and limits the ability to breathe over time.

ime.

The character of Medicine and into the National During her research and many children

In 2001 she was inducted into the National Women's Hall of Fame. During her research career, Andersen studied many children who had digestive or breathing problems. In addition to her research on cystic fibrosis, Dr. Andersen also initially investigated and described a rare glycogen storage disease, glycogen storage disease type IV, now known as Andersen's disease.

Interesting Fact:

About 30,000 people in the US suffer from Cystic Fibrosis.

Juan Celedón, MD, DrPH

Pulmonologist & Genetic Epidemiologist

Committed to research, mentoring, and patient care, Dr. Celedón's research goals are to identify genetic factors and early-life environmental exposures that influence

the development of asthma and chronic obstructive pulmonary disease (COPD), particularly in ethnic minorities. Dr. Celedón's research group has made key contributions to the understanding of the roles of racial ancestry and genetics, stress, obesity, and vitamin D insufficiency in the pathogenesis of airway diseases.

Did you know?

Every second, your body produces 25 million new cells

Yueh-Ying Han, PhD

Epidemiologist & Assistant Professor of Pediatrics University of Pittsburgh School of Medicine

Dr. Han is a research assistant professor of pediatrics at the University of Pittsburgh School of Medicine. She is interested



in environmental epidemiology and has dedicated her academic career to understand etiology (causes of disease) and risk factors of diseases. Her studies have been focused on modifiable factors of asthma among children, including environmental exposure and changes of lifestyles such as diet, obesity, and stress.

Fun Fact:

The lungs are the only organs that can float on water.

Mary Allen Avery, MD

Pediatrician & Professor at Harvard Medical School

In the 1950s, Dr. Avery's pioneering research efforts helped lead to the discovery of the main cause of respiratory distress syndrome (RDS) in premature babies: her

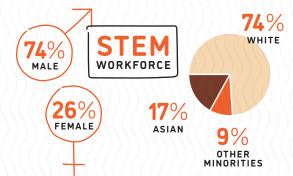
in premature babies: her identification of surfactant led to the development of replacement therapy for premature infants and has been credited with saving over 830,000 lives. In 1991 President George H.W. Bush conferred the National Medal of Science on Avery for her work on RDS

Did you know?

Infants are born with approximately 300 bones, but as they grow some of these bones fuse together.

FUN FACTS

WHY WE NEED DIVERSITY in STEM





about ½ of the workforce in engineering & advanced manufacturing is approaching retirement, and the growth in the percentage of young workers is not keeping pace





13% of CARDIOLOGISTS





cosi.org/colorofscience
#scienceisforeveryone









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