2018 Global Research Outreach ("GRO") Program
Proposal Guide & Format

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PROPOSAL SUBMISSION:

1) Required Documents & Submission

Please submit the following two documents **online** for your GRO proposal package:

1. **Research Proposal**: Please keep your Project Specification to ten (10) pages or less; additional pages may be used for supporting figures, images, data, CV and other documentation. For CVs, please provide one-(1) or two-(2) page overview for Principal Investigator, any co-Principal Investigator, and the proposed Graduate student. Please attach at the end of the Research Proposal.
2. **Scanned Copy of Signed GRO Research Agreement (RA) Acceptance Letter**: To be eligible, applicants shall submit an unmodified GRO RA Acceptance Letter completed and signed by an authorized University official.

2) Format of Research Proposal

- File Name Format for Proposal: *number of sub-theme_Proposal Title_University Name_PI Name* (Example: If you submit proposal in the sub-theme of Security & Privacy: Continuous Authentication, the file name will be: ***10-1_Proposal Title_Samsung University_JaneSmith***)
- Please provide your proposal in English, in ***MS Word format***.
- It is preferred that you submit proposal content with Font Size of 11-point Arial.

a. PART 1 : Proposal Identification

1. Title of Proposal (recommend using larger font size than for contents below)
2. 2018 GRO Project Theme
3. 2018 GRO Project Sub-theme (if applicable)
4. Principal Investigator ("PI") Information:
    - Full name of PI
    - Affiliation (University, School, College and/or Department)
    - Contact Information (Postal Address, e-Mail, Phone)
5. Co-PI Information (if applicable)
    - Full name of Co-PI
    - Affiliation (University, School, College and/or Department)
    - Contact Information (Postal Address, e-Mail, Phone)
6. Statement of Joint Proposal (if applicable)
   (e.g., This proposal is a joint proposal of "A" university and "B" university. Primary/Lead university is "A".)

b. PART 2 : Project Summary (Approximately 1 page)

1. Announcement of Multi-year Proposal (if applicable)*
   (e.g., I/We propose three (3) year research, and specific plan for this year is…)
2. Research Abstracts and Goals
3. Keywords (2-3 words) that best capture the principal focus of proposed research

* If your proposal is multi-year based, please specify in PART 2. PARTs 1, 3, and 4 will be based on a one (1)-year proposal.

NOTE: For multi-year proposals, funds will be awarded for one (1) year only. Your project may be considered for up to three (3) consecutive years, subject to available funding. In addition, the funding will be available ONLY after you submit Reports, updated Proposal(s) and are selected for the subsequent year(s). Your SAMSUNG Principal Investigator will provide guidance of how you can renew your project during the first year.

c. PART 3 : Description of Project

1. Project Duration (mm/dd /yyyy ~ mm/dd/yyyy)
2. Research Objectives
3. Significance of Research
4. Research Plan and Technical Approach
5. Milestones (Month1, Month 2,…)
6. Expected Outcomes and Results (Please describe tangible outcomes and intangible outcomes separately)

d. PART 4 : Budget (in US$)

1. Total Budget: Describe Direct Expenses (labor, materials, etc.) and any Indirect costs (overhead, etc.)

e. Proposal Appendices : Resources & Others

1. CVs of PI, Co-PI(s), and the proposed graduate student(s)
2. Equipment or Facilities Description
3. Other Relevant Information (e.g. External Funding, Background IP, if applicable)

3) GRO Research Agreement (RA) Acceptance Letter

The GRO Research Agreement is available upon request. Please have your university representative request it.

The **GRO RA Acceptance Letter** is provided as a file on the GRO Website.

The GRO RA Acceptance Letter **must be completed and signed – without modification – by an authorized official of the University**. Applicants are responsible for determining the appropriate University officer. Samsung will not accept the Applicant's signature as proof of concurrence by the University.

Applicants shall submit scanned GRO RA Acceptance Letter in PDF File Format via the online submission process.

Selected Award winners must additional execute the GRO Research Agreement prior to funding transfer. The completed GRO RA Acceptance Letter is not a substitute for the actual GRO contract.

4) Frequently Asked Questions & Contact Information

Frequently Asked Questions can be found on the official GRO Website.

For further inquiry and any comments, please contact us:

Americas (North, Central, South)	gro.usa@samsung.com
Asia & Oceania (except China & Japan)	gro.asia@sasmung.com
China	gro.china@samsung.com
Japan	gro.japan@samsung.com
Europe	gro.europe@samsung.com
Russia & CIS	gro.russia@samsung.com

APPENDIX:

1. Overview

The GRO Program is SAMSUNG's annual call for proposals, which is conducted by the Samsung Advanced Institute of Technology (SAIT). This program is open to world-leading universities and designed to create opportunities to explore breakthrough & innovative research.

a. 2018 GRO Timeline

Web Submission Open	:	April 16, 2018
Application Deadline	:	June 11, 2018 (5pm PST); June 12, 2018 (9am, KST, UTC +9)
Announcement of GRO Awardees (via email)	:	August/September 2018

b. Eligibility for Funds

To be eligible for funds under the GRO Program, an applicant's university must accept the GRO Research Agreement (RA) as part of the proposal-submission process. Key provisions of the RA specify project conditions including funding for the project, IP rights, and clarify other aspects of research collaboration.

