

Tanaka Chonyera

Mechanical & Aerospace Engineer · Pharmaceutical Capital Project Lead · Founder, Dreamernaut Rocket Bootcamp

tanaka@dreamernaut.com tanakachonyera.com linkedin.com/in/tanakachonyera Indianapolis, IN

HONORS & AWARDS

- **Letter of Recognition from the Governor of Indiana (2026):** signed by Governor Mike Braun on behalf of the State of Indiana and presented at the Sheridan Airport launch on September 25, 2026, for “supporting, educating, and inspiring the next generation of Hoosier STEM graduates” through the High-Power Rocket Bootcamp.
- **NSBE 25 Under 25 Honoree (2026), National Society of Black Engineers:** selected through a competitive national nomination and evaluation process conducted by NSBE leadership and appointed review committees, and issued in conjunction with the 2026 NSBE Annual Convention.
- **Eli Lilly Rise Recognition, “Deliver” (October 2026):** nominated by Eric Dozier, Executive Vice President and Chief People Officer, for Global Day of Service support: “your commitment does not go unnoticed.”
- **1st Place in Africa, 1st Place in Botswana, DStv Eutelsat Star Awards (2018):** the first-ever Botswana win in the essay category, for an essay on better uses of satellites, in a competition that drew 8,000+ entries over its history; announced February 2019; judged by a panel chaired by European Space Agency astronaut Paolo Nespoli, who said the jury was “not quite sure if he’s crazy or the next Nobel Prize winner” and that they “put our money on the second one.” Prize: a trip to Paris and French Guiana to witness an Ariane 5 launch (January 2020).
- **Ranked the #1 flyer by flight count at LDRS 44 (2026),** the largest high-power rocketry launch in the world (852 flights from 576 registered flyers across 41 states and 3 countries): 34 flights, more than double second place, per the host club’s official flight report.
- **Lebone STEM Derby, South Africa (2018):** gold medal for a solid-propellant rocket built from scratch as team captain; Maru-a-Pula placed first overall against four other schools. **African Leadership Academy STEM Derby (2019):** designed and built a parabolic solar concentrator; the school was runner-up against two other schools.
- **Certificate of Achievement, Science Olympiad (Informatics), April 2018:** Botswana Science Association and Maru-a-Pula School, International Junior Science Olympiad selection.
- **Service Award, Botswana Society for the Prevention of Cruelty to Animals (BSPCA), August 2019:** Maru-a-Pula School Service.
- **Wielenga Research Scholar, Michigan State University (2022):** \$4,000 stipend for high voltage divider work at the Facility for Rare Isotope Beams.
- **\$140,000 in MSU merit-based scholarships** and the **\$1,250 Boeing Scholarship** for engineering excellence.

PRESS & MEDIA

- **Indianapolis Star, October 2026:** feature [“Meet Tanaka Chonyera, the man aiming to inspire next generation of rocket scientists”](#) by Christine Tannous, with a 20-photo gallery and a video; syndicated by Yahoo and MSN.
- **WTHR (NBC Indianapolis), February 2026:** broadcast and digital feature [“Indianapolis engineer launches free rocket boot camp for kids”](#) with a companion video segment; syndicated by Yahoo and 97.5 WCOS (iHeart) Morning Rush.
- **The Week Junior, April 2026:** profiled in the People section of the national weekly news magazine.
- **Fox59 Indy Now, June 15, 2026:** [segment](#) with the City of Fishers, cross-aired on CBS4 Indianapolis.
- **Eli Lilly internal company news:** featured during Volunteer Week for community STEM mentorship.

- **Reddit:** millions of views across r/space, r/pics, r/rocketry, r/MadeMeSmile, r/AerospaceEngineering, and r/UpliftingNews from 10+ months of weekly posting as [u/TanakaChonyera](#), including nine posts above 100,000 views and three above 380,000.
- **Botswana Guardian (national newspaper):** “Botswana’s Future Astronaut is Born” (February 2019) and “DStv Eutelsat Award’s Botswana winner sets Africa’s sights on space” (February 2020).
- **Space in Africa, March 2019:** [“18-year-old Tanaka Chonyera wants to lead Zimbabwe to space.”](#)
- **Coverage of the DStv Eutelsat win, 2019:** Mmegi (online, February 2019, and its print results page, January 2019), News Ghana and Botswana Unplugged (February 2019), Mwananchi, Tanzania (March 2019); interviews on BTV (Botswana national television), DStv, and Yarona FM radio.
- **Facility for Rare Isotope Beams, The Greensheet, March 25, 2022:** feature on the high voltage divider and feedback system built for BECOLA laser spectroscopy.

SPEAKING & TALKS

- **Franklin College, Franklin, IN (October 8, 2026):** guest speaker in Professor Miranda Carter’s public relations class on the High-Power Rocket Bootcamp, capital project management at Eli Lilly, and the “I can do anything” mindset; brought student-built rockets for the class.
- **Enlace Academy (May 7, 2026):** addressed students on STEM, aerospace careers, and the High-Power Rocket Bootcamp at a one-day build for 75 students, the first replication of the model at another institution.
- **Broadhurst Primary School, Gaborone (May 24, 2019):** school assembly talk to students and parents on the DStv Eutelsat win and rocketry.
- **University of Indianapolis (invited, upcoming):** talk on aerospace engineering, capital project execution, and youth STEM mentorship.

