INSTITUTE OF GEOSCIENCES, UNVERSITY OF SÃO PAULO

Announcement IGc/USP ATAC Nº. 07/2026, March 25, 2026

REGISTRATION OPENING FOR THE PROCESS AND EXAM COMPETITION FOR THE TITLE OF ASSOCIATE PROFESSOR IN THE DEPARTMENT OF ENVIRONMENTAL AND APPLIED GEOLOGY, INSTITUTE OF GEOSCIENCES, UNIVERSITY OF SÃO PAULO

The Director of the Institute of Geosciences of the University of São Paulo hereby informs all interested parties that, as decided by the Congregation in a regular meeting held on March 11, 2026, applications will be open, beginning at 8:00 a.m. (Brasília time) on March 30, 2026, and ending at 5:00 p.m. (Brasília time) on April 28, 2026, for the public selection process for the title of Associate Professor in the Department of Environmental and Applied Geology, under the terms of Article 125 of the General Regulations of USP and the Internal Regulations of the Institute of Geosciences, for the areas of knowledge listed below and their respective programs:

TEACHING GEOSCIENCES AND ENVIRONMENTAL EDUCATION

0440318 TEACHING RESOURCES IN GEOSCIENCES: Planning, developing, and conducting a Geosciences lesson for elementary, middle, or high school education. Planning, organizing, and setting up Science Fairs and Field Trips. Using films, games, models, and other teaching resources in the classroom. Using Information and Communication Technologies (ICTs) as a teaching and learning resource. Producing models of geological processes, scientific outreach brochures, and educational games. Organizing geological collections. Organizing visits to Museums. Exploring relationships between concepts in Physics, Chemistry, and Biosciences and geological processes. Researching correlations between facts and processes in citizens' daily lives and facts and processes in Nature, aiming to give meaning to learning in Geosciences.

0440418 ENVIRONMENTAL EDUCATION PRACTICES WITH EMPHASIS ON GEOSCIENCES: I. Supervised internship, practices and projects in environmental education. The importance of the internship in teacher training. The USP Teacher Training Program. Reflections on educational practices and the proposal of internships as research in formal and non-formal environments. Elaboration of supervised internship projects. II. Overview of Environmental Education Projects in Schools. Overview of Environmental Education Projects in the country. Guidance documents for project development. Relationships between environmental education and science education. The school project and the study of the environment. III. Environmental themes and the use of digital tools in science education and socio-environmental education. Environmental Education and new educational technologies. IV. Methodologies and field practices in Geosciences and Environmental Education. Field

practices: research methodologies for the development of projects in Environmental Education. Socio-environmental mapping. Environmental Studies and interdisciplinarity. V. Non-school Environmental Education Projects and Practices. Environmental Education projects and programs in state and national parks. Methodologies and practices. Management of natural areas. Corporate Environmental Education in Brazil: an analysis of its conceptual quality in bibliographic reports. VI. Evaluation of environmental education programs in different non-formal spaces. Other activities based on dialogued classes, case studies, field practices, project development and guided readings.

GAA0101 INTRODUCTION TO ENVIRONMENTAL EDUCATION WITH EMPHASIS ON GEOSCIENCES: I. Introduction. Conceptions about the environment. The various faces of the environmental issue. Rethinking the relationships between society and nature. II. History And Contextualization Of Environmental Education. History of the environmental movement and main conferences. Environmental movement: historical framework and social practices. Main documents related to environmental issues. III. Modalities Of Environmental Education - Principles, Foundations And Pedagogical Practices. The plurality of concepts in environmental education. Modalities of Environmental Education: formal, non-formal and informal. Mapping of currents in Environmental Education. IV. Epistemological, Political And Pedagogical Challenges Of Environmental Education. Epistemology of Environmental Education. Approaches to environmental education - critical transformative approach. Main laws and documents related to environmental education. V. National Policy on Environmental Education (Law No. 9,795, of April 27, 1999 and Law No. 14,926, of July 17, 2024). DCNEA, BNCC AND SDGs. VI. New Ways Of Seeing The World - Environmental Education And Decoloniality. VII. Geosciences and Environmental Education. The challenges of training environmental educators in the field of dialogue with Geosciences: multiple possibilities.

