



2022 Strategic Research Grant: AASM Strategic Plan Goals

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| ISSUE DATE: | September 13, 2021 |
| LETTER OF INTENT DUE DATE: | October 11, 2021 by 11:59 pm ET |
| INVITATIONS TO SUBMIT FULL APPLICATION: | By January 28, 2022 |
| APPLICATION DUE DATE: | March 14, 2022 by 11:59 pm ET |
| GRANT SELECTION NOTIFICATION | By July 29, 2022 |
| PERIOD OF PERFORMANCE: | Category I: 1-3 years Category II: 1-2 years Category III: Up to 1 year |
| AMOUNT OF GRANT: | Category I: Up to \$250,000 Category II: Up to \$100,000 Category III: Up to \$50,000 |
| LINK TO LETTER OF INTENT: | https://www.GrantRequest.com/SID_5880?SA=SNA&FID=35093 |
| CONTACT: | AASM Foundation 2510 N. Frontage Road Darien, IL 60561 Phone: 630-737-9724 |

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| E-mail: foundation@aasm.org |
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The AASM Foundation is committed to improving patient-centered diagnosis and care for all patients with sleep disorders. To ensure that there is a continued advancement in effective diagnosis and care of patients with sleep disorders, the AASM Foundation provides research funding through the Strategic Research Grant. This grant is investigator-initiated and supports high-impact research projects aimed at addressing gaps in knowledge that impact the ability to provide optimal, patient-centered, cost-effective diagnosis and care for patients with sleep disorders.

This is a focused request for applications (RFA) open to topic areas related to the following [American Academy of Sleep Medicine \(AASM\) Strategic Plan](#) Goals: Advocacy to Improve Patient Care and Technology Innovation. Topic areas that address the AASM Strategic Plan Goals must advance the field of sleep medicine and population sleep health. Details and examples for each of these specific research domains and topic areas of interest are provided below. Only applications that fit into one of these research domains will be considered.

1. Advocacy to Improve Patient Care - Positively influence clinical practice for providers and their patients.

Research that can be shared with payers and government decision-makers to increase recognition of the value of services provided by sleep physicians and the sleep team and that can provide evidence-based support for various sleep medicine advocacy initiatives would be valuable in moving the sleep field forward. The AASM Foundation has identified the following research domains that would be relevant to this strategic goal:

- Central Sleep Apnea
- Circadian Rhythm Sleep-Wake Disorders
- COVID-19
- Diagnosis of Central Disorders of Hypersomnolence¹
- Insomnia
- Management of Obstructive Sleep Apnea in Primary Care
- Population Sleep Health
- REM Sleep Behavior Disorder
- Sleep Related Movement Disorders
- Special Populations
- Translational Science

¹The AASM Foundation is working with the [Hypersomnia Foundation](#) to support projects related to Diagnosis of Central Disorders of Hypersomnolence. By applying to this RFA, your project may be considered for co-funding from the AASM Foundation and Hypersomnia Foundation.

2. Technology Innovation - Positively influence the impact of technology on patients and the sleep team.

Research on emerging technologies and their impact on the sleep field and understanding how additional information from current sleep medicine procedures can be utilized to personalize patient care, would help strengthen knowledge on how best to harness new technology, and the data from it, to provide high quality patient-centered care. The AASM Foundation has identified the following research domains that would be relevant to this strategic goal:

- Follow-Up Polysomnography and Home Sleep Apnea Tests
- Obstructive Sleep Apnea
- Special Populations

The AASM Foundation collected a list of high-impact sleep research topics that fall under each of the research domains above as examples of what would be considered responsive to this RFA. Applicants are encouraged to review the following list of high-impact sleep research topics before drafting a letter of intent:

[2022 Strategic Research Grant: AASM Strategic Plan Goals](#)
[High-Impact Sleep Research Topics](#)

FUNDING INFORMATION

The Strategic Research Grant program is organized into three categories to allow flexibility and a range of funding opportunities to potential applicants:

- Category I is for those applicants seeking funding for projects up to \$250,000 and covers a project period of up to three years.
- Category II is for those applicants seeking funding for projects up to \$100,000 and covers a project period of up to two years.
- Category III is for those applicants seeking funding for projects up to \$50,000 and covers a project period of up to one year.

