**PROFILES** 

# Black chemists you should know a

These inventors, educators, and unsung heroes changed lives through the

by Megha Satyanarayana

FEBRUARY 27, 2019



Editor-in-Chief, Bioconjugate Chemistry

Celebrating 30 Years of *Bioconjugate Chemistry* 

Vincent M. Rotello

EDITOR-IN-CHIEF Q&A



## UPDATE

This story was updated on Feb. 21, 2020, to include profiles of St. Elmo Brady, Mary Elliott Hill, and Robert Henry Lawrence Jr. The story was updated on Sept. 29, 2020, to include a new introduction and add profiles for Marie Maynard Daly, Percy Lavon Julian, and James Ellis Lu Valle.

As she worked her way through college and graduate school in the 1990s, Sibrina Collins was struck by what was missing in her chemistry education: people who looked like her. A young Black woman, fascinated by inorganic chemistry, and all the faces and names in her textbooks were white.

After getting her PhD, Collins told herself that when she became a professor, she would change that. So, while teaching first-year students at the College of Wooster about bonds, valences, and the myriad other introductory chemistry topics, she peppered in stories of chemists like the ingenious Alice Ball, the fruitful Percy Julian, and the groundbreaking St. Elmo Brady. Chemists who looked like her. Chemists who were rarely mentioned in textbooks.

"My goal was really to broaden the image of a chemist in the classroom for all my students to see," she tells C&EN. "I really do think that chemists, scientists, we are historians. We just tell the stories through the molecules and systems that we study."

Collins, who is now the executive director of the Marburger STEM Center at Lawrence Technological University, says that beyond broadening students' Sign up for C&EN's must-read weekly newsletter

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horizons, sharing the stories of these distinguished Black scientists helps level the playing field and helps right a far-too-entrenched wrong of disregarding Black achievement in chemistry or even omitting it from the field's history.

"I was just trying to address equity in some way," she says.

That was our goal too.

In February 2019, C&EN first published this list of noteworthy chemists in honor of Black History Month. We started with six people whose work has shaped the discipline and whose discoveries have changed our lives for the better. We asked for your feedback on whom to add next, and you responded, sharing stories of your relationships with some of our honorees and urging us to add more. Please keep sending us suggestions. We'll keep updating.

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## Alice Ball

Around the turn of the 20th century, leprosy was a major public health concern in Hawaii. Alice Ball was a chemistry instructor at the College of Hawaii, which would become the University of Hawaii. She had earned a master's degree in chemistry from the institution, looking for active components in a medicinal plant, the kava root. Ball was the first woman and first Black woman to earn a chemistry degree at the university, as well as to become an instructor.

In 1916, Harry Hollmann, a doctor at Kalihi Hospital who was treating people with leprosy, asked Ball to help him determine the active ingredients in chaulmoogra, a plant that had been used with some success to treat the disease. Hollmann was looking to isolate something concentrated and injectable, and in one year, Ball had figured out how to fractionate the active oil, allowing her to solubilize it (Arch. Derm. Syphilol. 1922, DOI:

Alice Ball 10.1001/archderm.1922.02350260097010).



**Credit: Wikimedia Commons** 

Ball died suddenly, at the age of 24, possibly of accidental chlorine poisoning in a laboratory. Her work was taken up by a male scientist who tried to take credit for her discoveries. Chaulmoogra injections based on Ball's work became a standard treatment for leprosy until the 1940s. In 2000, Hawaii Lieutenant Governor Mazie Hirono named Feb. 29 "Alice Ball Day."

## St. Elmo Brady

In 1916, St. Elmo Brady, born in Louisville, Kentucky, became the first African American to earn a PhD in chemistry. He did his graduate work at the University of Illinois Urbana-Champaign, and his research focused on how the acidity of carboxylic acids changed based on the addition of different chemical groups. He taught for several years at what would eventually be called Tuskegee University and eventually became the chair of the chemistry department at Howard University.

Several years later, Brady returned to Fisk University, where he had earned his undergraduate degree, to lead its chemistry department. He took over from another noted Black chemist, Thomas W. Talley.

