**JUNIOR INVESTIGATOR RESEARCH AWARD**

**BACKGROUND AND PURPOSE**
The American Epilepsy Society (AES) recognizes the importance of funding researchers in the early stages of their careers. Junior Investigator Research Awards support epilepsy research by recently independent investigators and are intended to facilitate successful competition for subsequent longer term support from the NIH or other sources. Proposals are welcome across the spectrum of basic, translational, and clinical epilepsy research, including studies of disease mechanisms or treatments, epidemiologic or behavioral studies, the development of new technologies, and health services and outcomes research.

This award provides up to $50,000 for one year to support the direct costs of research as well as complimentary registration to the AES Annual Meeting and one year of complimentary membership to AES. The number of awards granted each year is contingent upon available funds.

**TRAVEL GRANTS**
Applicants for the postdoctoral fellowship have the option of applying for an additional travel award to attend a high-quality training course or conference to supplement the training received during their award. More details are available [here](#). Applications for this supplemental travel support must be made at the time of full proposal submission.

**CONTRIBUTING PARTNERS**
AES is proud to partner with other non-profit organizations to leverage resources and make dollars go further to support epilepsy researchers. Funding partners who have committed support for a limited number of mission-aligned proposals are listed [here](#); additional non-profit funding partners may also consider providing support. If you grant permission during your application process, your application and its materials may be confidentially shared with other non-profit partners to consider for full or partial support.

**APPLICATION DEADLINES AND AWARD DATES**
- September 1, 2017: Application submission opens through proposalCENTRAL
- October 5, 2017: Letters of Intent due¹ ²
- November 30, 2017: Applicants invited to submit full proposals³
- January 31, 2018: Full proposals due
- May 14, 2018: Award notifications sent out
- July 1, 2018: Earliest start date
- October 1, 2018: Latest possible start date

**APPLICATION POLICIES**
1. Prior unfunded applicants may reapply, but all applications will be treated as new submissions.
2. An individual may only serve as the primary mentor for one application submitted for a mentored award. An individual may not apply for a Junior Investigator Research Award and also be listed as the primary mentor on a proposal for a mentored award. More than one application may be submitted from a single institution, but final funding decisions will take into account a preference to limit multiple awards to one institution.
3. Only applicants with an approved Letter of Intent (LOI) are eligible to submit a full proposal.
4. Applicants may request a delay in the start date of up to 3 months.

**ELIGIBILITY CRITERIA**

*Applicants must:*

1. Hold a M.D., Ph.D., Sc.D., PharmD, RN, or equivalent degree.
2. Have an academic appointment at the level of Assistant Professor or equivalent at a university, medical school, research institution, or medical center. (Applicants should not yet have received a larger, multi-year award for independent research, such as an NIH R01 grant, and individuals with appointments at the level of Associate Professor or higher are not eligible. Postdoctoral and clinical fellows are not eligible. Clinicians with recent faculty appointments who desire a mentored research experience should instead apply for the AES Research and Training Fellowship for Clinicians.)
3. Have a defined research plan and access to institutional resources to conduct the proposed project.
4. Have not previously been awarded an American Epilepsy Society or an Epilepsy Foundation Junior Investigator Award or Research Grant.

*In addition:*

5. Physician applicants whose research will involve patient care or direct involvement with patients must have completed all residency training and be licensed to practice medicine at their institution.
6. U.S. citizenship is not required; however, all research must be conducted in the U.S.
7. Applications are encouraged from women, members of minority groups, and people with disabilities.

**EVALUATION CRITERIA**

*Significance*

- Does the proposed project address an important problem or crucial barrier in the epilepsy field, for example as framed by the [2014 NINDS Benchmarks for Epilepsy Research](https://www.ninds.nih.gov/epilepsy-research) or the [Institute of Medicine 2012 research recommendations around public health for epilepsy research](https://www.nationalacademies.org/newsroom/institute-of-medicine-reports-call-for-evidence-traction-for-epilepsy)?
- If the aims of the project are achieved, how will scientific knowledge, technical capability, and/or clinical practice be improved?

*Applicant*

- Does the applicant have appropriate experience and training and potential for further success as an independent researcher?
- Are the collaborators and other researchers well suited to the project?

