### 2020 Strategic Research Award

<table>
<thead>
<tr>
<th><strong>ISSUE DATE:</strong></th>
<th>November 4, 2019</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>LETTER OF INTENT DUE DATE:</strong></td>
<td>December 2, 2019 by 11:59 pm CT</td>
</tr>
<tr>
<td><strong>INVITATIONS TO SUBMIT FULL APPLICATION:</strong></td>
<td>By January 20, 2020</td>
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<tr>
<td><strong>APPLICATION DUE DATE:</strong></td>
<td>March 2, 2020 by 11:59 pm CT</td>
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<tr>
<td><strong>AWARD SELECTION NOTIFICATION:</strong></td>
<td>By July 31, 2020</td>
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</tbody>
</table>
| **PERIOD OF PERFORMANCE:** | Category I: 1-3 years  
Category II: 1-2 years |
| **AMOUNT OF AWARD:** | Category I: Up to $250,000 total per award  
Category II: Up to $100,000 |
| **LINK TO LETTER OF INTENT:** | [https://www.grantrequest.com/SID_5880?SA=SNA&FID=35040](https://www.grantrequest.com/SID_5880?SA=SNA&FID=35040) |
| **CONTACT:** | AASM Foundation  
2510 N. Frontage Road  
Darien, IL 60561  
Phone: 630-737-9724  
E-mail: foundation@aasm.org |

The Strategic Research Award 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) in specific research domains and topic areas that will advance the field of sleep medicine. The research domains for this RFA include artificial intelligence, hypersomnia, hypopnea scoring criteria, insomnia, obstructive sleep apnea, pediatric sleep medicine and health, population sleep health, polysomnography and home sleep testing, rapid eye movement sleep behavior disorder and other parasomnias, and high impact research. Details for each of these specific research domains and topic areas of interest are provided below. Only applications that fit into one or more of these topic areas will be considered.
The AASM Foundation will consider applications that address one of the following research domains:

1. **Artificial Intelligence (AI)**
   AI, including machine learning, deep learning and natural language processing, is transforming the way data on patient health, healthcare services and historical health data is being understood and used. AI can be applied to various types of sleep health data, and studies utilizing or developing artificial intelligence in the field of sleep medicine are needed. Research topics in this domain include:
   a. Detection or screening for sleep disorders.
   b. Diagnostics
   c. Personalized management and treatment of patients with sleep disorders.
   d. Outcome prediction or prognosis evaluation of sleep disorders.
   e. Scoring algorithms for sleep apnea tests.

2. **Hypersomnia**
   Excessive daytime sleepiness has a significant impact on function, quality of life, and safety. There is a need in understanding the pathophysiology of hypersomnia, effectiveness of treatments, and assessing responsiveness to treatment. Research topics in this domain include:
   a. Pathophysiology and treatment of idiopathic hypersomnia.
   b. Mechanisms of hypersomnia and excessive daytime sleepiness in specific conditions that enable development of more targeted therapies.
   c. Evaluating the efficacy of central nervous system stimulants (e.g., methylphenidate and amphetamine-based stimulants such as dextroamphetamine) in the treatment of narcolepsy and other disorders of hypersomnia in adults and pediatrics.
   d. Evaluating different forms of stimulants (e.g., long-acting, extended-release, sustained-release).
   e. Developing and validating a patient-reported outcomes tool for pediatric and adult patients with CNS hypersomnia conditions that can be used to measure treatment responsiveness.

3. **Hypopnea Scoring Criteria**
   In 2012, the AASM proposed using a criterion of 3% or greater oxygen desaturation and/or arousals to identify hypopnea events and in 2018, the AASM published a position statement emphasizing the importance of including arousal-based scoring when scoring hypopneas; however, this has not been universally adopted. Studies are needed to evaluate how patient outcomes are affected by using the ≥3% oxygen desaturation and/or including arousals when scoring hypopneas, rather than adhering to a ≥4% oxygen desaturation only. Research topics in this domain include:
   a. In a clinical population, determining the prevalence and clinical characteristics of persons who have OSA using the AASM’s recommended definition of hypopneas (i.e., 3% desaturation and/or arousal), but do not have OSA using the CMS definition (4% desaturation only). Determining if there are differences in age, gender and race/ethnicity of stratified groups, and investigating the clinical consequences of not meeting the CMS definition, but nevertheless having OSA using the AASM definition (e.g., impact on quality of life, economic consequences, changes in comorbid disease [e.g., worse glucose control]).
b. Exploring whether OSA defined by the AASM definition is a risk factor for the development of hypertension, cardiovascular disease and/or stroke and, if so, what the mechanism is.

c. Evaluating outcomes from CPAP treatment of those qualifying for CPAP using the AASM hypopnea definition but not the CMS definition (e.g., CPAP adherence (including effect of presence or absence of daytime sleepiness), improvement in quality of life measures, changes in blood pressure).