At Fisk, Brady created the nation's first graduate program in chemistry at a historically Black college and eventually did the same at three other universities. In 2019, the American Chemical Society designated the University of Illinois Urbana-Champaign, Fisk University, Tuskegee University, Howard University, and Tougaloo

**Credit: University of Illinois Archives** 

St. Elmo Brady

**College National Historic Chemical Landmarks** 

because of the work that Brady accomplished at those institutions. He died in 1966.

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## Marie Maynard Daly

Marie Maynard Daly was the first Black woman in the US to earn a PhD in chemistry. She earned her doctorate from Columbia University in 1947. As a graduate student, she studied the workings of a **digestive enzyme**, and as a postdoctoral fellow, she investigated the mysteries of the cell nucleus. Her research helped scientists understand histones, proteins that both aid in the organization of our genomes and influence gene expression.

Daly also showed that high blood pressure led to **clogged arteries** and that high levels of cholesterol

were an important contributor to this aspect of metabolic

disease. She also **investigated** the role of smoking in high blood pressure.

Credit: Archive Marie Daly



Credit: Archives of the Albert Einstein College of Medicine, Ted Burrows, photographer

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## Lloyd Noel Ferguson

When he was young, Lloyd Noel Ferguson was a **literal backyard chemist**, inventing a moth repellent and a spot remover in the yard behind the Oakland home where he grew up. In 1943, he became the first Black person to earn a Ph.D. at the University of California, Berkeley. He worked on a defense project, creating products that might release oxygen for use in submarines.



Credit: Cal State LA

Lloyd Ferguson

Eventually Ferguson switched coasts, moving to Howard

University to teach and lead that school's chemistry program. As a researcher, he studied several topics, including the chemistry of taste. He was part of the team that created Howard's chemistry doctoral program, the first at any historic Black college or university. Ferguson was relentless in creating opportunities for Black people interested in chemistry and biochemistry and received a Guggenheim Fellowship. He was one of the cofounders of **NOBCChE**, the National Organization for the Professional Advancement of Black Chemists & Chemical Engineers. The organization named an award after him that reflected his passion for bringing up the ranks of young Black chemists—the Lloyd N. Ferguson Young Scientist Award for Excellence in Research. He died in 2011.

Outside the lab, Daly taught at Howard University and Albert Einstein College of Medicine and

scholarship at Queens College, where she earned her bachelor's degree in chemistry.

worked hard to improve the ranks of underrepresented groups in medicine and science. In 1988,

in honor of her father, who had to abandon his chemistry degree because of the cost, she started a

## Bettye Washington Greene

In 1965, in the years before riots over civil rights engulfed parts of Detroit, Bettye Washington Greene was putting the finishing touches on her Ph.D. in physical chemistry from Wayne State University. Her thesis focused on how particles distribute themselves in emulsions, and this research served her well. Later that year, Bettye Washington Greene became the **first Black woman** to work for Dow Chemical.

While at Dow, she worked on developing colloids and on ways to improve latex. She published several papers related to work in developing polymers, including studying different properties that lend to the redispersement of latex.

Among Greene's many accomplishments are several **patents** related to latex, including a latex-based adhesive using a carboxylic acid copolymerizing agent, and latex polymers with phosphates used as coatings. Greene died in 1995.



Credit: Science History Institute/Wikimedia Commons
Bettye Washington Greene

## ADVERTISEMENT

## Walter Lincoln Hawkins

The cables used for telephone lines need to be protected from the sun's rays, water, and heat, among other things. Before the 1950s, these cables had protective coatings made from either toxic lead or plastics, which, at the time, were prone to rapid degradation via oxidation.

Enter Walter Lincoln Hawkins, a chemist at Bell Laboratories and the company's first Black employee in a **technical position**. He and a partner **developed a cable sheath** made of a then-new class of thioether compounds and carbon black, combined with polyethylene. The work improved the lifespan of telecommunication cables to up to 70 years and led to the expansion of **telecommunications** all over the world. This sheath was one of dozens of products patented by Hawkins in his lifetime. He held multiple positions at Bell and was inducted into the **National Inventor's Hall of Fame**.



Credit: National Science & Technology Medal Foundation
Walter Lincoln Hawkins

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Hawkins believed strongly in mentoring minority students, leading a project by the American Chemical Society to promote chemistry as a subject and a profession. In 1992, President George H. W. Bush awarded him the National Medal of Technology & Innovation, in part for his work in helping rural communities establish telephone communications. He died just two months later.