*Innovation*

- Does the application challenge and seek to shift current research or clinical practice paradigms by utilizing novel theoretical concepts, approaches or methodologies, instrumentation, or interventions?
- What is the strength of the scientific premise, i.e. the quality and strength of the prior research used as a basis for the proposed research question? Please refer to [NIH guidelines](https://www.nih.gov) for more clarification.

*Approach*

- Is the research project well-conceived with rigor in experimental design, methodology, analysis, interpretation, and reporting of results? Does it include clear hypotheses and potential alternative outcomes? Does it consider key biological variables like gender and include authentication of key biological and/or chemical resources, if appropriate, as defined by the [NIH guidelines on rigor & transparency](https://www.nih.gov)?
• Are the overall strategy, methodology, and analyses well-reasoned and appropriate to accomplish the specific aims of the project?
• Does the proposed research include a data-sharing plan? While not required, it can provide added value to the work.

Environment
• Are the institutional support, equipment, and other physical resources available to the applicant adequate for the project proposed?
• Will the project benefit from unique features of the scientific environment, subject populations, or collaborative arrangements?

AWARD POLICIES

Funding Support
Successful applicants receive up to $50,000 for one year, plus complimentary registration to the Annual Meeting of the American Epilepsy Society. Quarterly payments are made to the institution, and the funds may only be used to support the direct costs of research. Allowable use of grant funds includes: salary for the principal investigator and for scientific personnel directly engaged in the research project; consumable supplies, disposables, and animals necessary to fulfill the project’s specific aims; and travel related to the conduct of the research or for the purpose of presenting the results of the research at appropriate scientific or medical meetings. Travel must be conducted during the funding period.

Grant funds MAY NOT be used for: indirect costs or institutional overhead; purchase of permanent equipment that exceeds 10% of the budget; payment of salaries of collaborators at other institutions; or membership dues, subscriptions, books, or journals. Submission of scientific and financial reports, no later than 30 days after completion of the project, is a requirement of this award.

Support from Other Sources
An applicant may not apply for, use, or accept funds for a research project or part of a project already supported by funds from another public or private source. Accordingly, full disclosure of all available and pending funds for research support must be made in the grant application. If funds from other sources become available during the review or tenure of the Junior Investigator Research Award, the applicant/recipient must inform AES in writing so that a decision can be made about continuation of the award.

Use of Human Subjects/Tissues in Research
When human subjects or tissues are to be used in a research project, it is the responsibility of the grantee to ensure that the project receives approval from his/her Institutional Review Board. A copy of that Board’s current approval notice and a copy of the patient informed consent form should be submitted with the application if they are available. If not submitted with an application selected for an award, these documents must be submitted before funding can begin. If the research plan has already been approved or exempted by an IRB, because the grantee’s proposed workplan is encompassed by an existing research project grant, then this documentation will be sufficient provided that the IRB concludes that the participation of the grantee does not lead to a substantial modification of the research plan.

Use of Animals in Research
When animals and/or animal tissues will be used, it is the responsibility of the grantee to ensure that the project receives approval from the Institutional Animal Care and Use Committee. If available, a copy of these documents should be submitted with the application. If not submitted with an application selected for an award, these documents must be submitted before funding can begin. If the research plan has already been approved or exempted by an IACUC, because the grantee’s proposed workplan is encompassed by an existing research
project grant, then this documentation will be sufficient provided that the IACUC concludes that the participation of the grantee does not lead to a substantial modification of the research plan.

All entities that receive funding from the American Epilepsy Society must adhere to the following principles:
1. Animals shall be used in biomedical research only when no other means of obtaining scientifically sound, valid, and useful results are available.
2. The minimum number of appropriate animals required to obtain and validate results shall be used.
3. The acquisition, care, and use of animals must be in accordance with all applicable federal, state and local laws and regulations.
4. Certifications must be received from research facilities prior to being approved for a research fellowship that the facility(ies), its researchers, and employees adhere to the Animal Welfare Act and the National Research Council Guide for the Care and Use of Laboratory Animals; and any appropriate U.S. Department of Agriculture or National Institutes of Health regulations and standards must be followed.
5. In cases requiring the death of an animal, only the most appropriate and humane form of euthanasia shall be used consistent with the purpose of the research.