Initial acceptance by the Applicant's University is accomplished through submission of a GRO RA Acceptance Letter without modification. GRO RA Acceptance Letter also confirms that no confidential or proprietary information will be included in the submitted proposal. Samsung GRO does not wish to receive any confidential or proprietary information.

c. Evaluation Criteria

Samsung evaluates proposals in the following (but not limited to) criteria:

1. Innovativeness of research
2. Potential business and/or scientific/social impact
3. Feasibility of research with respect to planned time, objectives, intended results and resources (subjected to availability)

Samsung will have sole discretion in the GRO Award Selection. No feedback will be provided to the applicant.

d. Confidential and Proprietary Information

Samsung does not wish to receive confidential or propriety information in the submitted proposals. Samsung does not require, and does not desire to receive any information that may be deemed confidential by the University and its partners. Samsung will treat all information submitted in proposals as non-confidential and non-propriety.

2. 2018 Research Themes

The 2018 GRO Program is seeking proposals in 27 research themes.
Detailed call for proposal on each theme can be found on the **GRO Website**

Theme (Sub Theme)	Company
1. Brain Inspired Computing & Neural Interface	
1-1. Brain Inspired Computing & Neural Interface	SEC
2. Hardware Security	
2-1. Enhanced Chip Security by Blockchain	SEC
3. Health Technology	
3-1. Non-invasive Health Sensor	SEC
3-2. Next Generation Wearable Devices for Human Musculoskeletal Healthcare	SEC
4. Camera Technology	
4-1. Next Generation Image Sensors & Cameras	SEC
5. Ultra-thin and High-resolution AR Glasses	
5-1. Meta-surface for Ultra-thin & Wide FoV AR Glasses Lens Optics	SEC
6. New Logic Device	
6-1. New Logic Devices based on Alternative Channel Material, Functional Dielectrics, or New Concept	SEC
7. Next Generation Computing	
7-1. Application of Machine Learning Techniques for Accurate Power Prediction and Active Power/Thermal Control in Mobile Devices	SEC
7-2. Data Speculation through Value or Address Prediction	SEC
8. Computing Architecture for Data Analytics	
8-1. Efficient Algorithm and Processor Architecture for Data Mining/Analytics of Massive IoT Data	SEC
9. Cognitive Edge Computing	
9-1. Cooperative Machine Learning on Edge Devices	SEC
10. Security & Privacy	
10-1. Continuous Authentication (Contextual Intelligence Driven Continuous and Implicit Authentication)	SEC
10-2. Automatic S/W Vulnerability Detection and Patch Generation	SEC
11. Data Profiling and Curation	
11-1. Data Profiling and Curation	SEC
12. Data Service Platform	
12-1. Blockchain-based Big Data Management Technology	SEC

13. Software Engineering	
13-1. Study on Improvement Methods of Development Practices by Quantifying S/W Health (Pattern / Characteristic)	SEC
14. Conversational Assistant	
14-1. Character Mining based on Multi-part Dialogue	SEC
15. Data Analytics	
15-1. Complex Document Image Recognition using AI	SDS
16. New Quantum Dot	
16-1. QD of New Structure & Composition	SEC
17. Near-infrared Sensor Materials	
17-1. New Organic Molecules with Strong and Selective Near-infrared Absorption	SEC
18. New Type Light Emitting Material	
18-1. Hydrocarbon-based Light Emitting Materials	SEC
19. Hybrid System of Energy Harvesting and Battery	
19-1. Integration of High Power Flexible Nanogenerator and Micro Battery	SEC
20. Ultra Compact Power Conversion Platform	
20-1. Ultracompact Power Conversion Platform for Wireless Rapid Charging System	SEC
21. 3D battery	
21-1. Oxide Type Solid Electrolyte prepared by CVD	SEC
22. Microbial Conversion Materials	
22-1. Biocatalyst for non-CO2 GHG Decomposition	SEC
23. Material Simulation	
23-1. AI-based Retrosynthesis for Materials	SEC
24. Functional Oxide	
24-1. Oxide Thin Films for Device Applications	SEC
25. High Permittivity MLCC Dielectric Material with Low Dielectric Constant Change	
25-1. High Permittivity MLCC Dielectric Material with Low Dielectric Constant Change	SEM
26. Components and Materials for 5G	
26-1. Components and Materials for 5G Mobile Device	SEM
27. Material Informatics & Deep Learning	
27-1. Material Informatics and Deep Learning for Development of High Dielectric Materials for MLCC	SEM

SEC : Samsung Electronics Co., Ltd.

SDS : Samsung SDS, Ltd.

SEM : Samsung Electro-Mechanics Co., Ltd.