

AURORA STEM ACADEMY

Hybrid Lift & Hydro-Magnetic Mobility | Research Initiative 001 | 24 October 2026

Concept research and design credit: Leah Paige, age 14, for contributing concept ideas and researching the proposed vehicle design. Published with family authorization; school affiliations do not imply institutional endorsement.



Aurora concept visualization — illustrative only; not a tested prototype.

Purpose

Introduce students to testable electromagnetic lift, water buoyancy, air-cushion lift, instrumentation, and evidence-based engineering. These modules are separate demonstrators, not a validated multimode vehicle.

Technical feasibility

Mode	Mechanism	Research status
Road	Halo wheels and traction	Conventional physics
Maglev	Magnetic guideway + onboard arrays	Needs engineered track
Water hover	Fan-driven air cushion	Near-surface only
Underwater	Ballast + sealed hull + thrusters	Pressure engineering required

Mode	Mechanism	Research status
High flight	Aerodynamic lift or thrust	Not achieved by magnets/water alone

12-week learning sequence

Weeks 1–2: calculate weight, buoyancy and power. Weeks 3–4: build a low-energy magnetic guideway demonstration. Weeks 5–6: measure buoyancy and trim in water. Weeks 7–8: test a guarded, low-voltage air-cushion module. Weeks 9–10: integrate instrumented unmanned modules. Weeks 11–12: publish repeatable results, limitations and safety findings.

Safety and evidence standard

Student experiments are supervised, low-voltage and unmanned. No riders, high-speed magnet rotors, cryogenics, pressure-rated human submersibles, or human flight tests are included. Published imagery must be labeled concept art until verified testing exists.

COMMUNITY SPONSORSHIP & DIRECT GIVING

Appalachian Heroes Foundation thanks the Laurel Highlands School District community for the encouragement and support described by the project family, including education, space and aviation exploration, youth fitness, teacher well-being and community development. This acknowledgement is not a claim of an official district partnership or endorsement.

Direct giving: recipients control the money

Donors should give directly to the recipient organization through its own official website, check instructions, or approved payment processor. AHF does not collect, pool, earmark, transfer, or receipt funds intended for these third parties. Any recognition of sponsors is a separate acknowledgement and must be approved by the recipient where its name or logo is used.

Verified recipient pathways

Laurel Highlands Academic Foundation (Pennsylvania): <https://www.lhsd.org/academic-foundation> . Official foundation lists check contributions payable to Laurel Highlands Academic Foundation, c/o Mrs. Joanne Phillian, Treasurer, 70 Wiggins Lane, Uniontown PA 15401. Ask the foundation how to designate gifts to STEM, aviation, student fitness, or teacher well-being before representing any restricted fund as available.

Plaquemine High School (Louisiana): <https://phs.ipsb.net/> . Official school contact: (225) 687-6367; principal Nick McIntosh, nickmcintosh@ipsb.education. Request a district-approved donation/sponsorship method before publishing a payment button.

Gis for Growth: <https://www.gisforgrowth.org/become-a-sponsor> and <https://www.gisforgrowth.org/donate> . Its own site accepts direct sponsorships and donations, including published \$150, \$750, and \$1,500 sponsorship tiers.

Gracie Jiu-Jitsu academies: academy-specific donations require the particular academy's written agreement and verified payment destination. No generic franchise donation checkout should be implied.

Sponsor recognition and compliance

Suggested donor note: "Inspired by Appalachian Heroes Foundation Aurora STEM Academy; please direct this gift to your authorized youth or educational program where permitted." Donations are made to, processed by, and receipted by the recipient, not AHF. Tax treatment depends on recipient status and donor circumstances. Sponsorship advertising benefits, logo placement and any restricted-use agreement should be reviewed by the recipient and qualified counsel. Obtain parental consent for public credit to a minor and written permission before displaying school or academy logos.

Community outreach request

We invite each institution to identify an authorized contact and direct donation destination, confirm any eligible restricted projects, and approve optional acknowledgement wording. Until that confirmation, links are informational or official recipient-controlled giving links only.

Sources

Laurel Highlands Academic Foundation: lhsd.org/academic-foundation; Plaquemine High School: phs.ipsb.net and phs.ipsb.net/administration; Gis for Growth: gisforgrowth.org/donate and gisforgrowth.org/become-a-sponsor.