ENVIRONMENTAL GEOLOGY:

GAA0324 - MINING AND THE ENVIRONMENT: 1. Overview of Mining in Brazil; 2. Mineral Extraction Methods; 3. Mineral and Environmental Legislation; 4. Concepts of Environmental Impact Assessment and Environmental Impacts of Mining; 5. Environmental Impact Assessment Methodologies; 6. Environmental Licensing; 7. Socio-environmental Conflicts in Mining Areas; 8. Mining on Indigenous Lands; 9. Mine Closure and Recovery of Mined Areas.

GAA0412 ENVIRONMENTAL GEOLOGY: 1. Water Resources and Climate Change: addresses concepts related to the hydrological cycle, aquifer recharge, the relationship between climate change and the hydrological cycle, as well as the causes of climate change and the influence of urbanization on this topic. 2. Solid Waste: addresses the issue of waste generation and management, as well as understanding aspects related to the most appropriate environmental characteristics for waste disposal. Relationships

between consumption and waste generation, waste, conscious consumption, inequalities, and other cultural and social issues are also addressed. 3. Environmental Impact Assessment: addresses the basic concepts related to environmental impacts, assessment methodology and specific legislation, types of environmental reports, and environmental monitoring. It presents case studies related to large infrastructure projects, such as roads and dams, as well as mining ventures, the causes of environmental impacts, and how they have been addressed in the country.

HYDROGEOLOGY AND MANAGEMENT OF CONTAMINATED AREAS:

GAA0312 HYDROGEOLOGY AND WATER RESOURCES: 1. Basic concepts in hydrogeology: hydraulic properties of soils, sediments, and rocks; types and classification of aquifers. 2. Groundwater movement and Darcy's Law: energies involved in water movement; concept of groundwater flow; types of permeability and porosity; water in the unsaturated zone. 3. Hydrogeological mapping: regional and local flow systems; interaction between surface water bodies and aquifers; recharge and discharge zones; anthropogenic and natural interferences in water flow in aquifers. 4. Design, construction, and maintenance of deep tubular wells and quantity and quality monitoring wells: phases of groundwater abstraction implementation, well drilling methods, sanitary precautions, and well contamination. 5. Aquifer testing and hydraulic characterization of abstraction structures: techniques for estimating the hydraulic characteristics of wells and aquifers, principles of hydraulic drawdown, interference between abstractions; establishing optimal flow rates in wells. 6. Management of aquifer quantity and exploitation: aquifer recharge estimates; base flow; hydrological balance of basins; saline intrusion; Monitoring of aquifer exploitation, intensive exploitation and sustainable flow; abstraction permits. 7. Geochemistry of groundwater: physical-chemical characteristics of water, water-rock relationship, potability standard, sample collection methods and analyses. 8. Transport and behavior of contaminants in the subsurface: sources of contamination, phenomena that control the behavior and transport of chemical substances in miscible and immiscible phases in soils and groundwater. 9. Quality management of groundwater resources: vulnerability of aquifers to contamination, registration of polluting sources, human and environmental risks, soil and aquifer remediation, monitoring of water and soil quality, groundwater protection strategies and management of groundwater resources.

GAA0423 HYDROGEOCHEMISTRY: 1. Basic concepts of hydrochemistry: water and its chemical constituents; concentration units. 2. Origin of chemical compounds in water and mineralization mechanisms. 3. Chemical composition of rainwater, surface water, unsaturated zone water, and groundwater. 4. Mineral waters: types, classification, and occurrence. 5. Techniques for collecting representative water samples for chemical analysis. 6. Analytical methods, concepts of detection and quantification limits, quality control, and validation of results. 6. Water quality standards (potability and environmental). 7. Treatment, representation, and interpretation of analytical data for

the development of conceptual hydrogeochemical models. 8. Sources of soil and water contamination. 9. Hydrogeochemistry of organic and inorganic contaminants.

