



**Kentucky Space Grant Consortium
2020-2021 Request for Proposals**

**Preview of Funding Programs
for RFP-20-001 to be released March 2020**

Proposals Will Be Due: **Friday, May 1, 2020, 4:00 pm ET**

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FAQ, and additional information available:
nasa.engr.uky.edu/space-grant

Table 1. Summary of NASA Kentucky Space Grant Consortium Programs

Funding Source	Award Program Category ¹	Program Acronym	Program Description	US Citizen Required ²	Max Award Request	Indirect Costs Allowed	Required Cost-Share (\$CS:\$Award)	Level of NASA Collaboration
Space Grant	Graduate Fellowships	GF	Salary or stipend, tuition, materials and travel for MS and PhD students to conduct NASA-aligned research	Yes	\$45,000	No	1:1 including	NASA letter of support ³
Space Grant	Research Experience for Undergraduates	REU	Salary or stipend, materials and travel for undergrad students to conduct NASA-aligned research	Yes	\$8,000	No	None required	Use of NASA resources ⁴
Space Grant	Team Projects	TP	Materials, registration fees and travel for student teams participating in NASA-related competitions or design projects	No	\$15,000	Yes	0.5:1	Alignment with NASA objectives ⁵
Space Grant	Research Initiation Awards	RIA	Faculty directed research to explore NASA collaborations and NASA-aligned research topics	No	\$40,000	Yes	1:1	NASA letter of support ³
Space Grant	Mini-Grants	MG	Pre-college and science center outreach activities, targeted student recruiting and teacher PD	No	\$5,000	Yes	None required	Alignment with NASA objectives ⁵
Space Grant	Enhanced Mini-Grants	EMG	Priority given to projects aligned with NASA Kentucky Strategic Themes or NASA Space Grant objectives	No	\$25,000	Yes	1:1	Alignment with NASA objectives ⁵

Note: Full program descriptions listed on [pgs 12-17](#) of this RFP.

¹PIs are limited to **two (2) proposal submissions per program category**.

²**US Citizenship** is required for students receiving direct support under NIFS awards (GF, REU). Citizenship is not required for other programs.

³Letter of support required **that commits NASA partnership or collaboration to the project**. Letters endorsing the value or merit of the project without committing specific resources to it do not qualify as letters of support. Letters of support may be from NASA or affiliated organizations including NASA Institutes/Laboratories such as JPL, Space Telescope Science Institute, National Space Biomedical Institute, CASIS, and others. (See [NASA KY FAQ](#) for more information.)

⁴NASA resources include **facilities and collaborators or other resources** such as datasets, modeling, source code, curricula, images, etc. developed and made available to the public or researchers by NASA or NASA-supported missions. Links to NASA research results including NASA PubSpace and NASA Data Portal are available at: nasa.gov/open/researchaccess.

⁵See following sections for description of **NASA STEM Engagement and Research objectives**.

NASA Kentucky Space Grant Consortium Membership

The Kentucky Space Grant Consortium consists of 19 academic affiliates and 9 non-academic affiliates across the Commonwealth. Affiliate institutions and contact information for affiliate representatives are listed below:

Academic Affiliates

Asbury University	Dr. Duk Lee	duk.lee@asbury.edu	
Ashland CTC	Mark Riggs	mark.riggs@kctcs.edu	606-326-2161
Bellarmino University	Dr. Akhtar Mahmood	amahmood@bellarmine.edu	502-272-7599
Berea College	Dr. Tracy Hodge	tracy_hodge@berea.edu	859-985-3301
Bluegrass CTC	Tammy Liles	tammy.liles@kctcs.edu	859-246-6449
Centre College	Dr. Jim Kelly	james.kelly@centre.edu	859-238-5915
Eastern Kentucky University	Dr. Anthony Blose	anthony.blose@eku.edu	859-622-1521
Hopkinsville CC	Sherry McCormack	smccormack0001@kctcs.edu	270-707-3930
Kentucky State University	Dr. Jens Hannemann	jens.hannemann@kysu.edu	
Morehead State University	Dr. Tom Pannuti	t.pannuti@moreheadstate.edu	606-783-9591
Murray State University	Dr. Aleck Leedy	aleedy@murraystate.edu	270-809-4917
Northern Kentucky University	Dr. Scott Nutter	nutters@nku.edu	859-572-5369
Owensboro CTC	Shawn Payne	shawn.payne@kctcs.edu	270-686-3789
Thomas More College	Dr. Wes Ryle	wesley.ryle@thomasmore.edu	859-344-3367
University of Kentucky	Dr. Janet Lumppp	jklumppp@uky.edu	859-257-4985
University of Louisville	Dr. John Kielkopf	john.kielkopf@louisville.edu	502-852-5990
University of Pikeville	vacant		
West Kentucky CTC	Mellisa Duncan	mellisa.duncan@kctcs.edu	270-534-3097
Western Kentucky University	Dr. Mike Carini	mike.carini@wku.edu	270-745-6198

Non-Academic Affiliates

Aviation Museum of Kentucky	Ed Murphy	em1234@twc.com	859-494-3669
Faradine Systems	Jason Rexroat	jason@faradinesystems.com	859-684-4629
Global Parametrics	Dr. Jerry Skees	jskees@globalparametrics.com	
Innoviator, LLC	Alan Beaven	alan@innoviator.com	502-316-4750
Kentucky Science and Technology Corporation	Terry Samuel	tsamuel@kstc.com	859-233-3502
Kentucky Science Center	Veronica Greenwell	Veronica.Greenwell@louisvilleky.gov	502-560-7151
Living Arts and Science Center	Dany Waller	dwaller@lascllex.org	
Space Tango, Inc.	Twyman Clements	tclements@spacetango.com	859-229-2719
Tribo Flow Separations, LLC	Dr. John Stencil	john@triboflow.com	859-523-8782

NASA KY Space Grant – Graduate Fellowships - \$45,000

Description: NASA Kentucky **Graduate Fellowships (GF)** recognize and support students addressing advanced research and engineering challenges related to NASA’s strategic goals. Research advisors at Affiliate Institutions may apply for a one-year fellowship for a specific graduate student. Research projects must emphasize connections to NASA, address specific goals for the fellowship year, and contribute to program metrics including publications, presentations, and student advancement in disciplines of interest to NASA.

Eligibility: Proposals will be accepted from Principal Investigators at NASA Kentucky Space Grant Consortium Affiliate Institutions on behalf of Master’s or Doctoral students in NASA-aligned disciplines. Women and minorities are strongly encouraged to apply. US citizenship is required for the student.

Requirements: The proposed research topic must utilize NASA resources and identify alignment with NASA priorities addressed by one or more NASA Mission Directorates. Letter of support required detailing NASA (or related) collaboration and interaction to advise on the research direction. Connections with Kentucky companies and/or NASA Kentucky strategic themes will be viewed favorably. The proposal should demonstrate significant input from the faculty research advisor to manage tangible results. Renewal proposals should provide detail of results to date and degree progress. See also Table 1.

Proposal Content: See *Submission Instructions* (pg. 1) for budget, format and filename instructions. All proposals should utilize the NASA KY cover sheet and budget form, followed by the project description and additional pages.

1) Project Description:

- No more than 5 pages including tables and figures describing: abstract (200-300 words), project summary, alignment with NASA Mission Directorate(s), specific goals for the funded period, milestones, anticipated outcomes, plans to communicate project activities and results, and progress toward degree.
- Additional pages - included after 5-page project description:
 - Bibliography/References as needed
 - Statement by the student relating the project to their career goals (not to exceed 1 page)
 - Unofficial transcript
 - Student’s resume
 - Letter of recommendation from a faculty member other than the research advisor
 - Research Advisor’s 2-page CV
 - List of Current and Pending Awards: Award title, sponsor, dates, amount, commitment
 - Executive summary describing results of all prior NASA KY funding (not to exceed 1 page)
 - Letter of support from a NASA (or related) collaborator (See [NASA KY FAQ](#))

2) Student Information Form (SIF): Completed by the student applicant and uploaded with proposal files.

