



**MINISTRY OF EDUCATION  
FEDERAL UNIVERSITY OF CEARÁ  
PROVOST OFFICE OF RESEARCH AND GRADUATE STUDIES**

**Call Notice 01/2018**

**Selection of Thematic Projects for the Internationalization Institutional Program Capes – PrInt (Call Notice nº. 41/2017)**

The Federal University of Ceará (UFC), by means of the Provost Office of Research and Graduate Studies (PRPPG) and the Provost Office of International Affairs (PROINTER), announces this call notice with the purpose of selecting the projects which will compose the institutional proposal of the Federal University of Ceará in the scope of the Internationalization Institutional Program – Capes/PrInt, in accordance with the rules of the Call Notice nº. 41 disclosed by CAPES (<http://goo.gl/mXYBPo>).

**1. Goals**

1.1. The projects selection aims at the elaboration of the Federal University of Ceará's institutional proposal, to be submitted to the Internationalization Institutional Program PrInt/Capes, considering the goals specified in the Call Notice Capes/PrInt nº. 41/2018 and the following guidelines:

- i. Continue and consolidate the international experience of the graduate programs concerning research and academic mobility;
- ii. Institutionally articulate consolidated or incipient actions of international collaboration, as to improve the progress of internationalization at UFC;
- iii. Stimulate innovative strategies on research and on graduate studies in multidisciplinary themes of international concern;
- iv. Contribute to knowledge with views of reaching the Goals of the Millennium.

**2. Priority Themes**

2.1. The indication of the priority themes aims at reaching the goals established in CAPES's Call Notice and considers the following principles:

- i. Direct engagement of the graduate programs which were awarded with grades 6 and 7 in CAPES's 2013-2016 quadrennial evaluation, given the international excellence of the referred programs;
- ii. Multi and transdisciplinary approach, by means of the graduate programs' articulation (including those with grades 4 and 5) and research groups, with expected impacts on the University's internationalization

index, including undergraduate and graduate studies, and in accordance with UFC's Internationalization Institutional Plan.

iii. Possibility of developing themes of international relevance which promote institutional visibility in renowned periodicals, events and awards;

iv. History of international collaborations with well-defined and relevant results and impacts, and fundraising, especially of foreign development agencies and companies;

v. Overcoming of the socioeconomic challenges and of the strategic areas for public policies in Science, Technology and Innovation in the state of Ceará;

vi. Engagement in the local productive arrangements and, in particular, in the Technology Park of the Federal University of Ceará.

2.2. Having the premises of the internationalization plan and the guidelines of CAPES' Call Notice in mind, the following items are considered priorities for the projects elaboration:

### **2.2.1. Data Science**

- Artificial Intelligence;
- Data mining;
- Design applied to the visualization and communication of data;
- Telecommunications as basic infrastructure for data collection;
- Legal aspects of big data utilization originated from business and social activities.

### **2.2.2. Complex Systems**

- Smart Cities;
- Population dynamics;
- Urban mobility;
- Applications in the financial system;
- Processes and models of opinion propagation;
- Processes and models of diseases propagation;
- Neuro-linguistic processes;
- Characterization of complex networks.

### **2.2.3. Materials and phenomena in nanoscale**

- Processing of advanced materials and metal alloys;
- Degradation of high-performance materials;
- Novel two-dimensional materials;
- Biomedical applications of nanomaterials;
- Nanocosmetics and nanopharmaceuticals;

- Studies of phenomena on bio-nano interface and the interactions between nanomaterials and biological systems;
- Catalysis;
- Welding and characterization of special alloys and steels;
- Adsorption phenomena;
- Rheology;
- Crystallization and structural determination of biomolecules;
- Fundamentals and molecular modeling of nanosystems.

#### **2.2.4. New chemical, biological products and their implications**

- Bioprospection of natural resources for the development of biotechnological products and inputs;
- Synthesis of new biochemical chemical compounds and its applications.

#### **2.2.5. Water and waste management and safety in light of climate change**

- Weather risk (variability and climate change) in water resources systems;
- Simulations of water resources systems which analyze the robustness or systems' vulnerability;
- Sociological research which addresses the conflicts caused by the use of water - economic studies that discuss the issue of allocation or costs with water supply;
- Water quality assessment and its impact on the use (urban supply, irrigation);
- Impacts of droughts and management strategies, long-term planning of water resources systems;
- Management of urban solid waste.

