

How Dr. Gladys West Made GPS Possible

By Swapna Krishna

The STEM fields are full of significant innovators who sadly never got the recognition they deserve. These people, many of whom are under-recognized female scientists, were pioneers in their fields. They achieved great things but didn't receive due credit because they were women of color (and often specifically Black women). In the 1950s and 60s, many Black women worked as engineers and "human computers," enabling the dawn of the space age and the era of modern computing.

Dr. Gladys West is one of STEM's hidden trailblazers. She helped develop technology that contributed to the creation of the Global Positioning System, or GPS, which revolutionized modern society. Her contributions have been hidden for too long. We're excited to discuss both Dr. Gladys West and the ins and outs of how GPS works.

How Does GPS Work?

When we're going about our daily lives, we use GPS constantly but don't really think about

what it is. How does GPS work? The United States' GPS relies on a constellation of thirty-one satellites in Earth orbit (other countries have their own GPS systems), according to the FAA. They work in concert with ground stations that pinpoint the precise position of these satellites at any given time. Receivers are what we utilize (our phones, car infotainment systems, etc.) to access the GPS network.

Receivers are able to listen for signals from this satellite constellation. After communicating with a minimum of four separate satellites, they can pinpoint a user's location to within seven meters, with about ninety-five percent accuracy.

Dr. West's Background

Born in 1930 in rural Virginia, Dr. Gladys West was the daughter of Black sharecroppers and worked the fields as a child. She knew education was her way to a different life, so through hard work, she excelled and received a scholarship to college. She earned an undergraduate degree in mathematics and continued on to pursue a master's degree.



In 1956, she began her career at the United States Naval Weapons Laboratory. Her role was to collect and process data from satellites, which she used to help pinpoint their exact locations in space. This experience as a "human computer" helped

Small Business Exchange • Voice of Small, Emerging, Diversity-Owned Businesses Since 1984 [Click to read more](#)

Opportunities

LOUISIANA
DEPARTMENT OF ENVIRONMENTAL QUALITY
Public notices and participation activities
[Click for details](#)

Doreen's Jazz
New Orleans

- Private lessons from Queen Clarinet
- Band performances at your venue
- Master classes for groups

504-908-7119
doreenja@bellsouth.net
www.doreensjazz.org

www.williamtolliver.com

LOUISIANA BUSINESS JOURNAL
SBE OUTREACH SERVICES

With over 1.6 million businesses in our active database—the country's largest non-public diversity database—SBE sets the professional standard for diversity outreach across the nation. For more than three decades, we have served small businesses, prime contractors, and agencies—with proven results.

Advertisements
Placed in various Louisiana Business Journal digital publications every month and at www.louisianabusinessjournal.com

Fax, Email, and Postal Solicitations
Targeted mailings sent to businesses chosen according to your criteria

Live Call Center Follow-Up
Telephone follow-up calls using a script of five questions that you define

Computer Generated Reports
Complete documentation that will fit right into your proposal, along with a list of interested firms to contact

Special Services
Custom design and development of services that you need for particular situations such as small business marketing, diversity goal completion, and agency capacity building

Call for more information: 800-800-8534

1984 **38** 2022
Years

LOUISIANA BUSINESS JOURNAL
PUBLIC LEGAL NOTICES

With a database of over 1.6 million businesses, SBE assists agencies with public legal notices

Advertisements
Placed in various Louisiana Business Journal digital publications every month and at www.louisianabusinessjournal.com

Special Follow-Up Services
Custom design and development of services that you need for particular situations such as small business marketing, diversity goal completion, and agency capacity building

Call for more information: 800-800-8534

1984 **38** 2022
Years



Advertise in our digital
LBj

weekly or whenever wherever you need to reach among agencies contractors diversity firms



Balthazar Electriks
WHOLESALE DISTRIBUTORS

We deliver a wide range of products and services to proudly serve construction, industrial, utility, and commercial businesses