## Alma Levant Hayden

In 1963, two doctors named Stevan Durovic and Andrew C. Ivy were treating cancer patients with krebiozen, a compound they called a cure for the disease.

Except that it wasn't, and Alma Levant Hayden, then a scientist at the National Institute of Arthritis and Metabolic Diseases, **showed the world why**. After federal researchers coaxed the tiniest samples from the doctor and his partner, Hayden analyzed krebiozen. The



Credit: NIH History Office/Wikimedia Commons Alma Levant Hayden

results were stunning. This compound being touted as a cancer cure was nothing more than creatine, a molecule readily available in our diets.

Hayden was among the first **federal scientists of color**, working at what would become the National Institutes of Health and then the Food and Drug Administration. She specialized in using spectrometry to detect steroids. At a career forum for young women in 1962, Hayden told the mostly high school attendees, "Always try to do the very best and to be the very best in whatever group you are working with." She died in 1967.

## Mary Elliott Hill

Mary Elliott Hill was a chemist and teacher who worked alongside her husband, Carl Hill, for many years in the mid-1900s. The duo specialized in plastics, using Grignard reactions to form **ketenes**, highly reactive compounds used in the formation of esters, amides, and other challenging compounds. Hill was an analytical chemist, designing spectroscopic methods and developing ways to track the progress of the reactions based on solubility.

Hill was born in 1907 in South Mills, South Carolina. She earned a bachelor's degree in chemistry in 1929 from what would eventually be called Virginia State University. Throughout her career, she taught high school- and college-level chemistry. In 1951, she became the head of

the chemistry department at Tennessee State University, eventually leaving to become a professor at Kentucky State College when her husband was named the school's president.

Mary Elliott Hill

Hill instituted student chapters of the American Chemical Society at some of the historically Black colleges and universities where she taught. Many of her students became chemistry professors, and she won awards for her teaching. In the 1960s, she observed that more women were becoming interested in science, but they lost interest because of the realities of research life at that time. Hill died in 1969.

## Percy Lavon Julian

Percy Lavon Julian made many discoveries in a wide array of chemical disciplines, and all during an era in which segregationist laws limited Black Americans' access to higher education. Born in 1899 in Montgomery, Alabama, he left the South to enroll at DePauw University, where he had to take high school classes at the same time as his college courses to fulfill the university's undergraduate requirements.

After receiving a master's degree from Harvard University, Julian taught, first at Fisk University in Nashville, Tennessee, and then at Howard University, where he became the chair of the Chemistry Department. He then went to Austria to get his doctoral degree in organic chemistry at the University of Vienna.

**Credit: Courtesy of Science History Institute** 

Credit: Louisville Courier Journal

Percy Julian

Afterward, Julian returned to DePauw and began the hallmark research that would eventually lead to his 11-step synthesis of physostigmine, an alkaloid in the Calabar bean that can be used to treat glaucoma.

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Later in his career, as chief chemist and the director of the soybean section of Glidden, Julian drew from his academic research to develop efficient syntheses of steroids, as well as nonmedicinal products, such as a fire-retardant foam that was used during World War II on gasoline fires. Julian also started his own chemical company, Julian Laboratories, as well as the nonprofit Julian Research Institute. Before his death, he was elected to the National Academy of Sciences.

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## Robert Henry Lawrence Jr.

Robert Henry Lawrence Jr. was a chemist by training, but he was also the first African American astronaut. Lawrence was born in Chicago in 1935. After graduating from Bradley University with a chemistry degree, he joined the United States Air Force, eventually becoming a test pilot.

Soon after, the Air Force selected him to become an astronaut to work on low-orbit intelligence missions. This program was the precursor to the NASA's space shuttle program. During his training, Lawrence also got a PhD in physical chemistry from the Ohio State University.

Lawrence never made it into space. In 1967, he died during a training flight at Edwards Air Force Base. He had completed about 2,500 hours of flight time in his short career. Bradley University named a scholarship in Lawrence's honor, and a school in Chicago was also named for him. On Feb. 14, 2020, a shuttle bearing Lawrence's name embarked for the International Space Station, carrying, among other things, supplies for scientific research.