APPLICATION INSTRUCTIONS

Letter of Intent: due by October 5, 2017
Letters of Intent (LOI) for AES awards are evaluated by members of the AES Research and Training Council. This initial evaluation will assess the applicant’s eligibility for the grant mechanism and consider the scientific merit, significance, and feasibility of the proposed research. Only applicants who have submitted a LOI and receive approval are eligible to submit a full grant application.

LOIs must be submitted through proposalCENTRAL (https://proposalcentral.altum.com/).
- Applicants who do not yet have an account with proposalCENTRAL will need to register as a new user and provide the requested professional profile information before proceeding.
- Once logged in as a user, go to the Grant Opportunities tab, and filter the list to display American Epilepsy Society Awards.
- Locate the line for AES Junior Investigator Research Award (LOI) and click on Apply Now to begin an application.

Required components of the LOI include the following sections to be completed as online forms or submitted as individual proposal attachments in PDF format. Additional instructions will be available on screen in proposalCENTRAL and within downloadable templates for proposal attachments.

1. Title Page:
   a. Enter the title of your proposal (max 80 characters)
   b. Research Type (basic, translational, or clinical). Definitions for the categories are available at the end of these instructions (p6). Multiple categories are often relevant to an individual project. Please select one category as the primary type of research that best fits your proposal and then indicate in the boxes below what percentage of your research falls within each category.
   c. Type of epilepsy or seizure under investigation While multiple categories may be relevant to an individual project, please select a maximum of two choices (one primary and one secondary) that best fit your proposal.
d. **Categorize your research based on its classification.** Definitions for the research classifications are available at the end of these instructions (p6). While multiple categories may be relevant to an individual project, please select up to two choices (one primary and one secondary) that best fit your proposal.

e. **AES Funding Partners.** In addition to the American Epilepsy Society, one or more funding partners including the Epilepsy Foundation may provide full or partial support for proposals in targeted research areas through this program (see Contributing Partners above). Please confirm whether we may share your application with these and other relevant funding partners for consideration of funding. If you choose not to grant permission, your proposal will still be accepted and reviewed for possible funding by the American Epilepsy Society.

f. **Other sources of funding.** Please indicate whether the proposed work overlaps with that covered by another source of funding, either for the applicant or mentor. List other funding sources accordingly.

2. **Download Templates and Instructions:** All proposal attachment templates and this application guideline document can be downloaded here from proposalCENTRAL.

3. **Enable Other Users to Access This Proposal:** This screen allows you to give other users access to your grant application, such as financial officers at your institution. Please inquire internally at your institution to understand who, if anyone, should be able to access your proposal other than you.

4. **Applicant/PI:** Applicant information is pre-loaded from the applicant’s PROFESSIONAL PROFILE. Double-check that the information is complete and correct. If not, click Edit Professional Profile to update.

5. **Institution and Contacts:** Institution information is pre-loaded from the applicant’s INSTITUTIONAL PROFILE. Double-check that the information is complete and correct. If not, click Edit Institutional Profile to update.

6. **Abstracts and Keywords:**
   a. Describe the proposed research project for both general (lay) and scientific audiences (1500 characters maximum for each abstract).
   b. Please select keywords that describe the specific focus of your research. At least two keywords are required, and up to five are allowed. Please select keywords carefully, as they will aid in matching your application to appropriate reviewers.

7. **Proposal Attachments** (must be uploaded as PDFs; templates available for download)
   a. **Applicant biosketch:** Provide using NIH-style format.
   b. **Research Summary:** Describe the following in no more than 2 pages. (Additional pages may be used for references, as needed.)
      i. Research Plan: Outline the hypothesis and specific aims proposed, and briefly describe how the research will be carried out.
      ii. Impact: Explain how this project, if successful, will advance epilepsy research and/or contribute to improved treatment and prevention.

8. **Demographic Information:**
   a. **ORCID ID:** Please provide your ORCID ID through your professional profile (within Personal Data for Applications). If you do not already have an ORCID ID, you may create one through the provided link in the bottom of the Personal Data for Applications file. The ORCID ID is a persistent digital identifier that distinguishes you from other researchers, helping to ensure that your professional activities over time are linked to your identity.
   b. **All other demographic information is voluntary.** AES is committed to supporting a strong, diverse, and inclusive research workforce. If you choose to provide information such as gender, race and
ethnicity, or disability status, it will be used to help AES understand our granting programs through analysis of de-identified aggregated data. Such demographic information will not be available to the reviewers of your research proposal.