Budget Guidelines: Proposers may request up to \$45,000 per student per year. Allowable costs include student salary or stipend consistent with recipient institution policies and practices, fringe benefits, tuition and fees, materials and supplies, and student domestic travel. Required cost-share of at least 1:1 (\$CS:\$Award) must be provided by the proposing institution. Indirect costs are *not* allowed, but unrecovered indirect costs on direct cost-share may be included as cost-share. Non-citizen faculty effort may be used as cost-share. The budget justification should demonstrate effective use of funds that align with the content and text of the proposed project. All proposed costs and cost-share should be fully described in the budget justification.

Longitudinal Tracking of Students: Any student receiving a combination of \$3,000 (or more) in NASA funding and/or participating 160 hours or more on NASA-supported projects will be longitudinally tracked by NASA for three years using information provided on the NASA KY Student Information Form (SIF). Longitudinally tracked students will need to keep their information current through follow-up correspondence for the 3-year period.



NASA Kentucky Space Grant Consortium Research Experience for Undergraduates (REU)

NASA KY Space Grant – Research Experience for Undergraduates - \$8,000

Description: NASA Kentucky **Research Experience for Undergraduates (REU)** recognize and support undergraduate students addressing research and engineering challenges related to NASA’s strategic goals. Research advisors at Affiliate Institutions may apply for a one-year fellowship for a specific undergraduate student to conduct 1-on-1 mentored research. Research projects must emphasize connections to NASA, address specific goals for the fellowship year and contribute to program metrics including publications, presentations and student advancement in disciplines of interest to NASA.

Eligibility: Proposals will be accepted from Principal Investigators at NASA Kentucky Space Grant Consortium Affiliate Institutions on behalf of undergraduate students in NASA-aligned disciplines. Women and minorities are strongly encouraged to apply. US citizenship is required for the student.

Requirements: The proposed research topic must utilize NASA resources and identify alignment with NASA priorities addressed by one or more NASA Mission Directorates. Connections with Kentucky companies and/or NASA Kentucky strategic themes will be viewed favorably. The proposal should demonstrate significant input from the faculty advisor to manage tangible results. Renewal proposals should provide detail of results to date and degree progress. See also Table 1.

Proposal Content: See *Submission Instructions* (pg. 1) for budget, format and filename instructions. All proposals should utilize the NASA KY cover sheet and budget form, followed by the project description and additional pages.

1) Project Description:

- No more than 5 pages including tables and figures describing: abstract (200-300 words), project summary, alignment with NASA Mission Directorate(s), specific goals for the funded period, milestones, anticipated outcomes, plans to communicate project activities and results, and progress toward degree.
- Additional pages - included after 5-page project description
 - Bibliography/References as needed
 - Statement by the student relating the project to their career goals (not to exceed 1 page)
 - Unofficial transcript
 - Letter of recommendation from a faculty member other than the research advisor
 - Research Advisor’s 2-page CV
 - Executive summary describing results of all prior NASA KY funding (not to exceed 1 page)
 - Description of NASA resources to be used
 - If applicable, letter of support from collaborator (NASA or related)

2) Student Information Form (SIF): Completed by the student applicant and uploaded with proposal files.

Budget Guidelines: Proposers may request up to \$8,000 per student per year. Allowable costs include student stipend or salary, fringe benefits, tuition and fees, materials and supplies up to \$1,000, and student domestic travel up to \$1,000. Indirect costs are not allowed. Cost-share not required. The budget justification should demonstrate effective use of funds that align with the content and text of the proposed project. All proposed costs should be fully described in the budget justification.

Longitudinal Tracking of Students: Any student receiving a combination of \$3,000 (or more) in NASA funding and/or participating 160 hours or more on NASA-supported projects will be longitudinally tracked by NASA for three years using information provided on the NASA KY Student Information Form (SIF). Longitudinally tracked students will need to keep their information current through follow-up correspondence for the 3-year period.

