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. The number of awards granted each year is contingent upon available funds.

CONTRIBUTING PARTNERS
In addition to funding provided by AES, support for grants will come from the Epilepsy Foundation, and the following contributing partners will also consider full or partial support for applications in targeted areas. To learn more about the research interests of specific partnering organizations, please visit their websites.

- **TESS Research Foundation** encourages applications focused on epilepsy due to SLC13A5 mutations.
- **LGS Foundation** encourages applications focused on Lennox-Gastaut Syndrome.
- **Wishes for Elliott** encourages applications focused on epilepsy due to SCN8A mutations.
- **Dravet Syndrome Foundation** encourages applications focused on Dravet Syndrome.
- **PCDH19 Alliance** encourages applications focused on epilepsy due to PCDH19 mutations.
- **TS Alliance** encourages applications focused on epilepsy associated with tuberous sclerosis complex (TSC).

2016-2017 APPLICATION DEADLINES AND AWARD DATES
- August 15, 2016: Application submission opens through proposalCENTRAL
- October 5, 2016: Letters of Intent due¹, ²
- November 30, 2016: Applicants invited to submit full proposals³
- January 31, 2017: Full proposals due
- April 28, 2017: Awards announced
- July 1, 2017: Earliest start date⁴
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?
- 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?

Approach
- Is the research project well-conceived, with clear hypotheses and potential alternative outcomes considered?
- Are the overall strategy, methodology, and analyses well-reasoned and appropriate to accomplish the specific aims of the project?

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

AES 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.

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.

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.

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, 2016

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.
   b. Categorize your research project according to the type of research conducted and particular relevance to specific forms of epilepsy. Definitions for the categories are available at the end of these instructions. While multiple categories may be relevant to an individual project, please select the choice from each of the three category types that best fits your proposal. For research classification and epilepsy type, a secondary selection is optional.
   c. AES Funding Partners. In addition to AES and the Epilepsy Foundation, one or more funding partners 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 other relevant funding partners for consideration.

2. Download Templates and Instructions: This guidelines document and all proposal attachment templates can be downloaded here.

3. Enable Other Users to Access This Proposal: This screen allows you to give other users access to your grant application, if necessary.

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.

**Full proposals: due by January 31, 2017**

Proposals must be submitted through proposalCENTRAL. Only applicants who have submitted a LOI and receive approval are eligible to submit a full proposal. To begin your proposal, log in to proposalCENTRAL and select the MANAGE PROPOSALS tab, which contains a list of applications IN PROGRESS. The status of approved LOIs will appear as LOI: APPROVED. Click the EDIT button to begin preparing a full proposal.

Required components of the application include the following sections to be completed as online forms or submitted as individual proposal attachments in PDF format. *Please read these full instructions carefully and plan in advance to ensure all components will be complete at the time you submit your proposal.* Additional instructions will be available on screen in proposalCENTRAL and within downloadable templates for proposal attachments.

**Complete applications must be submitted through proposalCENTRAL by 5:00 p.m. Eastern time on January 31, 2017.** No applications, nor any parts of or updates to the application, will be accepted if submitted after the deadline or if sent directly to AES offices by electronic or U.S. mail.

1. **Title Page:**
   a. The APPLICATION TITLE, research classification information, and other responses submitted with your LOI will be pre-populated. Please confirm that the information is correct and update as needed.
   b. Enter the start and end date requested for your project. In general, the award term should be July 1, 2017-June 30, 2018. However, a delay of up to 3 months (beginning no later than October 1, 2017) in the start date is permitted if necessary.

2. **Download Templates and Instructions**: This guidelines document and all proposal attachment templates can be downloaded here.

3. **Enable Other Users to Access This Proposal**: This screen allows you to give other users access to your grant application, if necessary.

