

RESEARCH OPPORTUNITIES

PUCRS / 2019

	Research Group or Laboratory Research Project	Coordinator	Eligibility Criteria	Activities do be developed (activities may vary)	Duration
1	Laboratory of Parasites and Molecular Biology Research Project: Refinement of ultrasensitive diagnostic methods for Schistosomiasis	Carlos Graeff Teixeira	Language requirements: English or Spanish	Laboratory and field practice; data analysis and computer modeling.	To be defined
2	NanoPUCRS Research Project: Nanomaterials, interaction of nanoparticles with biological systems, radiation effects in materials	Ricardo Papaléo	Language requirements: English or Spanish; Background in Physics, Chemistry or Engineering	Experimental activities (synthesis, characterization, data analysis) or computer simulations	To be defined: minimum of 12 hours a week
3	Multidisciplinary Research Group in Medical Imaging (NIMed) Research Project: Computer methods for medical imaging processing and analysis	Ana Maria Marques da Silva	Language requirements: English; Students must be working in the last semester of their undergraduate or graduate program; MATLAB and/or Python programming	Development of algorithms for medical imaging processing and analysis using MATLAB and/or Python	To be defined

4	Interdisciplinary Group of Applied Geophysics (GIGA) Research Project: Development of Electrical Resistivity Tomography for Geophysical Purposes	Cássio Stein Moura	Intermediate English or Portuguese; Applicants must be familiar with electromagnetism	Soldering; Arduino programming; Matlab programming; Prototype operation.	To be defined
5	Environmental Analytical Chemistry Laboratory Research Project: Optimization of zeolite synthesis processes from waste and its use in: a) environmental decontamination; b) controlled release of nutrients in the soil; c) formulation of new doped bioplastic nanocomposites for odor control; d) adsorption of greenhouse effect gases.	Marçal José Rodrigues Pires	Language requirements: English, Spanish or French. The opportunity is open to Chemistry and Chemical Engineering students or recent graduates of these programs with a good academic record.	To be defined	1-6 months
6	Research Group in Olympic Studies Research Project: Olympic Studies and / or international communication	Nelson Schneider Todt	Language: English or Portuguese	To be defined	A minimum of one semester
7	Study Group in Career Development Research Project: Career Development Studies	Manoela Ziebell de Oliveira	Students will have an enthusiasm for careers, organizations and labor	To be defined	A minimum of 2 months
8	Ubilab / Famecos Research Project: New medias, mobile devices and the future of journalism.	Eduardo Campos Pellanda	Undergraduate students who have completed at least half of their degree in Communications or Computer Science	To be defined	6 months – 1 year

9	<p>Communications, Aesthetics and Cinema and Audiovisual Studies Policies</p> <p>Research Project: The Reconfiguration of the Images of Authoritarian Regimes in Brazil Today</p>	<p>Cristiane Freitas Gutfreind</p>	<p>Portuguese, English, French or Spanish</p>	<p>To be defined</p>	<p>A minimum of one semester</p>
10	<p>Research Group for Education, Gender and Craftwork</p> <p>Research Project: Theories and Cultures in Education</p>	<p>Edla Eggert</p>	<p>Elementary Portuguese</p>	<p>To be defined</p>	<p>04 months or an academic semester</p>
11	<p>Research Group in Education: Crafts. Craftsmanship and Illusio</p> <p>Research Project: Ethics in research as a developmental problem</p>	<p>Mônica de la Fare</p>	<p>Enthusiasm for the activities developed in the project; elementary Portuguese</p>	<p>To be defined</p>	<p>04 months or an academic semester</p>
12	<p>Interdisciplinary Research Group in Theory of Justice and Political Culture</p> <p>Research Project: Thematic Group "Theories of Justice" (Anpof); Political Culture, Human Rights, Theory of Justice / Bibliographical Research; event organization; publications</p>	<p>Nythamar de Oliveira (Graduate Program in Philosophy); Thadeu Weber (Graduate Program in Philosophy)</p>	<p>Fluency in English, German or Portuguese; Students must be conversant with the topics or authors to be studied</p>	<p>To be defined</p>	<p>-</p>