COMMUNITY PARTNERSHIP EXPANSION

Aurora STEM Academy | Direct-recipient support | October 2026

Youth martial arts and wellness

Southern Soul Academy - Navarre-area Florida. Proposed community recipient for youth Brazilian jiu-jitsu, fitness, confidence and resilience programming. Shane Lees is acknowledged in the Aurora community outreach. Direct sponsorship arrangements must be confirmed by the academy.

southernsoulacademy.com

Uniontown Karate Club - Uniontown, Pennsylvania. Proposed recipient for Shotokan karate instruction and youth development, acknowledging Sensei James E. (Jim) Umbel. Ask the club to identify its authorized payment and program designation.

uniontownkarateclub.com

Gis for Growth. Existing direct youth jiu-jitsu sponsorship pathway, separate from any individual academy.

gisforgrowth.org/become-a-sponsor

Maternal health, childbirth and family care

UPMC Magee-Womens Hospital - Pittsburgh, Pennsylvania. Proposed outreach recipient for childbirth education, obstetrics, postpartum and neonatal family-support programs. UPMC identifies Magee-Womens as the Pittsburgh facility providing labor and delivery, maternal-fetal medicine, lactation support and neonatal intensive care.

[UPMC Magee-Womens services | Labor and delivery](#)

UPMC St. Margaret - Pittsburgh, Pennsylvania. Recognized as a separate UPMC hospital. Its family medicine training program includes an obstetrics fellowship with rotations at Magee-Womens. Do not label St. Margaret itself as the Magee-Womens childbirth unit.

[St. Margaret / Magee obstetrics fellowship information](#)

Funding pathway and institutional permissions

For either UPMC institution, first request an official UPMC philanthropy or hospital foundation contact and ask whether a specific childbirth-education, family-support or maternal-health program accepts designated gifts. Until UPMC confirms the recipient entity, tax status, restrictions and official checkout, provide **information/contact links only** - not a fabricated donation button.

AHF is not the payee, payment processor, fiscal sponsor or donation receipting organization for these recipients. Each recipient must approve any program restriction, sponsor acknowledgment, name/logo usage and fundraising language. No hospital, school or academy endorsement is implied.

STEM + FAMILY WELL-BEING: OUTREACH FRAMEWORK

Acknowledgment and youth research credit

Special credit to **Leah Paige, age 14**, for helping develop and research the Aurora concept. Appalachian Heroes Foundation also expresses appreciation for the Laurel Highlands School District community and its encouragement of

families, education, aviation and space exploration, youth fitness and teacher well-being. These acknowledgments do not assert institutional endorsement.

Recipient-directed giving destinations

Recipient	Official contact / direct-giving route
Laurel Highlands Academic Foundation	lhsd.org/academic-foundation
Plaquemine High School	phs.ipsb.net - confirm school-approved giving
Gis for Growth	gisforgrowth.org/become-a-sponsor
Southern Soul Academy	southernsoulacademy.com - confirm approved giving
Uniontown Karate Club	uniontownkarateclub.com - confirm approved giving
UPMC Magee-Womens / St. Margaret	upmc.com - request philanthropy contact and approved fund

Suggested donor attribution

“This contribution is made directly to your organization in appreciation of the community education and well-being mission highlighted by Appalachian Heroes Foundation Aurora STEM Academy. Please apply it to an approved program if available.”

Verification and scope

This is a proposal for community outreach, not a claim of current financial partnership. Verify charitable status and tax treatment with the recipient. Keep health-care giving separate from clinical care decisions; donations do not purchase preferential treatment or clinical access. The Aurora engineering material remains conceptual and unvalidated.

Source references: UPMC Magee-Womens official services and labor/delivery pages; University of Pittsburgh St. Margaret family medicine obstetrics fellowship overview; official organization websites linked above.

Expanded Education, Research & Community Outreach

Aurora STEM Academy | Institutional outreach addendum | 24 October 2026

Status: Proposed invitations and direct-support opportunities only. Listing an organization does not imply an existing partnership, endorsement, funding award, or permission to use its name or logo as a sponsor.

Career, engineering & aviation education

Fayette County Career & Technical Institute (FCCTI) - Uniontown, Pennsylvania

Hands-on manufacturing, fabrication, electrical systems, instrumentation, CAD and youth workforce development.

<https://www.fayettecti.org/>

Laurel Institutes - Uniontown and Morgantown - Laurel Business Institute / Laurel Technical Institute in Uniontown, PA; Laurel College of Technology in Morgantown, WV

Career training, health professions, technical design, workforce scholarships and potential equipment support.