**Credit: Newscom** 

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## James Ellis Lu Valle

James Ellis Lu Valle was an Olympian and a chemist. During the 1936 Olympics in Berlin, Lu Valle won the **bronze medal** in the 400 m race. This was the Olympics in which Jesse Owens took home four gold medals while Adolf Hitler watched. That same year, Lu Valle earned his bachelor's degree in chemistry from the University of California, Los Angeles. The university later named a student center after him, making Lu Valle the first student to have his name grace a UCLA building.

After earning a master's degree from UCLA, Lu Valle pursued his PhD under the guidance of Linus Pauling at the California Institute of Technology. After teaching at Fisk University, a historically Black institution in Nashville, Tennessee, Lu Valle became the first Black

**Credit: Associated Press** 

Robert Henry Lawrence Jr.

James Lu Valle

person to work for Eastman Kodak. Later in his career, he became director of physical and chemical research at Smith-Corona Marchant in Palo Alto, California. When the company closed, Stanford University asked Lu Valle to lead the first-year chemistry lab, and he agreed, ending his career by returning to education and mentorship.

## Samuel P. Massie

At the height of the Manhattan Project, Samuel P. Massie was trying to figure out how to turn uranium isotopes into liquids for use in a bomb. Before joining the project, he had gone to lowa State University to get a Ph.D. in organic chemistry. He was not allowed to live on campus or work in the same labs as white students. After being denied a draft deferment, he withdrew from the Ph.D. program and took a position working on nuclear chemistry for the Manhattan Project.

Massie eventually got his Ph.D. from Iowa State University and then worked on finding new antimicrobial compounds. In 1982, he patented an antibiotic for treating gonorrhea. In his career, he also focused on education—teaching chemistry and taking an appointment at the National Science Foundation to shape science education across the nation. In 1966, President Lyndon B. Johnson chose him to teach chemistry at the US Naval Academy, making him the first Black person to do so. Many years later, he chaired the department, becoming the first Black person to hold that position.



Credit: US Naval Academy

Samuel P. Massie

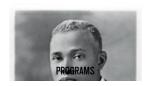
Massie was always a high achiever, graduating high school at 13 and college at 18. One of his Manhattan Project contemporaries was another accomplished Black scientist named **Lloyd Albert Quarterman**. Massie died in 2005.

#### **CORRECTION**

This story was updated on Sept. 29, 2020. to correct the positions held by Walter Lincoln Hawkins at Bell Laboratories.

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## **COMMENTS**

#### **William Swope**

(February 21, 2020 10:50 PM)

I would add Dr James LuValle who I met when he was at Stanford Univ in the 1980s. See the Wikipedia page on him. A remarkable guy.

Reply »

## Megha Satyanarayana

(February 24, 2020 5:50 PM)

Great suggestion! I will add him in the next round of updates. -Megha

Reply »

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#### **David Kingston**

(February 26, 2020 10:26 AM)

I am surprised that you did not include Percy Julian (https://en.wikipedia.org/wiki/Percy\_Lavon\_Julian), and I suggest that you add him.

David Kingston, Virginia Tech

Reply »

## Megha Satyanarayana

(February 27, 2020 2:55 PM)

Thanks for the suggestion. We will add him.

Reply »

#### A. N. Naporano

(February 27, 2020 8:36 PM)

I agree. Dr. Julian should be included here. Perhaps next time. He has been a role model for me. I admire his courage the face of extreme prejudice. Please let me refer you to this article that had appeared in an ACS publication before.

American Chemical Society National Historic Chemical Landmarks. Percy Julian: Synthesis of Physostigmine. http://www.acs.org/content/acs/en/education/whatischemistry/landmarks/julian.html (accessed Month Day, Year).

Reply »

#### Ralph Whitney

(June 4, 2020 10:40 AM)

As an additional comment about Percy Lavon Julian, PBS did a very good docu-drama on his career and life that is well worth watching. It is called "Forgotten Genius" (2 hr).

Reply »

#### **Hamdy Khalil**

(June 4, 2020 12:02 PM)

I agree with Professor Ralph Whitney. The documentary is worth watching.

Reply »

#### Shankar

(February 26, 2020 10:35 AM)

May I suggest to you the name of Prof. Bertram Fraser-Reid, a great sugar chemist missing from your list.

### Reply »

#### Megha Satyanarayana

(February 27, 2020 2:55 PM)

Thanks for the suggestion. I'll take a look.