The funds can be used for research expenses such as salary support (commensurate with current stipends or salaries), supplies, participant costs and institutional overhead. There are no restrictions on the distribution of expenses, however, indirect costs are

capped at 8%. The grant is executed as a contract between the AASM Foundation and the grantee's institution.

ELIGIBILITY

The following individuals are eligible to apply:

- Individuals with the following education and training are eligible to apply:
 - Master's level degree or higher.
- Individuals may apply for multiple AASM Foundation grants, however, the same proposal (i.e., projects with budgetary and scientific overlap) may not be submitted for multiple requests for applications in a given cycle.
- Individuals who are the Principal Investigator on an open or previous AASM Foundation research grant at the time of the application deadline are eligible to apply if they can demonstrate that there is no budgetary or scientific overlap between their open grant and the new project they are applying for funding. If there is budgetary and/or scientific overlap between projects, the applicant must indicate their plan to close their open grant in the event their new application is selected for funding (e.g., relinquish the current grant or complete the current grant to start the new grant).
- International individuals who meet all the eligibility criteria are eligible to apply; however, payment of grant funds must be accepted by the institution in US dollars.

INELIGIBILITY

The following individuals are not eligible to apply:

- Individuals who have a financial conflict of interest or have the potential to incur significant financial benefit from the proposed work and beyond the work itself are not eligible to apply.
- Individuals who are seeking funding from AASM Foundation research grants to support ongoing projects that are currently funded by another granting body or supplement ongoing work (e.g., enrolling additional subjects into an ongoing trial) are not eligible to apply.

Note: *The principal investigator will be required to make a statement to this effect prior to execution of the contract.*

LETTER OF INTENT REQUIREMENT

This grant is a two-stage application process, in which a letter of intent (LOI) is required prior to submission of a full application. Applicants will then be notified whether they will be invited to submit a full application. If the LOI is not approved, the applicant may not apply for the grant.

Please note that the information submitted in the LOI (e.g., grant category, key personnel, research domain) is final and those invited to submit a full application will be bound by the content of their approved LOI unless a modification was specifically requested or approved by the AASM Foundation.

For an overview on how to write an effective LOI and Application for the AASM Foundation Strategic Research Grant, please view the following resources:

[Strategic Research Grant Letter of Intent Guide](#)

[Strategic Research Grant: How to Submit a Competitive Letter of Intent and Application Webinar](#)

LOI REVIEW CRITERIA

For applicants who voluntarily submit a LOI, the AASM Foundation Executive Committee will review all submitted LOIs. The following criteria will be considered in determining whether the applicant will be invited to submit a full application for consideration:

- 1. Responsiveness:** Responsiveness to the one of the topic areas being requested as part of this RFA.
- 2. Significance and Innovation:** Potential impact/significance and innovation of the planned research in advancing the field sleep medicine.
- 3. Feasibility:** Feasibility in carrying out the planned research.
- 4. Methodology:** Overall quality of the methods and analytic plan.
- 5. Investigators:** Expertise and experience of the investigators and other key personnel conducting the planned research.
- 6. Inclusivity:** Inclusion of individuals of all ages, including children, adolescents, and older adults, unless there are scientific or ethical reasons not to include them.

APPLICATION REVIEW CRITERIA AND PROCESS

Once LOIs are reviewed, invitations will be sent out to applicants who have a favorably reviewed LOI so a full application may be submitted. For invited applicants who submit a full application, a grant review committee, appointed by the AASM Foundation Executive Committee, will evaluate and score all submitted applications. Factors that will be taken into consideration include:

- 1. Significance:** Strong scientific premise of planned research in addressing important problems or critical barriers needed to progress the sleep medicine field.

2. **Investigators:** Experience, training, and ongoing record of accomplishments of the principal investigator(s) and key personnel.
3. **Innovation:** Use of novel theoretical concepts, approaches or methodologies, instrumentation, or interventions that challenge and seek to shift current research or clinical practice paradigms.
4. **Approach:** Strategies to ensure a robust and unbiased approach, methodology, analyses, and benchmarks for success are well-reasoned and appropriate for the specific aims of the planned research.
5. **Environment:** Institutional support, availability of equipment and other physical resources that contribute to the probability of success of the planned research.

Only materials submitted within the application will be used in the evaluation of applications. The AASM Foundation Executive Committee will submit funding recommendation to the AASM Foundation Board of Directors based on the Grant Review Committee scores. The AASM Foundation Board of Directors will make the final funding decisions.