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

5. **Institution and Contacts**:
   a. Institution information is pre-loaded from the applicant’s INSTITUTIONAL PROFILE. Double-check that the information is complete and correct. If it is not, click Edit Institutional Profile to update.
   b. Enter the requested contacts in the table provided. Select the appropriate signing official and financial officer from the drop-down list, or enter the email address of a new official and click on ADD, then complete the contact information form and SAVE and CLOSE WINDOW. The added official
will be listed as the assigned signing official or financial/fiscal officer. Enter the correct contact and address to which award payments should be sent if this proposal is selected for funding.

**IMPORTANT:** Please confirm with your institution that all information and contacts listed on this page are correct. If the application is selected for funding, this contact information will be used for grants administration correspondence and to issue payments.

6. **Key Personnel:** Indicate all key personnel other than the applicant/PI who will contribute significantly to the execution of the proposal.

7. **Letters of Reference:** Use this section to request blind submission of support letters from references familiar with your research and training. Please start this process early to ensure letters are submitted by the application deadline. Two letters of reference are required.

8. **Abstracts and Keywords:** This information is pre-loaded from the LOI submission. Please review and make edits as needed.
   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. Two keywords are required, and up to five keywords are allowed. Please select keywords carefully, as they will aid in matching your application to appropriate reviewers.

9. **Budget Period Detail:** Use this section to provide a detailed budget by listing costs under the headings provided.

10. **Budget Summary:** This page summarizes the information provided in the Budget Detail.

11. **Organization Assurances:** Use this section to indicate use of human subjects, human tissue, or vertebrate animals, and to confirm institutional assurances. All assurances should be provided at the time of the application if available, and documentation must be provided before funding can begin for awarded proposals. See Award Policies above for more information.

12. **Proposal Attachments:** Attachments must be uploaded as PDFs. Where noted, templates will be available for download on proposalCENTRAL. Select the appropriate attachment type and upload as instructed onscreen.
   a. **Signed Signature Page:** You will need to download this item in the SIGNATURE PAGE(S) section and have signed by the designated signing official (required) from the institution’s sponsored research office (or equivalent), and then re-upload the signed page as a proposal attachment. The sections of the signature page will populate from the corresponding application sections above. Please make sure the fields on the Signature Page are complete before having it signed.
   b. **Applicant biosketch:** Provide using NIH-style format appropriate to applicant career stage. Biosketches should also be submitted for consultants or collaborators.
   c. **Research Plan:** Please use the template provided and include the following elements: specific aims, background and significance, previous work directly related to this research (if available), research plan and methods. Use at least 11 pt font and at least ½ inch margins. (maximum 6 pages, not including references)
   d. **Other Support:** Please use the template provided to list all other past (last 3 years), current, and pending support for the applicant’s research. Other Support includes: all financial resources available in direct support of an individual’s research and/or research training, including but not limited to research grants, research training fellowship awards, cooperative agreements, contracts, and/or institutional awards. Recognition awards, prizes, or gifts do not need to be included.
   e. **Facilities Available:** Provide a profile of the institutional environment and the facilities available. Use at least 11 pt font and at least ½ inch margins. (no page limit)
f. **Budget Justification**: Provide a justification of your proposed budget by briefly describing each of the cost headings listed in your Budget Summary table. Use at least 11 pt font and at least ½ inch margins. (no page limit)

g. **Other proposal attachments (optional)**: Examples of additional optional attachments (if applicable) include letters of support from collaborators or consultants, or documentation related to approval for the use of vertebrate animals or human subjects. (See Policies and Procedures; IRB/IACUC documentation will be required prior to funding if selected for an award).

**13. Validate**: Click the VALIDATE button to check for any missing REQUIRED information or files. All missing required information will be listed on the screen. Please correct any missing information before submitting your application.

**14. Submit**: You will be unable to submit if you have not provided all the required information. Any missing information will be listed on the screen. If your submission is successful, you will receive a confirmation message on the screen and a confirmation email will be sent to the applicant.
Category lists and definitions, for fields to be completed on the Title Page.