FOUNDING STEM & ROCKETRY PROGRAMS

Founder & Lead Instructor, High-Power Rocket Bootcamp

August 2025 - Present

Dreamernaut Rocket Bootcamp · Marion County, IN

- Founded and run a free high-power rocketry program: **390+ participants** trained across ten cohorts (August 2025 to September 2026), **336 rockets built**, and **170+ launched** to altitudes up to 5,000 feet
- Raised **\$155K+**: \$80K through MEPI (Minority Engineering Program of Indianapolis), including a \$40K Cummins grant reconciled in full, and **\$75K from Lilly Social Impact** for Lilly’s 2026 Global Day of Service
- Led the rocket build for Lilly’s 2026 Global Day of Service at Hattie B. Stokes Elementary in Lebanon, IN, with 124 volunteers on build day
- Designed the curriculum (aerodynamics, propulsion, recovery systems, FAA airspace coordination) and built a corps of **174+ adult volunteers**, including engineers, physicians, and industry leaders
- Expanded to 5 Indiana communities and 10+ partner institutions, including the Indiana State Museum, the City of Fishers, Hattie B. Stokes Elementary, and Girl Scouts of Central Indiana
- Endorsed by board members of the National Association of Rocketry, the U.S. governing body for sport and educational rocketry, who have vouched for the technical and educational rigor of the bootcamp
- Ran a cohort for the Indiana Black Expo Youth Leadership Summit on July 17, 2026, funded by Purdue University
- Next phase: electronic dual deployment
- In active discussions with Eli Lilly’s Philanthropy Division to scale the bootcamp model across Lilly’s U.S. sites

- Founded the school's first student-led rocketry program and built a solid-propellant rocket from scratch, from the propellant to the fuselage, using raw fuel and oxidizer from the chemistry department

BOOTCAMP COHORTS

- **Summer 2025**, Camp Dellwood, Indianapolis: builds Aug 2, 9 and 16, 2025; launch Aug 24, 2025, Muncie
- **Fall 2025**, Park, Indianapolis: builds Nov 1 and 8, 2025; launch Feb 8, 2026, Pence
- **Winter 2026, first group**, Camp Dellwood, Indianapolis: build Jan 25, 2026; launch Feb 8, 2026, Pence
- **Winter 2026, second group**, Camp Dellwood, Indianapolis: build Feb 1, 2026; launch Feb 8, 2026, Pence
- **Spring 2026**, Camp Dellwood, Indianapolis: builds Apr 4 and 18, 2026; launch Apr 19, 2026, Pence, during LDRS 44
- **Enlace Academy**, Indianapolis: one-day build for 75 students, May 7, 2026
- **Indiana Black Expo Youth Leadership Summit**, with Purdue University, Indianapolis: one-day build, Jul 17, 2026
- **Indiana State Museum, Space Day**, Indianapolis: one-day build, Jul 18, 2026
- **City of Fishers**, Fishers Maker Playground: build Aug 2, 2026; launch Aug 9, 2026, Muncie
- **Lilly Global Day of Service**, Hattie B. Stokes Elementary, Lebanon: build Sep 24, 2026; launch Sep 25, 2026, Sheridan Airport

TECHNICAL REVIEW & OVERSIGHT

- **Flyer of Record, High-Power Rocket Bootcamp (2025-Present)**: evaluate and certify every student-built rocket before launch, applying NAR safety codes and FAA regulations to airframe integrity, motor classification, recovery system reliability, and airspace compliance.
- **Vendor Selection & Technical Review, Eli Lilly (2024-Present)**: bid scopes of work and evaluate competing vendor proposals for a \$150M+ capital project, sitting on technical review and vendor selection panels and recommending contract awards across design, construction, and commissioning and qualification (C&Q) firms.
- **Volunteer Selection, High-Power Rocket Bootcamp (2025-Present)**: evaluate volunteer applications and select mentors for technical fit, teaching ability, and alignment with the program's mission, including senior industry professionals.

PROFESSIONAL EXPERIENCE

Project Manager, Capital Projects

June 2024 - Present

Eli Lilly and Company · Indianapolis, IN

- Lead a **\$150M+ capital capacity expansion** of warehouse and logistics infrastructure for one of Lilly's flagship therapeutics, from design through construction, commissioning, and qualification (C&Q)
- Direct the design, construction, and C&Q firms' project managers, all of whom report to this role
- Coordinate a peak construction force of hundreds on site against regulatory and quality milestones for FDA-regulated facilities
- Hold monthly governance reviews with the site head of the receiving business unit, translating engineering decisions into executive-ready risk and progress reporting and aligning capital partners on tradeoffs and recovery plans

Development & Process Engineering Intern

May 2023 - August 2023

First Solar · Perrysburg, OH

- Validated and optimized a new ultrasonic welding process for solar modules; JMP analysis of the test data drove the process changes that stopped automated manufacturing from damaging modules
- Supported assembly and testing of new tandem modules that combine monocrystalline and thin-film technology for higher conversion efficiency