PAYMENT SCHEDULE

| Category I Grants | |
|---|-----|
| Payment #1 – Upon execution of contract | 50% |
| Payment #2 – At project midpoint after approval of Progress Report | 40% |
| Payment #3 – Upon receipt and approval of Final Report | 10% |

| Category II and Category III Grants | |
|---|-----|
| Payment #1 – Upon execution of contract | 90% |
| Payment #2 – Upon receipt and approval of Final Report | 10% |

If unique circumstances are explained in the budget justification of the applicant’s proposal, the Board of Directors will consider requests for an alternate payment schedule, with a maximum variance of 10%.

Note: *Once a contract is executed for the grant, reallocation of funds of <10% do not require approval.*

DELIVERABLES AND EXPECTED OUTCOMES

The AASM Foundation Strategic Research Grant supports high-impact research which will advance the diagnosis, treatment, and delivery of patient-centered care across the healthcare continuum for patients with sleep disorders. The AASM Foundation intends

that the research funded by this grant will lead to the publication of original research in peer-reviewed journals.

Applicants are expected to address the specific aims as described in the application. Major modification of the proposed aims requires AASM Foundation Board of Directors or Executive Committee approval.

The expected results and deliverables should be clearly stated in the application. The applicant must submit progress and final reports during the project period, describing project activities and results, as outlined below. Failure to meet the deliverables or submit progress or final reports may result in termination of project funding.

REPORTING SCHEDULE

| | |
|-------------------------|------------------------------------|
| Progress Reports | Every six months |
| Final Report | Within 90 days of grant completion |

Outcomes evaluation is an essential component of this grant. All proposals must identify the goals and appropriate outcomes measures of the research. The outcomes should align with the goals and objectives stated in the applicant's proposal for this grant.

HUMAN/ANIMAL SUBJECT PROTECTION PLAN

If using human or animal subjects, the applicant will be responsible for obtaining Institutional Review Board (IRB) or Institutional Animal Care and Use Committee (IACUC) approval. The IRB or IACUC letter of approval for the specified project must be on file with the AASM Foundation office prior to the execution of the contract. No funds will be released for the project without receipt of written approval by an IRB or IACUC. Failure to obtain IRB or IACUC approval will result in retraction of the grant.

LOI AND APPLICATION

Step 1: AASM Foundation Grant Request registration

To apply for this grant, you must register on [AASM Foundation Grant Request](#). Please refer to the [AASM Foundation Grant Request User Access Guide](#) for guidance on setting-up an account.

Step 2: Complete LOI Submission

[ACCESS THE 2022 STRATEGIC RESEARCH GRANT: AASM STRATEGIC PLAN GOALS LETTER OF INTENT](#)

The LOI Checklist below shows required attachments to be uploaded.

LOI CHECKLIST

| Form | Page/Word Limit |
|--|--|
| <input type="checkbox"/> Face page A. Principal investigator B. Sponsoring organization C. Project information and alignment with RFA | C. 300 words, max |
| <input type="checkbox"/> Project Personnel A. Principal Investigator biosketch and other support page B. Key Personnel: Biosketch and other support | Biosketch: 5 pages per individual Other support page: No page limit |
| <input type="checkbox"/> Letter of Intent | 3 pages, excluding references |

Step 3: Complete Application (invited applicants only)

For invited applicants, full applications must be completed and submitted through [AASM Foundation Grant Request](#). A special link for submitting the full application will be sent to invited applicants. Instructions for required forms are available via the online submission system. The Application Checklist below shows required attachments to be uploaded.

APPLICATION CHECKLIST (INVITED APPLICANTS ONLY)

| Form | Page/Word Limit |
|---|--|
| <input type="checkbox"/> Face Page A. Sponsoring organization page <i>Note: The principal investigator, sponsoring organization, and project information will be pre-populated in the face page form. Any changes require prior approval from the AASM Foundation.</i> | |
| <input type="checkbox"/> Research Plan and Goals A. Abstract B. Research plan and goals | A. 200 words, max B. 6 pages, excluding citations |
| <input type="checkbox"/> Project Personnel <i>Note: The principal investigator and key personnel biosketches and other support pages will be pre-populated in the project personnel form. Any changes require prior approval from the AASM Foundation.</i> | |

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|---|-------------|
| <input type="checkbox"/> Letters of Support | 1 page each |
| <input type="checkbox"/> Budget and Budget Justification A. Budget B. Budget justification | B. 2 pages |
| <input type="checkbox"/> Human Subjects/Animal Research Protection Plan | 3 pages |

GRANT QUESTIONS

We encourage potential applicants to contact us early in the application process with questions. Eligibility questions may need to be reviewed by a member of the AASM Foundation Executive Committee, so please allow for at least a 1-week response time for eligibility questions. For all other inquiries, please allow a minimum of two business days for a response. Please note that questions received within 48 hours of an application deadline may not be answered before the deadline.