GEOLOGY, HYDROLOGY AND GEOMORPHOLOGY OF KARST SYSTEMS:

GAA0289 GEOLOGY OF KARST TERRAINS: 1. The karst system: fundamental characteristics. 2. Karstifiable rocks and definitions. Dissolution and precipitation processes of carbonate minerals in meteoric water environments. Action of carbonic and sulfuric acids in karstification. 3. Groundwater circulation patterns in carbonate rocks and morphological styles of cave systems (cave maps). 4. Chemical sedimentation in caves. Types of speleothems. 5. Dating methods for speleothems and clastic sediments of caves. 6. Karst geomorphology. Hydrological, lithostructural and tectonic conditioning factors of the relief. Estimation of chemical denudation in karst. 7. Paleoclimatic and paleoenvironmental records in karst systems. 8. Concepts of karst hydrology and the use of tracers in karst systems. 9. Clastic sediments in caves. 10. Relief and caves in siliciclastic rocks and iron formations. Pseudokarst. 11. General overview of karst areas in Brazil - distribution of caves in Brazil. 12. Valuation of speleological heritage applied to environmental studies of karst areas.

SURFACE GEOCHEMISTRY:

0440220 GEOCHEMISTRY: 1. Stable isotopes: basic concepts and fractionation mechanisms. 2. Stable isotopes: geothermometers and indicators of geological processes. 3. Radioactive and radiogenic isotopes: decay processes and geochronological methods. 4. Radioactive and radiogenic isotopes: isotopic ratios and evolution of the mantle and crust. 5. Anthropocene and its impacts on geochemical cycles (part 1). 6. Anthropocene and its impacts on geochemical cycles (part 2). 7. Geochemical cycles of nitrogen and phosphorus. 8. Geochemical cycles of carbon. 9. Nucleosynthesis and cosmochemistry: the origin of the elements and their distribution in nature. 10. Origin and chemical differentiation of the Solar System. 11. Origin and geochemical differentiation of the Earth. 12. Composition and geochemical differentiation of the core, mantle, and oceanic crust. 13. Geochemistry of the Earth's atmosphere. 14. Geochemistry of the Earth's hydrosphere. 15. Geochemistry of the biosphere. 16. Geochemical coevolution of the Earth's spheres. 17. Geochemistry of the Earth's atmosphere. 18. Composition and geochemical differentiation of the continental crust. 19. Geochemistry of igneous rocks: magmatic differentiation and partition coefficients. 20. Geochemistry of metamorphic rocks: mineral reactions and PTX indicators. 21. Weathering and geochemistry of sedimentary rocks. 22. Paleoclimates and geochemical indicators. 23. Climate change. 24. Geochemical evolution of the continental crust and interactions with the biosphere and atmosphere.

GSA5793 GEOCHEMISTRY OF SUPERGENOUS PROCESSES: 01. Introduction to global geochemistry a) Biogeodynamic cycles; b) Global paleotectonics; c) The great glaciations; d) Diagenesis and sedimentation flow in geological time; e) Importance of

C, S, O and N reservoirs; f) The BLAG model, climate evolution in the last 100 million years. 02. The supergene geochemical cycle a) Weathering; Pedogenesis; Erosion; Sedimentation. 03. The geochemistry of weathering a) Supergene differentiation; b) Weathering reactions; c) Structure and composition of secondary minerals; d) Nature of weathering solutions; e) Behavior of elements in solution; f) Mechanisms of rock evolution at the surface. 04. Laterization a) Concept and classification of laterites; b) Genesis of laterites; c) Characterization of the lateritic profile. 05. Application of Surface Geochemistry to Metallogenesis a) Geochemical prospecting in tropical areas; b) Genesis of lateritic deposits. 06. Application of Surface Geochemistry to Environmental Studies a) Supergene cycle of heavy metals; b) Greenhouse effect and acid rain. 07. Application of Surface Geochemistry to Geotechnics a) Stabilization of tropical soils; b) Geotechnical behavior of tropical soils.

SEDIMENTARY GEOLOGY:

GAA0252 SEDIMENTOLOGY: SEDIMENTARY PROCESSES - PARTICLES IN MOTION. 1. Introduction. 1A. Basic concepts: sediment; source area, sedimentary basin and base level; sedimentation processes and products; sedimentary facies. 1B. Sedimentary particles. 1B1. Descriptive types of sedimentary particles. 1B2. Genetic types of sedimentary particles: concept of allochthonous (clastic), autochthonous, terrigenous and allobiochemical. 1B3. Physical properties of sedimentary particles (textural properties). 2. The transport medium. 2A. Basic properties of fluids. 2B. Types of forces acting on a grain. 3. Transport and deposition by low viscosity fluids. 3A. Modes of transport of individualized grains. 3A1. Suspension. 3A2. Traction. 3B. Deposition in stationary liquid. 3C. Deposition in moving liquid. 3C1. Critical velocities. 3C2. Flow regimes. 3C3. Primary or syngenetic structures produced by tension. 3C3A. Syndepositional (constructive) tensile structures. 3C3B. Penecontemporaneous (destructive) structures. 3C4. Primary or syngenetic structures produced by oscillation (waves). 4. Transport and deposition by high-viscosity mixtures: gravitational flows. 4A. Fluid-grain mixture rheologies. 4B. Grain/fluid interaction mechanisms. 4C. Types of gravitational flows. 4D. Post-depositional eodiagenetic deformational structures. SEDIMENTARY PRODUCTS - ROCKS AND DEPOSITS. 1. Chemical properties of sedimentary particles. 1A. Composition of terrigenous sedimentary particles. 2. Sedimentary Particle Aggregates. 2A. General Classification of Sedimentary Rocks. 2B. Components of Sedimentary Rocks. 2B1. Depositional Components. 2B2. Diagenetic Components. 2C. The Formation of Sedimentary Rock. 2C1. Diagenesis. 2C2. Diagenetic Stages or Zones: Eo-, Meso-, and Telogeny. 2C3. Diagenetic Processes and Products. 2C4. Models of Diagenetic Evolution. 2C5. Diagenetic or Secondary Sedimentary Structures. 2D. Classifications of Sedimentary Rocks. 2D1. Classification of Terrigenous Rocks. 2D1A. Classification of Arenaceous Rocks. 2D1B. Classification of Rudaceous Rocks. 2D1C. Classification of Lutaceous Rocks. 2D2. Classification of Biochemical Rocks (Emphasis on Carbonates). Practical Field Exercise 1: Coastal Quaternary: introduction to the concepts of facies and process-

product links; description of bedforms and traction structures on depositional surfaces and in trenches. Practical Field Exercise 2: Phanerozoic Basin: introduction to facies analysis in traction and free-suspension deposits; preparation of geological sections in sedimentary succession. Practical Field Exercise 3: Phanerozoic Basin: geomorphological compartmentalization of the State of São Paulo; facies analysis in gravity flow deposits; analysis of facies associations as a subsidy for the interpretation of depositional systems; preparation of columnar and geological sections in sedimentary successions.

GAA0307 STRATIGRAPHY: 1. Basic stratigraphic concepts. History, objectives and applications of Stratigraphy. Factors involved in the filling of sedimentary basins at different scales. Stratigraphy and Petroleum Geology. 2. Stratigraphic classifications - lithostratigraphy, biostratigraphy, and chronostratigraphy. Stratigraphic correlations: lithology and time. Applications of stratigraphic correlation to surface and subsurface studies. 3. Sedimentary production and geodynamics. Elastic production and solute production. Denudation and sedimentary flow on a continental scale. Quantitative models of sedimentary production and flow. Implications for basin infilling. 4. Sedimentary accumulation on a continental scale: origin and evolution of sedimentary basins. Geodynamics and subsidence. Classification of basins by their tectonic context. Introduction to subsidence mechanisms. 5. Mechanical subsidence and thermal subsidence. Types of rifted margins: volcanic, narrow non-volcanic, and hyper-extended non-volcanic. Cratonic syneclises and distribution models of depositional systems. Flexural subsidence. Flexural basins of foreland in the context of continental collision and oceanic subduction. Distribution models of depositional systems in flexural basins. 6. Introduction to basin infill models: space-supply interaction and stacking patterns. Retrogradation, progradation and aggradation; transgression and regression. Variations in sediment supply, subsidence rates and eustasy - causes and quantitative aspects. Depositional geometries, reflector terminations, stacking patterns and surfaces with chronological significance as a function of cyclical variations in the space-sedimentation relationship. 7. Sequence Stratigraphy. The Exxon model and its applications. Evolution of Sequence Stratigraphy concepts over four decades of application. Sequence Stratigraphy nomenclature: system tracts and surfaces. Chronostratigraphic diagrams in the interpretation of seismic sections. Space variation and sedimentation curves, dimensional issues and their implications. 8. Introduction to Seismic Stratigraphy. Origin of seismic reflectors. Seismic resolution and stratigraphic resolution. Introduction to well logs. Seismic-well integration. Three-dimensional stratigraphic models: data density and predictive potential. Conceptual facies models and parameterization of statistical models. 9. Introduction to Chemical Stratigraphy. Elemental ratios and sedimentary input. Elemental and isotopic geochemistry (carbon, oxygen, and strontium) in sedimentary successions. Other isotopes in sedimentary successions. Magnetostratigraphy and chronostratigraphic calibration. Cyclostratigraphy and orbital cycles. 10. Facies models at the scale of depositional systems - principles and applications. Continental depositional systems: sedimentary