RESEARCH EXPERIENCE

Applied Research & Additive Manufacturing Intern

May 2022 - May 2023

Fraunhofer USA · East Lansing, MI

- Developed a new method to fabricate boron-doped diamond (BDD) electrodes that cut production time by 40%, taking the product from selling at cost to **\$15,000+ in sales at a 57% profit margin**
- Sold the electrodes to customers including the University of Chicago and the U.S. Navy
- Delegated work across the BDD fabrication team and trained new interns in electrochemical techniques
- Designed Siemens NX 3D-printed fixtures and an AutoCAD needle-growth template that standardized BDD electrode fabrication and quality control
- Ran long-term coating experiments on BDD microelectrodes using fast-scan cyclic voltammetry and impedance spectroscopy; acknowledged for experimental help in a 2023 *Biosensors* paper
- Tested BDD electrode response to dopamine, serotonin, and DOPAC, and characterized electrodes with electron microscopy
- Fabricated a carbon fiber microelectrode that measured dopamine in vivo for Parkinson's research at MSU's Institute for Quantitative Health Science & Engineering

Mechanical Design & Nuclear Physics Research Intern

Facility for Rare Isotope Beams (FRIB), Dr. Kei Minamisono's BECOLA team · East Lansing, MI

September 2021 - April 2022

- Designed in Siemens NX and built a high voltage divider for collinear laser spectroscopy of radioactive nuclei at BECOLA, where ppm-level knowledge of beam energy is needed to extract nuclear structure information
- Analyzed the divider's output in Python to determine its ratio and compare it with a reference divider from Germany's National Metrology Institute
- Created a full technical draft of the divider for lower-cost reproduction and use in other FRIB facilities

ENGINEERING PROJECTS

Team Lead, Aerodynamic Body Design (Senior Capstone)

January 2024 - April 2024

MSU Solar Racing Team · East Lansing, MI

- Led the senior capstone team designing an aerodynamic, lightweight, manufacturable body for MSU's solar car; the cockpit design cut drag coefficient by 50%
- Made design decisions in Siemens NX and MATLAB, evaluated airfoil profiles in Xfoil, and justified them with fluid dynamics and boundary layer theory
- Owned deliverables comparing manufacturability against theoretical performance to guide future build cycles
- Earned a 4.0 in the capstone course

Aerodynamics & Powertrain Team Member, MSU Formula Racing (Formula SAE)

September 2021 - April 2022

Michigan State University · East Lansing, MI

- Machined radiator mount and suspension components on manual mills and lathes for the team's new monocoque car, and inspected parts for quality control
- Researched air filter alternatives for air-to-fuel ratio, power delivery, and combustion efficiency, and front wing designs that resist failure under aerodynamic load; documented findings for team leads

- Wrote a console messaging app and improved it through numbered releases, from version 0.5.6 to Update 1.7

PRESENTATIONS & RESEARCH CONTRIBUTIONS

- **Chonyera, T.**, Dockery, A., Koenig, K., and Minamisono, K. "Accurate High Voltage Measurement for Laser Spectroscopy." Poster, University Undergraduate Research and Arts Forum (UURAF), Michigan State University, 2022
- Acknowledged for experimental help in: Gupta, B., et al. "In Vitro Biofouling Performance of Boron-Doped Diamond Microelectrodes for Serotonin Detection Using Fast-Scan Cyclic Voltammetry." *Biosensors* 13, no. 6 (2023): 576. [doi:10.3390/bios13060576](https://doi.org/10.3390/bios13060576)

LEADERSHIP

Chapter Secretary & Communications Chair

September 2022 - May 2024

National Society of Black Engineers (NSBE), MSU Chapter · East Lansing, MI

- Rebranded the chapter's social media under @nsbemsu and redesigned nsbemsu.org; Instagram reach rose **38%**, membership **47%**, and interest in national convention attendance **121%**
- Solicited sponsorships from companies including SpaceX to fund chapter operations

Organizer, Bundles of Brightness

2017 - 2020

Gaborone, Botswana

- Organized fundraisers and clothing and food drives for children in Botswana public schools

EDUCATION

B.S. Mechanical Engineering, Aerospace Concentration

May 2024

Michigan State University (MSU), Honors College · East Lansing, MI

- GPA 3.5/4.0 · Dean's List · Honors College
- Programming coursework: C++ and Python, data structures and algorithms, object-oriented programming

SKILLS & CERTIFICATIONS

- **Project delivery:** capital projects; design, construction, and C&Q oversight; vendor selection; governance and risk reporting; FDA-regulated facilities
- **Engineering tools:** Siemens NX, SolidWorks, AutoCAD, MATLAB, Xfoil, JMP, Python, C++
- **Engineering analysis:** aerodynamics, fluid dynamics, boundary layer theory, statistical analysis (JMP)
- **Lab, shop, and certification:** fast-scan cyclic voltammetry, impedance spectroscopy, electron microscopy, 3D printing, mills and lathes, Tripoli Rocketry Association Level 2
- **Languages:** English; Shona and French (limited proficiency)