4. **Insomnia**

Insomnia continues to be a prevalent sleep disorder. Despite recent guidelines on the pharmacologic and behavioral therapies for insomnia, there remain gaps in research. Research topics in this domain include:

- Evaluating the effectiveness of psychological and behavioral treatments in reducing insomnia symptoms and improving measures of clinical significance such as daytime function, quality of life, other morbidities.
- Combining behavioral and pharmacologic interventions to treat insomnia.
- Comparing delivery methods of cognitive behavioral therapy for insomnia (CBT-I), such as in-person or by internet, delivery by providers of various backgrounds, types of clinical settings, and patient population preferences.
- Comparing CBT-I to brief behavioral therapy for insomnia (BBT-I).
- Determining effective methods of treating secondary insomnia.

5. **Obstructive Sleep Apnea (OSA)**

When left untreated, OSA remains a health care condition linked with numerous health consequences. There is a need for effective evaluation, treatment, and outcome metrics that improve patient-centered care and outcomes. Research topics in this domain include:

- Clinical evaluation and long-term follow-up of OSA for monitoring adherence to therapy, side effects, development of medical complications related to OSA, and continued resolution of symptoms.
- Developing new outcome metrics for OSA beyond apnea-hypopnea index.
- Medical therapies for OSA, such as weight reduction, pharmacological agents, positional therapies, and others.
- Interventions that improve positive airway pressure (PAP) treatment adherence in the presence of other comorbid sleep disorders and the role comorbid sleep disorders play in affecting PAP adherence.
- Determining the impact of initial diagnosis and management of inpatients with OSA on non-sleep outcomes (e.g., length of hospital stay, intensive care unit transfers, readmission rates).

6. **Pediatric Sleep Medicine and Health**

Sleep in children and adolescents is essential for achieving optimal health. Challenges in the diagnosis, treatment, and management across an array of sleep disorders in the pediatric population still exist and there is a critical need to address them. Research topics in this domain include:

- Role of home sleep apnea tests for sleep-disordered breathing in the pediatric age range and expanding use of autoPAP for management in adolescents.
- Improving recognition of narcolepsy and other hypersomnolence disorders in children, including pediatric considerations for testing, development of normative data for multiple sleep latency test, and alternative strategies for diagnosis.
c. Comparative-effectiveness studies of empiric supplemental iron vs measuring ferritin before treatment in the management of pediatric patients whose parents report sleep-related symptoms (including growing pains, parent-reported leg jerks, nocturnal sensory symptoms, motor restlessness, parasomnias or stereotypic movement disorder).
d. Psychopharmacological management of insomnia in autism.
e. Impact of social jet lag on daytime functioning in youth.
f. Melatonin use in typically developing children.

7. **Population Sleep Health**
Research is needed to establish that good sleep impacts multiple domains of health. Research topics in this domain include:

a. Social determinants of health that are related to good and poor sleep.
b. Interventional studies of social factors to determine if sleep and overall health can be improved.
c. Effect of later high school start times on other aspects of health, such as driving, athletic performance, drug, alcohol, and tobacco use.
d. Studies designed to test implementation strategies and/or impact of changing school start times.
e. Social determinants that impact the management of various sleep disorders, such as obstructive sleep apnea and insomnia.
f. Healthcare disparities in the evaluation and treatment of sleep disordered breathing.

8. **Polysomnography (PSG) and Home Sleep Apnea Testing (HSAT)**
While indications for PSG/HSAT for the diagnosis of OSA have been established, less is known about the proper use of PSG/HSAT for certain populations and post interventions such as upper airway surgery and weight loss by diet or bariatric surgery. Research topics in this domain include:

a. Establishing safety, reliability and validity of HSAT in patients with significant cardiopulmonary disease, such as congestive heart failure and chronic obstructive pulmonary disease.
b. Identifying the ideal timing and methods for follow up testing in patients with OSA who have experienced a change in weight, both by medical/dietary means, and following bariatric surgery.
c. Determining the optimal timing of follow up sleep testing after surgical modifications of the upper airway for OSA.
d. Comparative studies of outcomes between empiric adjustments of OSA therapy based upon clinical assessment of PAP machine residual AHI with interventions based upon follow-up testing.
e. Increasing understanding of whether treatment-emergent central sleep apnea encountered on machine download or on follow up testing is significant and warrants intervention.
f. Exploring novel ways to leverage polysomnographic data to improve diagnostic metrics for current sleep disorders or associated health conditions.

9. **Rapid Eye Movement (REM) Sleep Behavior Disorder and other Parasomnias**
There is a need for validating methods for diagnosing and managing care for patients with REM sleep behavior disorder and other parasomnias outside of a sleep
laboratory setting and improving the current technique of in lab PSG. Research topics in this domain include:

a. Validating home monitoring for REM sleep behavior disorder and other parasomnias in diagnosis and management, including evaluation of treatment response.

b. Identifying other features in polysomnography that have value in the diagnosis and management of patients with REM sleep behavior disorder and parasomnias.

c. Developing and validate patient-reported outcomes and bed partner sleep quality measures for REM behavior disorder and other parasomnias.

d. Studying the efficacy and safety of pharmacotherapy for treatment of REM sleep behavior disorder and other parasomnias.