2022 Strategic Research Grant: AASM Strategic Plan Goals

High-Impact Sleep Research Topics

1. Advocacy to Improve Patient Care

Central Sleep Apnea

- Study medical therapies for central sleep apnea.
- Understand what symptoms are associated with central sleep apnea against controls (e.g., is fatigue more common in opiate-related central sleep apnea than in opiate users without central sleep apnea – or are there more awakenings in obstructive sleep apnea + treatment-emergent central sleep apnea vs. obstructive sleep apnea - treatment-emergent central sleep apnea?).
- Understand when central sleep apnea patients benefit from treatment and determine if there are any symptoms that improve with reducing the central apnea-hypopnea index.

Circadian Rhythm Sleep-Wake Disorders

- Understand the role of sleep and circadian rhythms in the effects of working time arrangements on health, and what can be done clinically for mitigation and prevention.
- Understand the relationship between sleep and circadian rhythm disorders and the development/outcomes of clinical dementias such as Alzheimer's disease.
- Identify the role of exogenous and endogenous risk factors for the development of circadian rhythm sleep-wake disorders (e.g., delayed sleep-wake phase disorder /shift work disorder).
- Study treatment and management of shift work disorder, especially rotating shift work.
- Advance understanding of sleep and circadian rhythm disorders in disadvantaged populations such as urban poor and rural dwelling populations. Accelerate programs to implement best practices for gaps identified in the management of sleep disorders in these populations.

COVID-19

- Study long COVID and its potential overlap with sleep disorders - given that fatigue and "brain fog," sleep disorders, and use of long-term benzodiazepines/sedative-hypnotics are more prevalent after hospital discharge among patients with COVID-19.
- Study screening, diagnosis and treatment of sleep disorders among patients with long COVID, including sleep apnea (obstructive, central), disorders of central hypersomnolence (narcolepsy, idiopathic hypersomnia), circadian rhythm disorders, and use of medications that impact sleep.
- Assess the association between outcomes of COVID-19 and OSA/adherence to PAP therapy.
- Evaluate disparities in the access to care, management, and outcomes of sleep disorders during the pandemic: characteristics, causes, and potential solutions.
- Study healthcare worker burnout during the pandemic: role of sleep and sleep disorders.
- Study pediatric sleep practices during COVID-19: feasibility and accuracy of out-of-center diagnostic testing and management pathways.
- Evaluate the role of sleep in immune response to COVID-19 vaccination.
- Evaluate the role of sleep in immune response to SARS-CoV-2 infection.

Diagnosis of Central Disorders of Hypersomnolence¹

- Study the diagnostic process for central disorders of hypersomnolence, particularly narcolepsy type 2 and idiopathic hypersomnia.
- Validate the use of wearables/remote assessment in the diagnosis of narcolepsy and idiopathic hypersomnia.
- Studies focused on better understanding the pathophysiology of narcolepsy type 2 and idiopathic hypersomnia.
- Identify diagnostic and prognostic biomarkers of hypersomnia disorders.
- Studies that improve the validity/reliability of diagnostic testing for narcolepsy type 2 and idiopathic hypersomnia diagnoses. This may include novel diagnostic testing or refinements to the existing PSG-MSLT protocols.
- Studies that differentiate narcolepsy type 2 and idiopathic hypersomnia.
- Studies to identify phenotypes within the narcolepsy type 2 and idiopathic hypersomnia group/spectrum.
- Determine what defines disturbed nocturnal sleep (e.g., how clinicians are assessing nocturnal sleep quality, if lack of slow-wave/REM, a high arousal index or other PSG features correlate to excessive daytime sleepiness, cataplexy, and/or other adverse health outcomes).