#### **2.2.6. Food safety**

- Sustainable practices in agriculture and livestock;
- Sustainable management of coastal and marine resources;
- Sustainable production of food;
- Impacts of climate change on the food safety of coastal communities;
- Agricultural pollination.

#### **2.2.7. Geoconservation of landscapes**

- Protected marine areas and international goals of conservation;
- Analysis of impacts on coastal and oceanic geosystems;
- Research in strategic environments for the management of protection policies;
- Management and recovery of river basins which have suffered great socio-environmental impacts;
- Recovery of air and soil quality when facing desertification;

- Integrated territorial zoning of the conservation units, in different scales of the environmental heritage management;
- Modeling and simulations of climate, water and biotic change effects;
- Geoecology and historical transformations of the landscapes correlated with health (epidemics), tourism (qualification of accesses) and social-educational development of the local communities (participative administration) planning;
- Ways of legislation improvement of the protection patrimonial networks, considering conferences and international forums agendas against biomes degradation.

#### **2.2.8. Geometry and Non-Linear Methods**

- Partial, deterministic or stochastic differential equations;
- Complex phenomena, involving non-linearities and phase transitions;
- Application the Geometry and Analysis Language in singular or stratified spaces;
- Stochastic processes and phase transitions;
- Information Geometry, in which the geometric nature of statistic varieties is explored in applications to signal processing;
- Optimization in Riemannian environments and applications to the Drawing of Mechanisms, Game Theory and Finances.

#### **2.2.9. Languages and Social Technologies**

- Studies related to communication as a human activity inherent to culture, with views of the transmission and comprehension of messages in a certain social-historical context;
- Low-cost sustainable development and broad participation of the local and regional communities;
- Feasibility assessment in the application of therapies aiming at the prevention of diseases, reduction of vulnerability and/or increase of epidemics;
- Mitigation of the environmental catastrophes risks with the recovery of habitational structures (rural and urban ones) in the exchange of successful cases;
- Qualitative and quantitative research in regions with low socioenvironmental development indexes and significant demand for interdisciplinary projects;
- Use of agroecological techniques, whether conventional or alternative ones, aiming at the improvement in the income and schooling indexes;
- Contextualized studies in Latin American and African realities, having actions of institutes and universities laboratories as partnerships;
- Studies and actions on public policies, programs and social projects, in the national, regional or local scope, aiming at the insertion of population segments which are excluded from the access to goods and services of life in society, as a result of their condition of belonging to a certain social

class, age, disability, gender, ethnicity, sexual or religious orientation, suffering prejudice against their geographical area of origin, etc.;

- Research and actions accomplished in urban and/or rural areas that aim at the local or regional development;
- Sector policies in education, health, social assistance, social insurance, housing, labor and employment, among others, with views of the promotion of equity, citizenship and social justice.

#### **2.2.10. Research on infectious, immunoinflammatory and chronic-degenerative diseases**

- Translational research in Medicine which approaches aspects of etiopathology, diagnosis, therapeutic targets and treatment of relevant morbid processes of infectious, inflammatory or chronic-degenerative order;
- Emergent and reemergent pathogens.

#### **2.2.11. Health Promotion**

- Promotion and assessment of public policies with views of creating and strengthening individual and collective environments and actions for health promotion;
- Assessment and reorientation of health services;
- Development of actions and strategies which promote individual, group and collective skills and capacities in health promotion, as to promote possibilities of choices and opportunities in order to reach health and well-being.

#### **2.2.12. Neglected diseases and Public Health**

- Design and improvement of multidimensional qualitative assessment models for the study of public policies, programs and services;
- Elaboration of innovative interventions oriented by the qualitative research approach directed to illnesses of greater prevalence, neglected diseases and emergent problems in health;
- Assessment processes as a management tool directed to the improvement of attention quality in different contexts and territories, in the scope of the Health System;
- Analysis of demands, necessities, successful experiences and problems in the management of the public health network services (abandon; non-adherence; stigma; prejudice);
- Study of the interfaces and dynamics between urbanization, modes of subjectivation and health profile in metropolises, including perspectives compared in national and international level;
- Models of reduction in health damage – multicentric perspective;

- Recovery of therapeutic itineraries, conceptions and comprehension of meanings concerning quality in health from the perspective of stakeholders (users, family, managers, workers) on the attention in different levels of complexity, analyzing confluences and divergences;
- Basic, pre-clinic and clinic research (*in vivo* and *in vitro*) of markers, bioproducts and medicines of endemic and high-prevalence diseases in the North and Northeast regions of Brazil;
- Weight and cognitive development of children affected by endemic diseases, malnutrition and violence.