13	<p>LTIG - Image Treatment and Geoprocessing Laboratory</p> <p>Research Project: Map of social vulnerability</p>	Regis Alexandre Lahm	Language requirements: Portuguese and / or Spanish; Students must have a degree from a higher education institution; Two afternoons per week; Experience with GIS, QGIS, GVSIG, IDRISI, IARC and GIS	To be defined	About 2 months
14	<p>Research Group on Neurophilosophy</p> <p>Research Project: "Social Medias and Decision-Making: Reason and Emotion in Social Relations", MCTI/CNPq/ MEC/CAPES No. 18/2012 / Neurophilosophy, Neuroethics, Neuroscience</p>	Nythamar de Oliveira; Jaderson da Costa	Language requirements: English or Portuguese; conversant with software (e-prime)	To be defined	-
15	<p>Economic Studies and Research Nucleus (NEPE)</p> <p>Research Project: Economic Impacts of Aging Population</p>	Adelar Fochezatto	Motivation to work on the research project	To be defined	About 3 months
16	<p>Research Group in Decision Making</p> <p>Research Project: Resilient Systems, Human Factors, System Safety, Aviation, Oil & Gas</p>	Éder Henriqson	Language requirements: English, Portuguese or Spanish	Literature review, data collection and analysis, project development, field work (depending on the interest and aptitude of the applicant/student)	To be defined
17	<p>GDEHMA – Research Group: Human and Economic Development and Environment</p> <p>Research Project: Development Economics</p>	Izete Pengo Bagolin	Elementary Portuguese; availability in the afternoons	Active involvement in the research group. Applicants will be required to participate in seminars and discussions and	To be defined

				work on bibliographic research and data management	
18	<p>Research Group in Governance and Digital Society</p> <p>Research Project: Use of Government Open Data for Innovation to Social Services</p>	Edimara Mezzomo Luciano	Language requirements: Portuguese or English	Data collection and analysis	4-12 months
19	<p>Multiagent Systems, Robotics and Semantic Technologies (SMART)</p> <p>Research Project: Developing Intelligent Autonomous Systems for Law and Healthcare</p>	Rafael Bordini	Elementary level of English and elementary level of computer programming	Support in research and development activities	5-12 months
20	<p>Laboratory of Engines and Alternative Fuels</p> <p>Research Project: Biodiesel Production and Use and their Mixtures in Conventional Diesel Engines</p>	Carlos Alexandre dos Santos	Conversant with mechanics and / or engines and /or automobile systems; Language requirements: English, Spanish or French	To be defined	A minimum of 2 months
21	<p>Wireless Technology Research Center</p> <p>Research Project: Development of Technologies for Advanced Communication Systems</p>	Fernanda Peres de Castro	Language requirements: English, Spanish or Portuguese Successful applicants must be enrolled in an undergraduate or graduate program in Electrical Engineering, Electronics or Telecommunications. Successful applicants must be fluent in C or Matlab programming languages.	To be defined	Minimum length: 6 months

22	GEE (Energy Efficiency Group) Research Project: Energy Efficiency and Generation of Renewable Energy	Odilon Francisco Pavón Duarte	Successful applicants will be proactive, committed, respectful and passionate undergraduate students; availability in the afternoons;	Successful applicants will conduct field work, assist in the design of analysis and reports, do bibliographic research, etc.	To be defined
23	Virtual Reality Group Research Project: Virtual and Augmented Reality Techniques	Márcio Sarroglia Pinho	C/C++/C# Programming; Good English or Spanish skills;	Virtual Reality development; Augmented Reality development; Research on 3D Interaction	4-12 months
24	Microgravity Center - MicroG	Marlise Araújo dos Santos; Júlio César Marques de Lima	English or Portuguese	To be defined	About 1 month
25	Microgravity Center - MicroG Research Project: Aerospace Engineering, Aerospace Pharmacy, Aerospace Physiology and Telehealth	Marlise Araújo dos Santos	Portuguese, English or Spanish.	To be defined	30 days
26	Nucleus of Metallic Materials Engineering (NUCLEMAT) Research Project: Corrosion of Metallic Materials	Eleani Maria da Costa	Language requirements: English or Portuguese; availability of at least 8 hours per week; Successful applicants must be enrolled in an undergraduate or graduate program in engineering or related areas	To be defined	1-6 months