Reply »

## Hamdy Khalil

(June 4, 2020 12:05 PM)

I have know Professor Fraser-Reid when he was at the University of Waterloo. Great Scientist indeed.

Reply »

#### Michael E. Bartram, PhD

(February 26, 2020 10:36 AM)

How could you guys have possibly left out Percy Lavon Julian!!!

Don't give up you guys.....

You're doing a great job.....

Michael Bartram

Reply »

#### Shankar

(February 26, 2020 10:36 AM)

May I suggest to C&E News and, you the name of Prof. Bertram Fraser-Reid, a great carbohydrate chemist missing from your list.

Reply »

#### **Jeff Hansen**

(February 26, 2020 10:37 AM)

Hard for me to believe that Percy Julian is not included here. This year marks the 100th anniversary of his graduation from DePauw University. I can provide information about him if you want.

Reply »

## Mervyn Israel

(February 26, 2020 11:03 AM)

Henry Hill, who was the first black president of ACS, also deserves mention.

Reply »

### Ralph Whitney

(February 26, 2020 11:05 AM)

I'm somewhat surprised that Percy Lavon Julian isn't on this list (yet). I used to enjoy lecturing about his work on producing steroidal hormones from plant sterols. He made many other contributions to industrial organic chemistry as well.

Reply »

#### **David Lide**

(February 26, 2020 11:11 AM)

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An important addition is Dolphus Milligan (1928-1973), who pioneered the use of low-temperature matrix isolation techniques to determine the structure of transient free radicals and other unstable molecules at the National Bureau of Standards (now National Institute of Standards and Technology). See Wikipedia and the references there for a summary of his contributions and honors.

Reply »

Megha Satyanarayana

(February 27, 2020 2:56 PM)

Thanks. I'll check it out.

Reply »

#### **Chris Nawrat**

(February 26, 2020 11:28 AM)

Percy Lavon Julian, legendary steroid researcher and the first black chemist (and second black person) to be admitted to the National Academy of Sciences seems like an obvious omission.

Reply »

#### **Pete Shapland**

(February 26, 2020 11:34 AM)

Great article! I have always been impressed by the steroid research of Percy Julian. He was working around the time of Russell Marker and pre-dated the great work by Djerasi at Syntex but gets very little recognition. He was a true great of steroid chemistry too!

Reply »

#### Joseph Bryant

(February 26, 2020 11:43 AM)

Thanks, this is great, I will copy and share with my kids and grand kids.

Reply »

#### **Vince Mathews**

(February 26, 2020 12:21 PM)

What about the inclusion of Dr. Percy Julian? A a pioneer in the chemical synthesis of medicinal drugs such as cortisone, steroids and birth control pill.

Reply »

#### David M. Manuta. Ph.D., FAIC

(February 26, 2020 12:34 PM)

Thank you for sharing these fascinating vignettes on truly outstanding men and women in our field. The stories of these special men and women reveal inspiration and positive unifying thoughts at a time when these connections are truly needed..

Reply »

#### **Carly Reid**

(February 26, 2020 12:36 PM)

Marie M. Daly 4/16/21 dob 10/28/03 dod (my Nana) She is best known for being the first African-American woman to receive a PhD in chemistry in the United States. She received her BS and MS in chemistry at Queens College and New York university then completed her PhD at Columbia University. Her groundbreaking work clarified how the human body works. She was five Beta Kappa and a fellow of the American Association for the advancement of science. She retired from Albert Einstein college in 1986. She also taught at Howard university.

Reply »

### Megha Satyanarayana

(February 27, 2020 2:57 PM)

Thank you, Carly. If you have any specific information outside of what's available publicly, please email me at meghas@acs.org. I'd be happy to check it out for a future update.

Reply »

#### **Rob Schmidt**

(February 26, 2020 2:20 PM)

No mention of Percy Julian? He definitely should be added to the list. He was one of the first African-Americans to receive a Ph.D. in chemistry (in 1931, although he had to go to the University of Vienna to do it, due to the racial barriers in the US at that time.) Julian had a remarkable career, and was the subject of the excellent PBS NOVA episode "Forgotten Genius".

Reply »

#### **Gary Patterson**

(February 26, 2020 3:08 PM)

Linc Hawkins was indeed both a great scientist/technologist and a warm colleague.