NASA KY Space Grant – Team Projects - \$15,000

Description: NASA Kentucky **Team Project (TP) awards** provide support for higher education student groups participating in competitions and design projects sponsored by NASA or related engineering and science organizations. Projects will be faculty-mentored and focus on authentic, hands-on student experiences in science and engineering disciplines, emphasizing active participation by students in hands-on learning and real-life problem-solving in organized competitions or capstone design. Teams are nominated and mentored by faculty. Proposals should demonstrate plans to recruit a diverse participant team.

Example competitions include but are not limited to: NASA Robotic Mining Competition, NASA University Student Launch, AIAA Design/Build/Fly, AUVSI, and RockOn. An expanded list of examples with links is available at nasa.engr.uky.edu/space-grant or by contacting NASA KY.

Eligibility: Proposals will be accepted from Principal Investigators at NASA Kentucky Space Grant Consortium Affiliate Institutions on behalf of teams of students in NASA-aligned disciplines. Women and minorities are strongly encouraged to apply. US citizenship for faculty or team members is not required.

Requirements: The proposed competition must be aligned with NASA priorities addressed by one or more NASA Mission Directorates. Connections with Kentucky companies and/or NASA Kentucky strategic themes will be viewed favorably. The proposal should demonstrate significant input from the faculty advisor to manage tangible results. See also Table 1.

Proposal Content: See *Submission Instructions* (pg. 1) for budget, format and filename instructions. All proposals should utilize the NASA KY cover sheet and budget form, followed by the project description and additional pages.

1) Project Description:

- No more than 5 pages including tables and figures describing: abstract (200-300 words), project summary, alignment with NASA Mission Directorate(s), specific goals for the funded period, milestones, anticipated outcomes, plans to communicate project opportunities, activities and results, prior experience with team competitions, and schedule of competition deadlines.
- Additional pages - included after 5-page project description
 - Bibliography/References as needed
 - Faculty Advisor's 2-page CV
 - Executive summary describing results of all prior NASA KY funding (not to exceed 1 page)
 - If applicable, letter of support from collaborator

Budget Guidelines: Proposers may request up to \$15,000 per team per year. Allowable costs include student stipend or salary, fringe benefits, registration fees, materials and supplies, shipping costs to/from competition site, and faculty advisor and student team member domestic travel. Required cost-share of at least 0.5:1 (\$CS:\$Award) must be provided by the proposing institution. Indirect costs are not allowed, but unrecovered indirect costs on sub-recipient direct cost-share may be included as cost-share. The budget justification should demonstrate effective use of funds that align with the content and text of the proposed project. All proposed costs and cost-share should be fully described in the budget justification.

Longitudinal Tracking of Students: All students receiving support must be reported to NASA KY. Any student receiving a combination of \$3,000 or more in NASA funding and/or participating 160 hours or more on NASA-supported projects will be longitudinally tracked by NASA for three years using information provided on the NASA KY Student Information Form (SIF). Longitudinally tracked students will need to keep their information current through follow-up correspondence for the 3-year period.



NASA KY Space Grant – Faculty Research Initiation Awards - \$40,000

Description: NASA Kentucky **Research Initiation Awards (RIA)** are a flexible funding program for faculty to become familiar with NASA research programs and Mission Directorates, establish and cultivate relationships with NASA scientists, and visit NASA facilities. RIA funding is the first step in the faculty pathway to build capacity to conduct NASA-aligned research. Next steps include NASA KY EPSCoR Research Infrastructure Development Grants (RIDG), student support for research through Graduate and Undergraduate Fellowships, and NASA research solicitations (ROSES etc). RIA proposals may include any combination of allowable costs below. Preference given to early-career faculty or faculty demonstrating change in research direction. Projects should contribute to program metrics, including publications, presentations, curriculum enhancement, and pursue follow-on funding.

Eligibility: Proposals will be accepted from Principal Investigators at NASA Kentucky Space Grant Consortium Affiliate Institutions to develop NASA-aligned research activities. Women and minorities are strongly encouraged to apply. US citizenship for students and faculty is not required.