10. High Impact Research

In addition to the above topics, the AASM Foundation will consider select applications that address novel, innovative or “disruptive” areas of investigation that will impact the ability to provide optimal, cost-effective diagnosis and care for all those in need. This may include innovative studies in any area of sleep medicine that would impact patient-centered care and patient outcomes for individuals with sleep disorders. Studies that fit into one of the above categories should NOT be listed under this category.

FUNDING INFORMATION

The Strategic Research Award program is organized into two 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.

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 award is a contract between the AASM Foundation and the awardee’s institution.

ELIGIBILITY

The following individuals are eligible to apply:

- The applicant must possess a master’s level degree or higher.
- The applicant must have access to the necessary resources (including the proposed patient population), facilities, and other resources needed to perform the proposed work.
- We encourage applicants to be members of the American Academy of Sleep Medicine.
- Applicants outside the US are eligible to apply; however, payment of award funds must be accepted by the institution in US dollars.
- Applicants who are the Principal Investigator on a currently funded AASM Foundation Strategic Research Award are not eligible to apply. Individuals who are listed as key personnel on an active AASM Foundation award, but are not the Principal Investigator, are eligible to apply.
**Note:** In all cases, the applicant must clearly demonstrate the lack of overlap between the funded AASM Foundation project and the proposed work and demonstrate that the individual's budgeted and actual percent time/effort involved in the two awards are appropriate and non-overlapping.

Please note that the AASM Foundation will not fund ongoing projects that are currently funded by another awarding body, and the investigator or organization will be required to make a statement to this effect prior to execution of the contract. These awards are also not intended to supplement ongoing work, for example, for enrolling additional subjects into an ongoing trial.

**OTHER REQUIREMENTS**

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 award.

**LOI REVIEW CRITERIA**

The following criteria will be considered in determining whether the applicant will be invited to submit a full application for consideration:

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

Please note that the information submitted in the LOI (e.g., category, key personnel, 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.

**AWARD REVIEW CRITERIA AND PROCESS**

For individuals who submit a full application, an award 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 principle 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 Award Review Committee scores. The AASM Foundation Board of Directors will make the final funding decisions.

**PAYMENT SCHEDULE**

<table>
<thead>
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<th>Category I Awards</th>
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<tr>
<td><strong>Payment #1</strong> – Upon execution of contract</td>
<td>50%</td>
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<tr>
<td><strong>Payment #2</strong> – At project midpoint after approval of Progress Report</td>
<td>40%</td>
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<td><strong>Payment #3</strong> – Upon receipt and approval of Final Report</td>
<td>10%</td>
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<th>Category II Awards</th>
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<tbody>
<tr>
<td><strong>Payment #1</strong> – Upon execution of contract</td>
<td>90%</td>
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<tr>
<td><strong>Payment #2</strong> – Upon receipt and approval of Final Report</td>
<td>10%</td>
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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 awarded, reallocation of funds of <10% do not require approval.*

**DELIBERABLES AND EXPECTED OUTCOMES**

The AASM Foundation Strategic Research Award 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 award 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**

<table>
<thead>
<tr>
<th>Progress Reports</th>
<th>Every six months</th>
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<tbody>
<tr>
<td>Final Report</td>
<td>Within 90 days of award completion</td>
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Outcomes evaluation is an essential component of this award. 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 award.
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 award.

LOI AND APPLICATION

Step 1: AASM Foundation Grant Request registration
To apply for this award, 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 2020 STRATEGIC RESEARCH AWARD LOI

The LOI Checklist below shows required attachments to be uploaded.

**LOI CHECKLIST**

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<tr>
<th>Form</th>
<th>Page/Word Limit</th>
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<tr>
<td>□ Face page</td>
<td>D. 300 words, max</td>
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<tr>
<td>A. Principal investigator</td>
<td></td>
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<tr>
<td>B. Institution</td>
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<tr>
<td>C. Institution contact</td>
<td></td>
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<tr>
<td>D. Project information</td>
<td></td>
</tr>
<tr>
<td>□ Project Personnel</td>
<td>Biosketch: 5 pages per individual</td>
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<tr>
<td>A. Principal investigator: Biosketch and other support (required)</td>
<td>Other support: No page limit</td>
</tr>
<tr>
<td>B. Key personnel: Biosketch and other support (required)</td>
<td></td>
</tr>
<tr>
<td>□ Letter of Intent</td>
<td>2 pages</td>
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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**

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<td></td>
</tr>
</tbody>
</table>
B. Institution
C. Institution contact
D. Project information
E. Signed Applicant Sponsoring Organization Page

| ☐ Research Plan and Goals | A. Abstract  
B. Research plan and goals |
<table>
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<tr>
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<tbody>
<tr>
<td>☐ Letters of Support</td>
<td>1 page each</td>
</tr>
</tbody>
</table>
| ☐ Budget and Budget Justification | A. Budget  
B. Budget justification |
| ☐ Human Subjects/Animal Research Protection Plan | 3 pages |

AWARD 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.