processes, subenvironments and sedimentary deposits of alluvial fans, fluvial systems and aeolian dune fields. Stratigraphic implications of conceptual facies models. 11. Coastal depositional systems: sedimentary processes, subenvironments and sedimentary deposits of deltas, tide-dominated coasts and wave-dominated coasts. Stratigraphic implications of conceptual facies models. 12. Carbonate depositional systems. Types of carbonate platforms and their controls. Sequence stratigraphy and particularities in stratigraphic correlation in carbonate successions. Sedimentary processes, subenvironments and sedimentary deposits in carbonate depositional systems. 13. Marine depositional systems: sedimentary processes, subenvironments, and sedimentary deposits on deep platforms and submarine fans. Stratigraphic implications of conceptual facies models. 14. Glaciogenic sedimentary processes and their influence on continental, coastal, and marine sedimentation patterns. Evaporitic and volcano-sedimentary depositional systems. - Practical field classes: surface stratigraphic techniques: analysis and interpretation of sedimentary facies, sequence stratigraphy, surveying and correlation of stratigraphic sections, paleoenvironmental and paleogeographic reconstructions.

SCIENTIFIC EDUCATION AND DISSEMINATION IN PALEONTOLOGY:

GAA0218 PALEONTOLOGY FOR BACHELOR'S DEGREE IN EDUCATION: 01. Fossilization processes – the geological paths to eternity; 02. The Precambrian fossil record; 03. Evolution of invertebrates; 04. Micropaleontology: the example of foraminifera; 05. Micropaleontology: the example of pollen grains and spores; 06. Plants conquer the continents; 07. Biostratigraphy; 08. Ichnofossils; 09. Taphonomy; 10. The Origin of Vertebrates; 11. Terrestrial tetrapods; 12. Astrobiology.

GAA0240 PALEONTOLOGY: 01. Fossilization processes; 02. The Precambrian fossil record; 03. Evolution of invertebrates; 04. Micropaleontology: the example of foraminifera; 05. Micropaleontology: the example of pollen grains and spores; 06. Plants conquer the continents; 07. Biostratigraphy; 08. Ichnofossils; 09. Taphonomy; 10. The Origin of Vertebrates; 11. Terrestrial Tetrapods; 12. Astrobiology.

GSA5860 PALEOBIOLOGY: The Solar System and Earth in the Milky Way: an oasis for the origin and development of life. The origin of life outside Earth – new arguments about panspermia. The development of life on Hadean Earth. Archean geology and biology – microbial life. Catastrophes and geological and biological revolutions on Proterozoic Earth. Geology and biology during the Proterozoic-Phanerozoic transition. The development of multicellular life: how complex life transformed the Earth's surface. Mass extinctions – diversity driven by major moments of biological crisis.

GEOBIOLOGY AND LIFE-PLANET INTERACTIONS:

GAA0305 GEOBIOLOGY: Probable geological conditions in relation to theories of the origin of life. Distribution of organisms in time and space and their applications in

understanding biosphere-lithosphere relationships, in the study of sedimentation and in the interpretation of environmental parameters. Interference of biological processes in the dynamics of the planet's surface and interference of geological processes in the evolution of life. Evolutionary crises and radiations in relation to geological phenomena and paleontological and paleoenvironmental discoveries. Study of biogeochemical cycles and biotic interactions and physical environmental changes in the formation of the history of life and the Earth. Astrobiology as a model for understanding ways to detect signs of life in the Universe. Presentation of methodologies in the study of Geobiology.

GAA0309 HISTORY OF THE EARTH AND BIOLOGICAL EVOLUTION: 1. Organization of the geological record. 2. Origin of life. 3. Proterozoic and its fossil record. 4. Geobiological cycles. 5. Cambrian Explosion of Life. 6. Evolutionary marine faunas. 7. Ecological reasoning and ecological concepts. 8. Climate change throughout Earth's history. 9. The Pleistocene glaciations and climate change in the Holocene. 10. Origin and extinction of the Pleistocene megafauna. 11. Evolution of vertebrates and evolution of the genus Homo. 12. Astrobiology.