¹The AASM Foundation is working with the [Hypersomnia Foundation](#) to support projects related to *Diagnosis of Central Disorders of Hypersomnolence*. By

applying to this RFA, your project may be considered for co-funding from the AASM Foundation and Hypersomnia Foundation.

Insomnia

- Develop model interventional programs to enhance awareness and treatment of chronic insomnia among primary care providers.
- Identify subtypes/characteristics of chronic insomnia and their associated health risks (cardiovascular/metabolic/neurologic/psychiatric, etc.).
- Define the role of advanced sleep-wake phase in the development of sleep maintenance insomnia among the elderly.

Management of Obstructive Sleep Apnea in Primary Care

- Elucidate and refine OSA phenotyping in real world health setting to facilitate personalized treatments for sleep-disordered breathing.

Population Sleep Health

- Develop people-driven approaches to improve awareness of sleep and circadian disorders.
- Evaluate ways to promote healthy sleep behaviors for the benefit of public health and safety.
- Improve the understanding of the prevalence and impact of sleepiness in the primary care setting.
- Further elucidate the relationship between sleep and cardiovascular health.
- Assess shared decision-making and how it can best be done, how it impacts patients, if it is related to better outcomes or quality of life of treatment adherence and persistency.
- Evaluate health economics and outcome data for sleep disorders.

REM Sleep Behavior Disorder

- Develop multicenter clinical trial infrastructure and key measures for symptomatic therapy of RBD.
- Develop novel at-home bio-physiological measures of REM motor atonia and dream enactment.
- Conduct prospective multicenter clinical trial of RBD symptomatic therapies.
- Develop novel at-home bio-physiological measures of REM motor atonia and dream enactment.
- Develop multicenter clinical trial infrastructure for disease modifying therapy for RBD.
- Develop biophysiological measures of alpha-synuclein pathology in subjects with RBD to measure disease modifying therapy treatment response.

- Understand what features of periodic leg movements during sleep indicate clinical or health impact, warrant a diagnosis of Periodic Limb Movement Disorder, or suggest that treatment would be worthwhile.
- Better define circumstances, findings, or biomarkers that predict evolution of idiopathic REM sleep behavior disorder to a neurodegenerative disease, or evolution of REM sleep without atonia to frank REM sleep behavior disorder.
- Study the evaluation, treatment, and follow-up of patients with REM sleep without atonia.

Sleep Related Movement Disorders

- Assess treatment options for sleep-related leg cramps.

Special Populations

- Study racial health disparities in treatment of insomnia.
- Evaluate sleep apnea in transgender patients on hormonal therapies.
- Research the prevalence, causes, and impact of sleepiness in patients with psychiatric disorders.
- Study treatment options for sleep disorders in underserved populations.
- Study treatment options for obesity hypoventilation syndrome.

Translational Science

- Study how genetic information translates into differing clinical responses and outcomes (e.g., using what loci correspond to short/long sleepers).

2. Technology Innovation

Follow-Up Polysomnography and Home Sleep Apnea Tests

- Enhance HSAT specificity to reliably rule out OSA among patients receiving treatment.
- Compare clinician global assessment, HSAT and PSG as reliable tools to evaluate changes in symptoms and/or outcomes in patients receiving therapy.
- Establish reliability and utility of HSAT in patients with cardiopulmonary or neuromuscular disease.
- Determine the optimal timing of follow-up sleep apnea testing after surgical modifications of the upper airway for OSA.
- Identify the ideal timing for follow-up testing in patients with OSA who have experienced a change in weight, both by medical/dietary means, and following bariatric surgery.
- Explore the utility of pulse oximetry as a tool for follow-up of patients with OSA, including those with cardiopulmonary disease.

- Perform comparative studies of outcomes between empiric adjustments of OSA therapy based upon clinical assessment or PAP machine AED with interventions based upon follow-up testing.
- Increase understanding of whether TECSA encountered on machine AED or on follow-up testing is significant and warrants intervention.

Obstructive Sleep Apnea

- Assess measurements of sleep apnea severity beyond AHI.
- Use machine learning to identify novel polysomnogram measures beyond the AHI for the prediction of obstructive sleep apnea outcomes and treatment response.
- Develop machine learning algorithms to predict obstructive sleep apnea and other sleep disorders from sensors used in the home.

Special Populations

- Study disparities in access to telehealth services.
- Use machine learning to identify novel polysomnogram measures predictive of neurodegenerative disease.