**FULL PROPOSALS: DUE BY JANUARY 31, 2018**

Applicants will be notified by November 30 on whether their Letter of Intent (LOI) is approved. Only applicants with an approved LOI are eligible to submit a full proposal. Instructions on submitting the full proposals, including a supplementary travel award, will be made available in updated application guidelines before November 30.

**Category lists and definitions, for fields to be completed on the Title Page.**

<table>
<thead>
<tr>
<th>Research Type</th>
<th>Definitions</th>
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<tbody>
<tr>
<td>Basic</td>
<td>Basic research is the systematic study of the fundamental aspects of phenomena and of observable facts without specific development of processes, products or clinical applications. Projects typically include studies of the mechanisms of normal or disease related processes at the molecular, cellular, systems or organ level.</td>
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<tr>
<td>Translational</td>
<td>Translational research is defined here as research to actively develop and/or refine specific processes, products, clinical applications, and implementation practices that can ultimately be used by patients or healthcare providers.</td>
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<tr>
<td>Clinical</td>
<td>Patient-oriented research, possibly with basic or translational goals, that is conducted with human subjects or on material of human origin (e.g. tissues, specimens and cognitive phenomena) for which an investigator directly interacts with human subjects. Excluded from this definition are in vitro studies that utilize human tissues but cannot be linked to a living individual. Patient-oriented research can encompass physical or behavioral aspects of epilepsy, therapeutic interventions, applications of new technologies, clinical trials, epidemiologic studies, outcomes research, public health, and health services research.</td>
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**Epilepsy or Seizure Type. This listing has been revised from previous years in response to the 2017 Classification of Seizures Types by ILAE.**