<https://laurel.edu/locations>

PennWest California (formerly California University of Pennsylvania) - California, Pennsylvania

Engineering-adjacent academic collaboration, student research and STEM mentoring; confirm relevant department.

<https://www.pennwest.edu/>

Joseph A. Hardy Connellsville Airport - Connellsville, Fayette County, Pennsylvania

Potential aviation STEM, airport infrastructure, site planning and design-learning discussions; any funding or use of facilities requires airport/operator approval.

<https://www.fayettecountypa.org/>

University, clinical science & international research

University of Minnesota - University of Minnesota Board of Regents; neuroscience / brain sciences units

Explore neuroscience, human factors, cognition, accessibility and responsible STEM mentoring. The Board of Regents is a governing body, not a clinical research department.

<https://www.umn.edu/>

Mayo Clinic and Mayo Clinic philanthropy - Mayo Clinic / Mayo Clinic Department of Development

Potential medical education, patient-centered design and research-philanthropy inquiries. Research participation and designated gifts require institutional approval.

<https://www.mayoclinic.org/giving-to-mayo-clinic>

Cleveland Clinic - Clinical research and philanthropy

Explore accessibility, rehabilitation engineering, human factors and medical education.

<https://my.clevelandclinic.org/giving>

West Virginia University - Space research, international programs and Ireland-focused academic exchange

Invite discussion with relevant space-science and international offices about student research, Irish academic/cultural connections and any eligible exchange opportunities. No Ireland-specific program is asserted.

<https://www.wvu.edu/>

Cheat Lake, West Virginia - Community and youth program outreach area

Community STEM, lake/water safety, environmental observation and local student activities; identify specific recipient organizations before offering donation links.

<https://www.monongaliacounty.gov/>

Direct-to-recipient sponsorship safeguards

Donors should give through each institution's **own authorized development office, foundation, district, or approved payment channel**. AHF may link to those channels and acknowledge donors only with permission, but should not collect, pool, or receipt gifts intended for these recipients. Schools, hospitals and universities may restrict gifts to approved funds and projects. No tax deductibility is guaranteed by AHF.

Outreach sequence: (1) contact institution; (2) confirm program owner and donation mechanism; (3) obtain written permission for sponsor/partner language, logos and publicity; (4) publish the verified direct-giving link; (5) separately track outreach status and any approved commitments.

Youth research credit: Leah Paige, age 14, contributed to Aurora concept design and research. The Aurora hybrid-lift program remains a proposed educational engineering investigation, not a validated multimode vehicle.

Penn State Academic Network Expansion

Aurora STEM Academy - official giving and outreach routes | Appendix to the October 2026 public research and community sponsorship presentation

This addendum adds both Penn State locations to the proposed academic and community-support directory. **Neither institution is represented as an Aurora sponsor, funder, collaborator or endorser.** Gifts flow exclusively to Penn State through its own authorized channels.

Penn State Fayette, The Eberly Campus

Location: Lemont Furnace, Fayette County, Pennsylvania

Regional educational history, alumni support, scholarship funds, and heritage programming relevant to southwestern Pennsylvania.

Important 2026 status: The campus official alumni and development page states that Penn State Fayette is no longer enrolling new students. Outreach should therefore focus on its current development office, alumni activity, eligible existing funds and heritage programs rather than promises of new enrollment or approved campus-based STEM projects.

[Official Penn State Fayette giving information](#)

[Listed giving funds and current projects](#)

Penn State University Park (Main Campus)

Location: University Park, State College, Pennsylvania

Prospective educational outreach in aerospace engineering, transportation, accessibility, student research, and STEM learning.

Penn State provides university-wide philanthropy and a College of Engineering giving directory, including aerospace engineering and outreach priorities. Donors who want a restricted purpose should confirm the fund and use with Penn State Development; neither public giving page establishes an Aurora collaboration.

[Penn State official giving / donor services](#)

[University Park College of Engineering giving priorities](#)

Suggested independent sponsorship pathways

Academic STEM: Student scholarships, educator support, equipment, aerospace-related instructional initiatives, and research outreach, when those uses are authorized by Penn State. **Southwestern PA heritage:** Alumni scholarship and Coal and Coke Heritage Center funding opportunities listed by Penn State Fayette.

Direct-to-recipient safeguard: AHF does not collect, pool or issue receipts for gifts to Penn State. Donors must transact through Penn State itself. Name and logo use, restricted gifts and sponsorship acknowledgments require advance approval. The research credit to Leah Paige, age 14, remains part of the original thesis.