27	Simulation of Turbulent Flows (LaSET)	Jorge Hugo Silvestrini	Language requirements: Portuguese, Spanish, French or English; GPA: 3 out of 4. Research interests include: Fluid Mechanics and Turbulence; Numerical Simulation	To be defined	From 6 months to 1 year
28	Autonomous Systems Research Project: Artificial Intelligence and Machine Learning	Felipe Meneguzzi	English proficiency (Portuguese not required), proficiency in any programming language; interest in AI.	To be defined	Minimum: 6 months
29	Laboratory of Unitary Operations Research Project: Processes Applied to Natural Products	Eduardo Cassel	Successful applicants will be undergraduate students in Chemical Engineering, Mechanical Engineering, Chemistry, Pharmacy, Biology and related areas.	To be defined	2-6 months
30	NUCLEMAT (Development of Metallic Materials) Comparison and assessment of the microstructural and mechanical properties of alloys used in the car and aerospace industries; Solidification, thermal analysis and thermal treatments / in alloys.	Berenice Anina Dedavid	Outstanding GPA and experience with metallic materials	To be defined	3 – 24 months
31	Embedded System Group Research Project: IoT Security	Fabiano Hessel	English of French, C and Java.	The student will work at the core of IoT technology. The activities involve the study of the state of the art, proposition / expansion of IoT security methods developed by the	6 months – 1 year

				research group and laboratory experiments in IoT security.	
32	Automation and System Control Group (GACS) Research Project: Modeling and Control of Platooned Autonomous Vehicles	Guilherme Araujo Pimentel	Elementary English or Portuguese, programming experiences, Matlab/Scilab and basic electronics	Applicants will be required to project and assemble printed circuit boards, microcontroller programming and control systems project.	-
33	Automation and System Control Group (GACS) Research Project: Modeling, Control and State Estimation in a Stewart Platform	Guilherme Araujo Pimentel	Language requirements: Elementary English or Portuguese; programming experiences, Matlab/Scilab and basic electronics	Applicants will be required to project and assemble printed circuit boards, microcontroller programming and control systems project.	-
34	Interdisciplinary Studies in Civil Engineering	Jairo José de Oliveira Andrade	Applicants will be required to project English (reading / writing); The opportunity is open to g Civil Engineering students or recent graduates of this program with a good academic record.	To be defined	Minimum: 6 months; Maximum: None
35	High Performance Laboratory / Research Group in infrastructure, Networks and Cloud Computing Research Project: High performance computing, cloud computing and virtualization	Tiago Ferreto	Elementary level Linux and programming languages; Elementary understanding of IT infrastructure and networks;	Experiments, installation and configuration of equipment and apps; Successful applicants will also write research articles	To be defined

36	CPVA – Advanced Visualization Research Center Research Project: Project under Development: Application of Visual Data Mining in Social Networks	Soraia R. Musse	Applicants must be regularly enrolled in a Computer Science (or similar) program and have completed the algorithm, programming, and data structure courses.	To be defined	Minimum: About 3 months
37	Virtual Human Simulation Laboratory Research Project: Development of interactive tools to control animation of virtual humans	Soraia R. Musse	Elementary English; OpenGL and / or OpenCV	Algorithms, method development, participation in laboratory meetings and article study.	1 or 2 semesters
38	Materials and Clean Technology Development Group Research Project: Polymers, polymer nanocomposites, materials for CO ₂ capture and transformation	Sandra Einloft/ Rosane Ligabue	The opportunity is open to undergraduate degrees in Chemistry, Engineering or similar fields.	To be defined	A minimum of 1 month
39	Research Group in Physiology of Exercise and Aerospace Biomechanics Research Project: Biomedical Engineering / Biomechanics	Rafael Reimann Baptista	Intermediate English MATLAB experience a must	Laboratory practice; experiments; literature review and research; data management; etc.	To be defined
40	Automation and System Control Group (GACS) Research Project: Development of equipment for testing control algorithms and system identification	Aurélio Tergolina Salton	Language requirements: Elementary English or Portuguese; programming experience with Matlab	To be defined	No maximum limit