ELECTRICAL Wire, Distribution, Wiring Devices, Installation Material	LIGHTING Bulbs, Ballasts, Exits/Emergency Lights, Installation Options	SECURITY Smoke, Carbon Monoxide and Metal Detectors, Surveillance Equipment, and Batteries	COMMUNICATIONS Fiber Optic Cable, Telecommunication Systems, and Office Equipment
--------------------------------------------------------------------------------	----------------------------------------------------------------------------------	------------------------------------------------------------------------------------------------------	---------------------------------------------------------------------------------------------

Contact info: 3623 D'Hemecourt Street • New Orleans, LA 70119
504-891-5504-o • 504-891-5580-f • Beletriaks@balthazarinc.com • www.Balthazarinc.com

LAGNIAPPE BAKEHOUSE

Lagniappe Baking is an independently owned pop-up Bakehouse by pastry chef Kaitlin Guerin. Created to make one-of-a-kind assorted Pastry Boxes that highlight the local, seasonal bounty of the Crescent City's agriculture, each box is meant to challenge your taste buds with flavor combinations and leave you with joy and anticipation for the next.

www.lagniappebaking.com

**2023 IS THE YEAR FOR YOU!
IT'S YOUR TIME TO SHINE!
THEJANICEEDWARDS.COM**

Award-winning, Emmy-nominated Edwards Unlimited Productions
Media, Event & Show Packages
Zoom & Presentation Coaching
Strategic Communications

866.433.8658

SOUTHEAST EVENTS FOR YOUR BUSINESS

2023

Join the Small Business Administration (SBA) Los Angeles District Office for a virtual workshop to increase your potential for federal contract opportunities through the System for Award Management registration. Workshop topics will include: platform overview; why SAM is required; registration process; required info; and SBA resources available. They will also provide tips, FAQs, and directions on where to get additional assistance, as well as answers to your other questions. To register, visit <https://www.eventbrite.com/e/sam-registration-system-award-management-tickets-512254405717>

Federal Contracting: Veteran Small Business Certification Program Webinar
Tuesday, March 7, 2023, 8:00 am–10:00 am CST Online
Main Sponsor(s): US Small Business Administration
Contact: Mark Dahle, 202-205-6779, mark.dahle@sba.gov
Fee: Free; registration required

Learn about SBA's new Veteran Small Business Certification program. The certification function has been transferred from the Department of Veterans Affairs (VA) to SBA as of January 1, 2023. Certification with SBA allows service-disabled veteran-owned small businesses (SDVOSBs) to compete for sole-source and set-aside federal contracts across the federal government. Certified veteran-owned small businesses (VOSBs) have additional opportunities to pursue sole-source and set-aside contracts at the Veterans Administration (VA) under the VA's Vets First program. Register for this free webinar at <https://www.eventbrite.com/e/sba-veteran-small-business-certification-tickets-533879436767>

Getting Registered into the System for Awards Management (SAM.gov) Webinar
Wednesday, March 8, 2023, 12:00 pm–1:00 pm CST Online
Main Sponsor(s): US Small Business Administration
Contact: SBA Los Angeles District Office, 213-634-3855, LADO@sba.gov
Fee: Free; registration required

Selling to the Federal Government Webinar
Thursday, March 23, 2023, 12:00 pm–3:00 pm CST Online
Main Sponsor(s): US Small Business Administration
Contact: George Tapia, 610-382-3086, george.tapia@sba.gov
Fee: Free; registration required

Did you know that the federal government is the largest purchaser of goods and services in the world? Interested in learning how your business can market your services or goods to the federal government? Register on line at <https://www.eventbrite.com/e/how-to-sell-to-the-federal-government-tickets-21790713611> SBA helps to ensure small businesses get fair opportunities to share federal government prime contracts. Topics will include: To Register, Small Business Certifications, Finding Opportunities, Marketing Your Firm, Federal Supply Schedules, Getting Paid, Tips to Prepare Your Offer, How to Seek Additional Assistance. All training sessions are held via Microsoft Teams Meeting. Participants must ensure Microsoft Teams is functioning.

CERTIFICATION

Small Business Exchange, Inc.
is **DBE** certified by the Louisiana UCP.