Bell Labs was fortunate to have him on staff.

Reply »

## Alex Polykarpov

(February 26, 2020 3:42 PM)

I would mention Percy Julian (also has a page in Wikipedia). I learned of his name shortly after I started to work for AkzoNobel at the Glidden R&D Center in Strongsville, OH. His name was still proudly mentioned there many years after his departure.

Reply »

#### Diana Graham

(February 26, 2020 4:23 PM)

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Please consider Dr. Charles Drew who among other things figured out how to process plasma so that it could be stored and shipped to Europe during WWII. He was also the first director of the American Red Cross Blood Bank. His best biography is on the ACS website.

Reply »

#### **Erin Creel**

(February 26, 2020 5:30 PM)

Is there a typo in the St. Elmo Brady section? There is a reference to someone named Fisk in the second to last sentence, but I'm guessing the person that should be referenced is Brady.

Reply »

#### Megha Satyanarayana

(February 27, 2020 2:59 PM)

Thanks for the catch. We'll get it fixed.

Reply »

(February 26, 2020 7:34 PM)

I'd suggest adding Percy Lavon Julian, a pioneer in the synthesis of certain pharmaceuticals, to future lists! Thanks for putting this together

Reply »

#### **David Krevor**

(February 26, 2020 8:21 PM)

I've been inspired by the work of both Percy L. Julian and William A. Hinton. Both did very fine chemistry, with important applications; and both overcame significant racism to make their contributions.

Reply »

#### Megha Satyanarayana

(February 27, 2020 3:00 PM)

Thanks for the suggestions. Megha

Reply »

#### Dr. Mary L. Moller

(February 27, 2020 12:09 AM)

I knew Betty Greene when we were both chemistry graduate students at Wayne State University . i am pleased to read about her contributions and that she was recognized by the ACS. I remember her fondly. I would appreciate it if you could pass my comment to her family. My home is in New York. Thank you.

Reply »

#### Megha Satyanarayana

(February 27, 2020 3:01 PM)

Thank you, Dr. Moller, I will do my best to try and find them.

Megha

Reply »

#### **Delvis Dore**

(February 27, 2020 1:46 PM)

I was pleased to see Dr. Robert Lawrence mentioned, as several years ago i was the Robert Lawrence scholar at Bradley Univ. as an undergraduate. It is worth mentioning that I then attended Illinois State University, where chemistry classes are taught in Julian Hall, named after the black chemist Percy Julian, widely regarded for his work with phytochemicals

Reply »

#### **Patrick Dansette**

(March 2, 2020 5:40 AM)

I fully aggree with the mention of Percy Julian.

I heard him onec at NIH around 1974.

Reply »

## **Angela Edwards**

(March 2, 2020 7:13 PM)

What a fantastic article. I love that quite a few of these renowned chemists were women. I am glad to know about these people and what they've done for science.

Reply »

#### Debra

(March 18, 2020 12:29 AM)

Coincidentally, I recently met an African American woman on the train who shared with me about her retired profession as a Chemist. During the long commute I became awe-inspired through several personal stories she shared and I think that she would be a perfect candidate to add to your list. Her name is Marilyn Wilson, currently of Columbia, S.C. if you would be so kind to consider.

Sincerely,

Debra

Reply »

#### M Sax

(June 4, 2020 11:08 AM)

Here I miss Fletcher Henderson. He is best known as a jazz musician (one of the greatest arrangers and band leaders). But he got a degree in chemistry and maths. When he saw he could not make a decent life as a black

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chemist and mathematician he devoted himself to music. Which was good for jazz lovers, but a pity and a shame anyway.

Reply »

#### Jannie S Baker

(June 4, 2020 11:11 AM)

I suggest adding Dr. Betty Wright known for her work on chemical explosives while at Los Alamos National Laboratory and recipient of a governor's award for outstanding New Mexico women.

Reply »

#### Charles J. Patton

(June 4, 2020 11:50 AM)

Please consider including Theodore "Ted" R. Williams, an exceptional analytical chemist, teacher, mentor, and human being who died in 2005 (https://www.legacy.com/obituaries/washingtonpost/obituary.aspx?n=theodore-rwilliams&pid=15674916).