Requirements: Proposed research topics must utilize NASA resources and identify alignment with NASA priorities addressed by one or more NASA Mission Directorates. Letter of support required detailing NASA (or related) collaboration and interaction to advise on the research direction. Connections with Kentucky companies and/or NASA Kentucky strategic themes will be viewed favorably. Principal Investigators are expected to submit at least one proposal for follow-on funding based on RIA activities. Renewal proposals should provide detail of results to date. See also Table 1.

Proposal Content: See *Submission Instructions* (pg. 1) for budget, format and filename instructions. All proposals should utilize the NASA KY cover sheet and budget form, followed by the project description and additional pages.

1) Project Description:

- No more than 5 pages including tables and figures describing: abstract (200-300 words), project summary, alignment with NASA Mission Directorate(s), specific goals for the funded period, milestones, anticipated outcomes, plans to communicate project activities and results, and plans for follow on funding.
- Additional pages - included after the 5-page project description
 - Bibliography/References as needed
 - Principal Investigator's 2-pg CV
 - List of Current and Pending Awards: Award title, sponsor, dates, amount, commitment
 - Executive summary describing results of all prior NASA KY funding (not to exceed 1 page)
 - Letter of support from a NASA (or related) collaborator expressing mutual interest in the research topic and agreement to collaborate and interact with the project, including meeting with the Principal Investigator in person at a research facility or a specific conference. (See [NASA KY FAQ](#))

Budget Guidelines: Proposers may request up to \$40,000 per year. Allowable direct costs include faculty salary, student stipend or salary, fringe benefits, tuition, materials and supplies, and domestic travel. Indirect costs are allowed and unrecovered indirect costs may be included as cost-share. Required cost-share of at least 1:1 (\$CS:\$Award) must be provided by the proposing institution. Space Grant is a workforce development program. In line with this, proposing institutions should use an "other" or training grant F&A rate (if one exists) versus the research F&A rate and indicate in the budget justification. The budget justification should demonstrate effective use of funds that align with the content and text of the proposed project. All proposed costs and cost-share should be fully described in the budget justification.

Longitudinal Tracking of Students: All students receiving compensation must be reported to NASA KY. Any student receiving a combination of \$3,000 or more in NASA funding and/or participating 160 hours or more on NASA-supported projects will be longitudinally tracked by NASA for three years using information provided on the NASA KY Student Information Form (SIF).

NASA KY Space Grant – Mini-Grants - \$5,000

Description: NASA Kentucky **Mini-Grants (MG)** provide support for pre-college and educational outreach programs for science-related groups, at scientific sites (museums, observatories, planetariums, etc.), hosting pre-college students on campus, and group travel to NASA-related events. Project examples include educational outreach programs at planetariums and observatories; pre-college student fieldtrips or workshops designed to recruit STEM students to the affiliate institution in disciplines of interest to NASA; professional development workshops for K-12 STEM teachers; and small group travel to Affiliate Institutions or to a NASA-related event such as Space Camp, AirVenture, rocketry competition or a scientific site.

Eligibility: Proposals will be accepted from Principal Investigators at NASA Kentucky Space Grant Consortium Affiliate Institutions who may collaborate with science-related groups or sites (museums, observatories, planetariums) or institution recruiters. Women and minorities are strongly encouraged to apply. US citizenship not required.

Requirements: The proposed activity must be aligned with NASA priorities addressed by one or more NASA Mission Directorates. Small group travel awards must support at least six students and/or educators on the proposed trip. Connections with Kentucky companies and/or NASA Kentucky strategic themes will be viewed favorably. See also Table 1.

Proposal Content: See *Submission Instructions* (pg. 1) for budget, format and filename instructions. All proposals should utilize the NASA KY cover sheet and budget form, followed by the project description and additional pages.