### **2.2.13. Qualification of the Teaching-Learning Process**

2.3. In case the project does not fully suit any of the priority themes listed above, the proponent might suggest the theme as long as it is in accordance with the premises described on item 2.1 of this Call Notice.

## **3. Schedule**

3.1. The selective process of this call notice will occur according to the schedule below:

- i. Launching of the Public Notice – 01/24/2018;
- ii. Release of the form for proposals submission – 01/26/2018;
- iii. Period for proposals submission – from 01/26/2018 to 02/28/2018;
- iv. Preliminary Result – 03/09/2018;
- v. Deadline for administrative appeals – 03/11/2018;
- vi. Final Result – 03/23/2018.

## **4. Research Projects**

### **4.1. Scientific Staff**

4.1.1. The projects must be elaborated and coordinated by researchers who are permanent members of the teaching staff in *stricto sensu* graduate programs (doctoral programs) registered at Plataforma Sucupira.

4.1.2. The research projects coordinators must demonstrate scientific leadership in their area of knowledge, experience in international collaboration by means of ongoing or accomplished cooperation projects, and relevant scientific production in co-authorship with international partners.

4.1.3. The teaching members of the project's scientific staff must belong to the university collegiate body of a graduate program at the Federal University of

**Ceará. (Note: the networking programs will only suit this category if the coordination is headquartered at UFC).**

4.1.4. The scientific staff must be preferably composed of at least two graduate programs at the Federal University of Ceará, as to engage the collegiate body members.

4.1.5. Coordinators and other faculty members of the projects' scientific staffs must have a registration at ORCID (Open Researcher and Contributor ID), which might be accomplished at the following address <https://orcid.org/register>.

## **4.2. Project Requirements**

4.2.1. The research projects must involve at least one of the priority themes (with the premises described on item 2 of this Call Notice), briefly describing:

- i. Abridged history of the scientific staff's most relevant contributions to the themes;
- ii. Description of the goal, emphasizing its international relevance;
- iii. Previous or ongoing international partnerships related to the themes;
- iv. Perspectives of expansion of international collaborations and scientific contributions related to the research objects;
- v. Existent or expected interactions between researchers of different graduate programs concerning the theme suggested;
- vi. Innovative aspects of the proposal with relation to previous or ongoing research projects related to the theme and to the goals proposed;
- vii. Positive impacts expected for the Institutional Internationalization Plan (PIN) of UFC and for the graduate programs involved;

4.2.2. The research projects must describe strategies and results expected for the graduate programs and the University's internationalization, mentioning, among other initiatives:

- i. Estimates for the insertion of didactic material, themes and courses in foreign languages at the graduate programs' curricular structure, especially the ones related to the projects themes;
- ii. Production of promotional material for the research groups and graduate programs in other languages;
- iii. Training and professional qualification of students, administrative staff and professors for proficiency in foreign languages.

4.2.3. The research projects must contain a preview of collaborations and international counterparts, highlighting:

- i. Partnerships to be formalized between the Federal University of Ceará, by means of the graduate programs involved in the project, and foreign institutions, by means of international collaboration tools, such as cooperation agreements, memorandums of understanding, among other similar instruments;
- ii. Counterparts offered by the foreign institutions involved in the research projects, in the form of funding resources of some of the financeable items described on this call notice;
- iii. Counterparts of other nature, in case it is applicable;
- iv. Terms of consent signed by representatives of the foreign institutions involved, with respect to the participation in the projects and the estimate of institutional counterparts.

4.2.4. The research projects must establish internationalization indexes and marks in terms of the following points:

- i. Scientific-technologic production;
- ii. Doctoral qualification;
- iii. Academic mobility (in and out) of professors and students;
- iv. Raising of national and international funds, especially in the form of counterparts;
- v. Academic innovation at undergraduate and graduate level in the international offer of courses and schools, in teaching and proficiency in foreign languages and in the international visibility of research and graduate studies.