Sincerely,

Charlie

Reply »

#### **Frank Settle**

(June 4, 2020 2:00 PM)

I would like to see mention of Fred Scott. I believe he was the first African American to graduate with a BS in chemical engineering from Johns Hopkins. Information found at https://hub.jhu.edu/2017/07/20/frederick-scott-johns-hopkins/

Frank Settle Professor Emeritus of Chemistry Washington and Lee University Lexington, VA 24450

Reply »

#### **Natalie Merrill**

(June 4, 2020 2:04 PM)

What a beautiful publication and honor to all these scientists that you have begun with. It is inspiring! Please consider some of our current and rising heroes in this category, Dr Rob Bryant, PhD in polymer science working at NASA Langley, Dr. Jereme Doss, PhD, Technology leader at General Plastics in Tacoma. Also, retired professor Dr John Macklin, professor At University of Washington Seattle in Raman spectroscopy. Monsongo Mouka.

Reply »

#### **Frank Settle**

(June 4, 2020 2:38 PM)

Fred was the first African American to graduate with an undergraduate degree form Johns Hopkins.

Frank

Reply »

#### **Charles Scouten**

(June 4, 2020 4:29 PM)

How about Hosea Williams a USDA chemist at Skidaway Island, GA before joining Dr. King's civil rights movement? His is an inspiring life story.

Reply »

#### PJ Flanigan

(June 4, 2020 4:36 PM)

My inspiration to become a chemist was from Tom Smith, who at the time was a researcher at Xerox and who now works as a professor of chemistry at Rochester Institute of Technology RIT. At the time he inspired me as a child, I was unaware that so few chemists were black and did not realize that this would be a factor in the profession. Tom continues to be an enthusiastic supporter and mentor to many aspiring chemists. His contributions are Nobel, but his passion to bring fun, wonder and education to new eyes is a talent we cannot ignore.

Reply »

#### William Studabaker

(June 4, 2020 5:54 PM)

From Tobacco Road, Bert Fraser-Reid at Duke and Slayton Evans at UNC-Chapel Hill.

Reply »

#### **Martin Feldman**

(June 4, 2020 7:54 PM)

Howard University in Washington DC has graduated the largest number of Black Ph.D.s in the US since the first graduates in 1958. The Chemistry faculty in the period of 1930-1950 were the first Black Ph.D. graduates from major research universities: R.P. Barnes (Harvard); M.D. Taylor (Chicago); K. B. Morris (Cornell); P.L. Julian (Vienna); St.E. Brady (Illinois);

L.N. Ferguson (UCBerkeley); J. B. Morris (Penn State). An early history of the Howard Chemistry Department is on the department web page: www.chem.howard.edu

Reply »

#### **Richard Hill**

(June 6, 2020 2:41 PM)

I have only belatedly come across your impressive collection of past black chemists who deserve to be remembered. While I agree that Percy Julian should make the list, you have done a great job in finding worthy members.

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Even though this is too late for inclusion in your list, let me add one more candidate that you should know about. George A. Wiley, born in 1931, received a Ph.D. in organic chemistry from Cornell 1n 1957, did a postcoc at UCLA, taught at Berkeley for two years, then moved to a tenured position at Syracuse. He became a distinguished civil rights activist. founding the Syracuse chapter of Congress of Racial Equality, then became Head of the National Welfare Rights Organization and the national commander of Movement for Economic Justice. He drowned tragically on a family sailing trip in 1972. You can find more about him in Wikipedia, in his NY Times obituary, Aug 190, 1972, in an Ebony article in April 1970, and a biography by Kotz and Kotz.

Reply »

#### **Dhrubajyoti Talukdar**

(June 8, 2020 2:34 PM)

What is this? I know about Organic, Inorganic and Physical chemist. What we have to do became a black chemist? **Reply** »

#### **William Talbott**

(June 9, 2020 10:41 PM)

I also was very surprised that you did not include Percy Julian. He also appeared on a US postage stamp!  $\mathbf{Reply}$  »

#### **Alexander Nyuchev**

(June 11, 2020 6:28 AM)

Actually, Anna Volkova from Russian Empire in the middle of the 19th century was the first woman to graduate as a chemist and to publish her own chemical research, not Allice Ball. https://en.wikipedia.org/wiki/Anna\_Volkova Reply »

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