41	<p>Cellular and Molecular Biology Laboratory - Brains</p> <p>Research Project: Signaling mechanisms during neural differentiation and neurogenesis of induced pluripotent stem-cells (iPS) derived from human fibroblasts</p>	Denise Cantarelli Machado	<p>Language requirements: English or Portuguese</p> <p>Conversant with biochemistry, chemistry, molecular biology, immunology and pathology.</p>	Laboratory Security Training Program; cultivation and maintenance of human cells, molecular analysis, preparation of reagents and literature review.	A minimum of 3 months
42	<p>DaVInt Laboratory (Data Visualization and Interaction Lab)</p> <p>Research Project:</p> <p>1) Data Visualization applied to social network data, georeferenced data, government's open data, or data from distance education programs and MOOCs.</p> <p>2) Computer Vision applied to autonomous navigation and support to visually impaired mobility.</p>	Isabel Harb Manssour	<p>Languages: English; Successful applicants must have completed a course on Computer Graphics and / or Image Processing; Conversant JavaScript or Python.</p>	Literature review; software development and experiments.	2-6 months
43	<p>GEE (Energy Efficiency Group)</p> <p>Research Project: Energy Efficiency and Generation of Renewable Energy</p>	Odilon Francisco Pavón Duarte	Proactiveness	Successful applicants will conduct field work, assist in the design of analysis and reports, do bibliographic research, etc.	Dependent upon availability of student
44	<p>Artificial Intelligence in Health</p> <p>Research Project: Interactive Agents for Decision Support in the Area of Health</p>	Rafael Bordini	Elementary English and elementary programming	Successful applicants will provide support to research and development of autonomous systems	1-2 semesters

45	<p align="center">Research Groups</p> <p align="center">Research Project: (1) Fault-tolerance techniques, Energy Management and Security for MPSoCs Projects (2) Architectures and Asynchronous Circuits: Communication, Infrastructure and Applications</p>	<p align="center">Fernando Moraes; Ney Calazans</p>	<p>Language requirements: English or French Successful applicants must be working on their undergraduate or graduate degrees in Computer Science, Computer Engineering or Electrical Engineering. Conversant with computer architecture and hardware description language (VHDL or Verilog). Must be conversant with computer networks, operating systems and security.</p>	<p>Development and validation of hardware modules in multiprocessed systems (MPSoCs); development of basic software (at the level of operating systems); simulation and prototyping of hardware; integrated circuit project.</p>	<p align="center">Minimum: 1 semester</p>
46	<p align="center">Food Behavior Group</p> <p align="center">Research Project: Intuitive Food Habits of College Students</p>	<p align="center">Ana Maria Pandolfo Feoli</p>	<p align="center">10 hours per week</p>	<p align="center">Bibliographic research, database designing, online data collection, data analysis and dissemination of research findings</p>	<p align="center">4 months</p>
47	<p align="center">Psychology, Health and Communities Group</p> <p align="center">Research Project: Inequalities in health and social markers</p>	<p align="center">Katia Bones Rocha</p>	<p align="center">All applications will be considered</p>	<p align="center">bibliographic research and review; data management</p>	<p align="center">6 months – 2 years</p>
48	<p align="center">Research Group on Information Technology and Business Strategy</p> <p align="center">Research Project: SMARTER: Knowledge Sharing and Social Media Affordances in Intra-organizational Information Technology Projects</p>	<p align="center">Marcirio Silveira Chaves</p>	<p>Language requirements: English (reading and writing)</p>	<p>Bibliographic research and revision; article production; participation in research group meetings; presentation of papers</p>	<p align="center">-</p>

49	<p>Study and Research Group in Trauma and Stress</p> <p>Research Project: Stressing Events, Acute Stress Disorder and Post-Traumatic Stress Disorder Evaluation and Intervention</p>	Christian Haag Kristensen	Portuguese	<p>Successful applicants will be working on the clinical and neuropsychological evaluation of individuals exposed to traumatic disorders; They will also be joining clinical meetings at the NEPTE Station; Bibliographic review on trauma and post-traumatic stress disorder; participation in theory seminars</p>	1 or 2 semesters
50	<p>Group for Study and Research in Education, Environment, Culture and Society</p> <p>Research Project: Ethics in Research</p>	Mónica de la Fare	Articles in Spanish and Portuguese	Literature review and research, data collection and analysis.	3 months

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