## **5. Financeable items (withdrawn from CAPES PrInt Call Notice)**

5.1. Aid for Work Missions Abroad

5.2. Funding Resources for Projects Maintenance (up to R\$10.000,00 a year)

5.3. Scholarships Abroad

5.3.1. Split-site Doctoral Program

5.3.2. Senior Visiting Fellow

5.3.3. Training in short-duration courses (summer/winter schools)



## 5.4. Scholarships in the Home Country

### 5.4.1. Visiting Professor in the Home Country

### 5.4.2. Young Professors with Experience Abroad

### 5.4.3. Post-Doctorate Degree with Experience Abroad

5.5. The tables with the values for the scholarships and housing costs can be verified at annexes 8, 9 and 10 of the Call Notice n. 41/2017 – Capes/PrInt (<http://goo.gl/mXYBPo>).

## 6. Projects submission

6.1. The project submissions must be exclusively accomplished by means of an on-line form, in English, disclosed at the Provost Office of Research and Graduate Studies website (direct access by means of the link <http://sysprppg.ufc.br/Sistemas/print/>), according to the dates established on the Schedule and also to the format in Annex I of this call notice.

6.2. The submission will be exclusively accomplished by the research projects coordinators.

6.3. The research project must have the consent of the graduate program collegiate where the coordinator takes part.

6.4. The item 2.10 of the Call Notice PrInt (CAPES) specifies: **“The actions disposed in the Internationalization Institutional Plan cannot prevail over other similar actions accomplished by DRI/Capes. In case this happens, Capes might reduce the fund conceded according to its own criteria.”** However, this point must be considered in the projects elaboration.

## 7. Budget

7.1. The projects are classified into values ranges and into duration according to the table below:

	Range A	Range B	Range C
Values	Up to 800.000,00	Up to 600.000,00	Up to 400.000,00

7.2. The best assessed projects might be renewed and have a validity of 4 years. The evaluation criteria will be defined by the Management Group of the Internationalization Institutional Plan disposed in Call Notice Capes/PrInt n.º. 41/2018.

7.3. Some budget outlines (with reference values) for the different values ranges are indicated below:

### Range A

Funding Resources		R\$ 30.000,00
Monthly fees for Split-Site Doctoral Program	24 months	R\$ 152.553,00
Senior Visiting Fellow Abroad	12 months	R\$ 140.356,00

Junior Visiting Fellow Abroad	12 months	R\$ 130.996,00
Visiting Fellow from abroad in Brazil	6 months	R\$ 106.155,00
Young Professor from Abroad	6 months	R\$ 70.155,00
Post-Doctorate Fellow from Abroad	6 months	R\$ 24.600,00
Three Short-Term Missions	3 months	R\$ 39.021,00
		<b>R\$ 800.000,00</b>

### **Range B**

Funding Resources		R\$ 20.000,00
Monthly fees for Split-Site Doctoral Program	12 months	R\$ 76.276,00
Senior Visiting Fellow Abroad	12 months	R\$ 140.356,00
Junior Visiting Fellow Abroad	12 months	R\$ 130.996,00
Visiting Fellow from abroad in Brazil	6 months	R\$ 106.155,00
Post-Doctorate Fellow from Abroad	24 months	R\$ 98.400,00
Two Short-Term Missions	2 months	R\$ 26.014,00
		<b>R\$ 600.000,00</b>

### **Range C**

Funding Resources		R\$ 20.000,00
Monthly fees for Split-Site Doctoral Program	12 months	R\$ 76.276,00
Senior Visiting Fellow Abroad	12 months	R\$ 140.356,00
Junior Visiting Fellow Abroad	12 months	R\$ 130.996,00
Visiting Fellow from Abroad in Brazil	6 months	R\$ 106.155,00
Post-Doctorate Fellow from Abroad 1	9 months	R\$ 36.900,00
Two Short-Term Missions	2 months	R\$ 26.014,00
		<b>R\$ 400.000,00</b>

## **8. Projects Analysis and Assessment**

8.1. The proposals will be analyzed by a specific Advisory Committee appointed by the Provost Office of Research and Graduate Studies of the Federal University of Ceará, which will conduct the proposals' assessment and selection process and will decide on the final classification, in decreasing priority order.