<table>
<thead>
<tr>
<th>1. Research Type</th>
<th>Definitions</th>
</tr>
</thead>
<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>
</tr>
<tr>
<td>Translational</td>
<td>Translational research is the process of developing ideas, insights, and discoveries generated through basic scientific inquiry for the treatment or prevention of human disease.</td>
</tr>
<tr>
<td>Clinical</td>
<td>Patient-oriented research. Research conducted with human subjects (or on material of human origin such as 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 that cannot be linked to a living individual. Patient-oriented research typically includes therapeutic interventions and applications of new technologies, clinical trials, epidemiologic and behavioral studies, outcomes research and health services research.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>2. Research Classification</th>
<th>Definitions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Etiology</td>
<td>Research included in this category aims to identify the causes or origins of epilepsy - genetic, infectious, metabolic, environmental, or other factors, and the interactions between these factors</td>
</tr>
<tr>
<td>Mechanism of Disease</td>
<td>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</td>
</tr>
<tr>
<td>Prevention</td>
<td>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 may involve drugs or vaccines.</td>
</tr>
<tr>
<td>Detection/Diagnosis/Prognosis</td>
<td>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</td>
</tr>
<tr>
<td>Treatment</td>
<td>Research included in this category focuses on identifying and testing treatments, such as novel therapeutics, devices or other interventions.</td>
</tr>
<tr>
<td>Outcomes</td>
<td>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; effectiveness research and phase 4 trials</td>
</tr>
<tr>
<td>Model Systems</td>
<td>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</td>
</tr>
</tbody>
</table>
3. Epilepsy Type

a. ADEAF - Autosomal Dominant Epilepsy with Auditory Features
b. ADNFLE - Autosomal-Dominant Nocturnal Frontal Lobe Epilepsy
c. Alpers Syndrome
d. Angelman Syndrome
e. BECTS - Benign Epilepsy with Centrotetemporal Spikes
f. Behavioral, psychosocial, or cognitive comorbidities associated with epilepsy
g. BFNE - Benign Familial Neonatal Epilepsy
h. CAE - Childhood Absence Epilepsy
i. Cataminal Seizures
j. Childhood Epilepsy
k. Dravet Syndrome
l. Early Life Seizures
m. EME - Early Myoclonic Encephalopathy
n. Encephalitis Acquired Epilepsy
o. Epilepsy/Seizures associated with other disorders (like Alzheimer's, Autism, Fragile X, Malaria,...)
p. Epilepsy/Seizures in pregnant women
q. Epilepsy/Seizures in the elderly
r. Epileptic Encephalopathies
s. Febrile Seizures
t. Focal Epilepsy
u. GEFS+ - Genetic Epilepsy with Febrile Seizures plus
v. Genetic Epilepsy
w. Hemiconvulsion–Hemiplegia–Epilepsy
x. Hypothalamic Hamartoma with Gelastic Seizures
y. IS - Infantile Spasms
z. JAE - Juvenile Absence Epilepsy
aa. JME - Juvenile Myoclonic Epilepsy
bb. KCNQ2 Encephalopathy
cc. Lafora Disease
dd. LGS - Lennox-Gastaut Syndrome
ee. LKS - Landau-Kleffner Syndrome
ff. Malformations of Cortical Development
gg. Neonatal Seizures
hh. Neurocysticercosis
ii. Nodding Syndrome
jj. Non-Epileptic Seizures
kk. Ohtahara Syndrome
ll. PCDH19 Epilepsy
mm. PME - Progressive Myoclonus Epilepsies
nn. PMSE - Polyhydramnios, Megalencephaly and Symptomatic Epilepsy Syndrome
oo. PTE - Post Traumatic Epilepsy
pp. Rasmussen Syndrome
qq. Reflex Epilepsies
rr. Seizures
ss. Status Epilepticus
tt. Sturge-Weber Syndrome
uu. Succinic Semialdehyde Dehydrogenase Deficiency
vv. SUDEP
ww. TLE - Temporal Lobe Epilepsy
xx. TSC - Tuberous Sclerosis Complex
yy. West Syndrome
zz. Epilepsy - not otherwise specified