- Seizures – Focal or localization-related
- Seizures – Generalized
- Seizures – combined generalized & focal
- Seizures – unknown type
- Seizures – catamenial
- Seizures – early life
- Seizures – febrile
- Seizures – neonatal
- Seizures – Status Epilepticus
- Seizures – other
- Seizures in childhood
- Seizures in pregnant women
- Seizures in geriatric populations
- Seizures in other disorders (e.g. Alzheimer’s, Autism, alcohol abuse, addiction, renal failure, hepatic encephalopathy, Fragile X)
- Epilepsy – Autosomal Dominant Epilepsy w Auditory Features (ADEAF)
- Epilepsy – Autosomal-Dominant Nocturnal Frontal Lobe Epilepsy (ADNFLE)
- Epilepsy – Childhood Absence Epilepsy (CAE)
- Epilepsy – Childhood Epilepsy with Centrotemporal Spikes (formerly BECTS)
- Epilepsy – Dravet Syndrome
- Epilepsy – Early Myoclonic Encephalopathy (EME)
- Epilepsy – Epileptic Encephalopathies
- Epilepsy – Genetic Epilepsy with Febrile Seizures plus (GEFS+)
- Epilepsy – Hemiconvulsion–Hemiplegia–Epilepsy
- Epilepsy – Infantile Spasms (IS)
- Epilepsy – Juvenile Absence Epilepsy (JAE)
- Epilepsy – Juvenile Myoclonic Epilepsy (JME)
- Epilepsy – KCNQ2 Encephalopathy
- Epilepsy – Landau-Kleffner syndrome (LKS)
- Epilepsy – Lennox-Gastaut Syndrome (LGS)
- Epilepsy – Ohtahara Syndrome
- Epilepsy – Polyhydramnios, Megalencephaly and Symptomatic Epilepsy Structural Syndrome (PMSE)
- Epilepsy – Progressive Myoclonus Epilepsies (PME)
- Epilepsy – Reflex Epilepsies
- Epilepsy – Self-limited neonatal seizures or familial neonatal epilepsy (formerly BFNE)
- Epilepsy – Temporal Lobe Epilepsy (TLE)
- Epilepsy – Unknown or other
- Epilepsy – West Syndrome
- Etiology – celiac disease, epilepsy, and cerebral calcification syndrome
- Etiology – Encephalitis
- Etiology – genetic
- Etiology – Alpers Syndrome
- Etiology – Angelman Syndrome
- Etiology – Lafora disease
- Etiology – other
- Etiology – PCDH19 Epilepsy
- Etiology – SCN8A
- Etiology – immune
- Etiology – anti-AMPA receptor antibody
- Etiology – anti-LGI antibody
- Etiology – antibody-mediated
- Etiology – anti-GABA-B receptor antibody
- Etiology – anti-GAD65 antibody
- Etiology – anti-NMDA receptor encephalitis
- Etiology – Rasmussen encephalitis
- Etiology – voltage-gated potassium channel antibody
- Etiology – infectious
- Etiology – Bacterial meningitis / meningoencephalitis
- Etiology – Cerebral malaria
- Etiology – cerebral toxoplasmosis
- Etiology – CMV
- Etiology – HIV
- Etiology – Neurocysticercosis
- Etiology – Nodding Syndrome
- Etiology – other/unknown
- Etiology – Tuberculosis
- Etiology – metabolic
- Etiology – Biotinidase and holocarboxylase synthase deficiency
- Etiology – central folate deficiency
- Etiology – creatine disorders
- Etiology – folic acid responsive seizures
- Etiology – glucose transporter 1 (GLUT1) deficiency
- Etiology – mitochondrial disorders
- Etiology – peroxisomal disorders
- Etiology – pyridoxine dependent epilepsy/PNPO deficiency
- Etiology – Succinic Semialdehyde Dehydrogenase Deficiency
- Etiology – steroid responsive encephalopathy with autoimmune thyroiditis (Hashimoto disease)
- Etiology – structural
- Etiology – Hypothalamic Hamartoma with Gelastic Seizures
- Etiology – Malformations of Cortical Development
- Etiology – other/unknown
- Etiology – Sturge-Weber Syndrome
- Etiology – Tuberous Sclerosis Syndrome
- Etiology – Post-traumatic epilepsy (PTE)
- Etiology – hypoxia-ischemia
- Comorbidity or consequence
- Comorbidity or consequence – behavioral, psychosocial, or cognitive co-occurring condition
- Comorbidity or consequence – SUDEP
- Epilepsy imitator – headache
- Epilepsy imitator – movement disorders
- Epilepsy imitator – Non-Epileptic Events
- Epilepsy imitator – paroxysmal non-epileptic event
## Research Classification | Definitions
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**Etiology** | Research included in this category aims to identify the causes or origins of epilepsy and its co-occurring conditions - genetic, infectious, metabolic, environmental, or other factors, and the interactions between these factors.

**Mechanism of Disease** | Research included in this category looks at the biology of how epilepsy/seizures starts and progresses as well as normal biology relevant to these processes. Research may also look at the biology of co-occurring conditions as they relate to epilepsy patients, such as depression, anxiety, autism, Alzheimer’s, and traumatic brain injury.

**Prevention** | Research included in this category looks at identifying interventions which reduce the risk of developing epilepsy or its co-occurring conditions by reducing exposure to risk factors and/or increasing protective factors. Interventions may target lifestyle or behavioral changes and may involve drugs, devices, or vaccines.

**Detection/Diagnosis/Prognosis** | Research included in this category focuses on identifying and testing biomarkers, technology methods or predictive models that are helpful in detecting and/or diagnosing as well as predicting the outcome or chance of recurrence of seizures and/or co-occurring conditions.

**Treatment Development or Evaluation** | Research included in this category focuses on developing and testing treatments, such as novel therapeutics, devices or other interventions to target seizures and co-occurring conditions.

**Outcomes** | Research included in this category includes a broad range of areas: surveillance and epidemiology; ethics, education and communication approaches for health care professionals, patients and families, and community members; patient care and health care services research; self-management interventions, effectiveness research and phase 4 trials.

**Model Systems** | Research included in this category looks at the development of new animal models, cell cultures and computer simulations and their application to other studies across the spectrum of epilepsy research.

**New Technology and Methodology** | Research included in this category is primarily focused on developing new technologies and methodologies for use in epilepsy research, clinical care, or self-management.