8.2. The projects' merit analysis will be preceded by a technical analysis of the proposals' adequacy to the terms of this Call Notice and to the rules of Call Notice n. 41/2017 Capes/PrInt.

8.3. The Advisory Committee will be composed of level 1 fellow productivity researchers from CNPq, and foreign researchers with a productivity of equivalent level, from different areas of knowledge, with scientific leadership, international experience and experience with participation in advisory committees in development agencies;

8.4. The Advisory Committee will register the reports and final results in a record, which will be homologated by the Chamber of Research and Graduate Studies of the Teaching, Research and Extension Council.

## **9. Assessment Criteria**

9.1 The assessment criteria will be based on the elements of the merit analysis and ranking of the institutional proposals on Call Notice nº. 41/2017 Capes/Print, among the ones which compose 55% of the merit grade and are tie-breaking criteria, namely:

- i. The innovative character of the Internationalization Institutional Project proposal;
- ii. The relevance of the project proposed, considering its impact on the internationalization of the graduate programs involved and, consequently, of UFC.

9.2. The assessment criteria, together with the maximum score attributed to each one of them, will be enumerated as follows:

9.2.1. Project adequacy to the priority theme(s), considering the elements disposed on item 4.2.1. of this Call Notice.

Maximum score: 10/100

9.2.2. The research project coordinator and also the scientific staff's excellence and scientific leadership in the international scope.

Maximum score: 20/100

9.2.3. Grades of the graduate programs awarded by Capes's 2013-2016 quadrennial evaluation, as well as the academic and scientific reputation of the foreign groups and institutions.

Maximum score: 15/100

9.2.4. Estimate of the foreign institutions counterparts documented as terms of consent.

Maximum score: 10/100

9.2.5. Innovative aspects of the proposals concerning research projects which already exist, especially with respect to the articulation of different research groups and graduate programs.

Maximum score: 30/100

9.2.6. The project's institutional impact for the promotion of internationalization in teaching and research, contributing to the Internationalization Institutional Plan.

Maximum score: 10/100

9.2.7. The budget's adequacy to the financeable items and to the execution of the project proposed.

Maximum score: 5/100

## **10. Final Provisions**

10.1. The deadline for administrative appeals will be of 48 (forty-eight) hours from the result's publishing date, not originating any suspensive effect.

10.2. The cases which are not disposed in this Call Notice will be settled by the Chamber of Research and Graduate Studies/CEPE.

Fortaleza, January 24th, 2018

Henry de Holanda Campos  
President

Antônio Gomes de Souza Filho  
Provost of Research and Graduate Studies

José Soares de Andrade Júnior  
Provost of International Affairs

## ANXEX I

Title of Research Project:

Coordinator:

Graduate Program:

Link for CV Lattes:

ORCID:

**1. Project Summary** (*Describe the state of the art of the topics to be investigated focusing on their international relevance and how the project will impact the field*)

**2. Goals** (*Please provide the scientific goals and tasks in the format listed below*)

*The main goal of this proposal is ....*

- Task 1
- Task 2
- Task 3
- and so on ...

Please indicate deliverables and targets of the Project in terms of:

i) Scientific and technological outcomes (papers, books, patents, etc.);

ii) Graduating PhDs;

iii) Exchanging faculty and PhD students;

iv) National and international funding as support for running out the project;

v) Academic Innovation at graduate and undergraduate level regarding courses, schools, teaching of foreign language as well as for promoting the international visibility of research and graduate programs.

**3. Methodology** (*briefly describe the methodologies involved for running out the research project*)

**4. Team expertise and collaboration records** (*List team members and affiliation and describe briefly: i) the expertise of the members of the scientific team (Brazilians and foreigners) and its most relevant scientific contributions to the topics of the project; ii) previous and/or on going international collaborations; iii) perspectives of consolidating international collaborations; and iv) ongoing or potential collaboration between the researchers belonging to different graduate programs at UFC on the topics of the project.*)

**5. Budget outline** (*see Funding items and values at <http://goo.gl/mXYBPo> and suggestions provided in Item 7.3 of this call*)

**6. Outcomes** (*Describe the expected impacts the project will bring to the graduate programs at UFC and for the Institutional Internationalization Policy*)

**6. References**