1) Project Description:

- No more than 5 pages including tables and figures describing: abstract (200-300 words), project summary, alignment with NASA Mission Directorate(s), specific goals for the funded period, milestones, event dates, anticipated outcomes, and plans to communicate project opportunities, activities and results.
- Additional pages - included after 5-page project description
 - Bibliography/References as needed
 - Principal Investigator's CV (2-pg limit)
 - Executive summary describing results of all prior NASA KY funding (not to exceed 1 page)
 - Letter of support from institution partner, scientific site and/or NASA collaborator

Budget Guidelines: Proposers may request up to \$5,000 per year. Allowable direct costs include registration and entry fees, materials and supplies, salary and fringe benefits for college student assistants, transportation (buses), domestic travel expenses for mentors, chaperone and students, and other related costs. Indirect costs are allowed. Cost-share not required, but match and in-kind cost-share of allowable costs are viewed favorably. The budget justification should demonstrate effective use of funds that align with the content and text of the proposed project. All proposed costs and cost-share should be fully described in the budget justification. Event meals and promotional items are not allowable as expenses or cost-share.

Longitudinal Tracking of Students: All students receiving support must be reported to NASA KY. Any student receiving a combination of \$3,000 or more in NASA funding and/or participating 160 hours or more on NASA-supported projects will be longitudinally tracked by NASA for three years using information provided on the NASA KY Student Information Form (SIF). Longitudinally tracked students will need to keep their information current through follow-up correspondence for the 3-year period.



NASA KY Space Grant – Enhanced Mini-Grants - \$25,000

Description: NASA Kentucky **Enhanced Mini-Grants (EMG)** provide support for Affiliate Institutions to envision and pursue NASA-related STEM education objectives through post-secondary projects and pre-college activities. Project examples include short and long duration workshops, hands-on student activities, new or revised courses, professional development and pre-service teacher training, student-based programming at museums or science centers, or STEM competition teams. Projects must be aligned with NASA Mission Directorate initiatives, NASA Kentucky strategic themes, and/or NASA Space Grant objectives. Cost-share is required.

Eligibility: Proposals will be accepted from Principal Investigators at NASA Kentucky Space Grant Consortium Affiliate Institutions who may collaborate with scientific sites (museums, observatories, planetariums) or affiliate institution recruiters. Women and minorities are strongly encouraged to apply. US citizenship not required.

Requirements: The proposed activity must be aligned with NASA priorities addressed by one or more NASA Mission Directorates. Group travel awards must support an appropriate number of students and/or educators on the proposed trip. Connections with Kentucky companies and/or NASA Kentucky strategic themes will be viewed favorably. See also Table 1.

Proposal Content: See *Submission Instructions* (pg. 1) for budget, format and filename instructions. All proposals should utilize the NASA KY cover sheet and budget form, followed by the project description and additional pages.

1) Project Description:

- No more than 5 pages including tables and figures describing: abstract (200-300 words), project summary, alignment with NASA Mission Directorate(s), specific goals for the funded period, milestones, event dates, anticipated outcomes, and plans to communicate project opportunities, activities and results.
- Additional pages - included after 5-page project description
 - Bibliography/References as needed
 - Principal Investigator's CV (2-pg limit)
 - Executive summary describing results of all prior NASA KY funding (not to exceed 1 page)
 - Letter of support from institution partner, scientific site and/or NASA collaborator

Budget Guidelines: Proposers may request up to \$25,000 per year. Allowable direct costs include registration and entry fees, materials and supplies, salary and fringe benefits for faculty, staff or college student assistants, transportation (buses), domestic travel expenses for mentors, chaperone and students, and other related costs. Indirect costs are allowed. Required cost-share of at least 1:1 (\$CS:\$Award) must be provided by the proposing institution. Unrecovered indirect costs may be used as cost-share. In-kind cost-share of all allowable costs is permitted. The budget justification should demonstrate effective use of funds that align with the content and text of the proposed project. All proposed costs and cost-share should be fully described in the budget justification. Event meals and promotional items are not allowable as expenses or cost-share.

Longitudinal Tracking of Students: All students receiving support must be reported to NASA KY. Any student receiving a combination of \$3,000 or more in NASA funding and/or participating 160 hours or more on NASA-supported projects will be longitudinally tracked by NASA for three years using information provided on the NASA KY Student Information Form (SIF). Longitudinally tracked students will need to keep their information current through follow-up correspondence for the 3-year period.