PALEOBIOLOGY OF EDIACARAN AND PALEOZOIC MARINE INVERTEBRATES:

GSA0601 GENERAL PALEONTOLOGY: 01. Fossilization process; 02. The Precambrian fossil record; 03. Cambrian Explosion of Life; 04. Fossil mollusks; 05. Cnidarians; 06. Trilobites; 07. Brachiopods and echinoderms; 08. Micropaleontology: the example of foraminifera; 09. Micropaleontology: the example of pollen grains and spores; 10. Plants conquer the continents; 11. Vertebrates: from the sea to dry land; 12. Dinosaurs; 13. Extinctions.

GSA5814 THE PRECAMBRIAN BIOSPHERE AND ITS ROLE IN THE GEOLOGICAL EVOLUTION OF THE EARTH: 1. Introduction: History of the development of the study of Precambrian life. Precambrian period and categories of Precambrian fossils. Bibliographic research to identify researchers, preferred materials and techniques, the main scientific questions, prevailing models, and future directions in this field. 2. Discussion of the bibliographic research. Modern microbial sedimentation: stromatolites and other microbialites. 3. Practice No. 1 - Comparative macro- and mesoscopic analysis of microbialites. 4. Modern occurrences of microbialites and their relevance to the interpretation of ancient microbialites: Shark Bay, Laguna Mormona, Bahamas, etc. 5. Evaluation of the oldest records of life in the Precambrian. Practice No. 2: Recognition and description of prokaryotic microfossils in thin sections of ancient rocks. 6. Evaluation of the record of unicellular eukaryotes (microalgae and acritarchs) in the Precambrian. Practice No. 3 - Microscopy of Precambrian microalgae and acritarchs. 7. Evaluation of the record of multicellular organisms in the Precambrian: macroalgae, metazoans, and ichnofossils. Practice No. 4 - Recognition and description of Precambrian macrofossils. 8. The Neoproterozoic biosphere and the Precambrian/Phanerozoic transition. The expansion of megascopic organisms in a

world of great transformations. Part 1: Prelude to the Ediacaran. 9. The Neoproterozoic biosphere and the Precambrian/Phanerozoic transition. The expansion of megascopic organisms in a world of great transformations. Part 2: The Ediacaran and beyond. 10. The use of microfossils and microbialites in the analysis of Precambrian basins: Biostratigraphy, paleogeography, and paleoenvironmental interpretation. 11. Interactions between the biosphere and the physical-chemical environment: Geobiology and mineral and energy resources of the Precambrian. BIFs, carbonates, sulfides, phosphates, hydrocarbons, etc. 12. Field seminar: Microbialites in the field. Location and dates to be arranged.

GAA5860 PALEOBIOLOGY: The Solar System and Earth in the Milky Way: an oasis for the origin and development of life. The origin of life outside Earth – new arguments about panspermia. The development of life on Hadean Earth. Archean geology and biology – microbial life. Geological and biological catastrophes and revolutions on Proterozoic Earth. Geology and biology during the Proterozoic-Phanerozoic transition. The development of multicellular life: how complex life transformed the Earth's surface. Mass extinctions – diversity driven by major moments of biological crisis.

QUATERNARY PALYNOLOGY AND PALEOBOTANY:

GAA0291 QUATERNARY PALYNOLOGY: 1 – Introduction to Palynology. 2 – Pollen grain morphology I. 3 – Pollen grain morphology II. 4 – Pollen grain morphology III. 5 – Morphology of spores, algal cysts and their use in paleoenvironmental studies. 6 – Forest refuges – The Quaternary Forest Refuge Hypothesis. 7 – Sediment collection methods and the different proxies used in Palynology. 8 - Theoretical exam. 9 – Palynology of mangroves during the Holocene. 10 – Quaternary Palynology of the Amazon. 11 – Quaternary Palynology of the Atlantic Forest. 12 – Quaternary Palynology of the Cerrado. 13 – Quaternary Palynology of the Caatinga. 14 – Quaternary Palynology of Southern Brazil. 15 – Presentation of individual works. 16 – Presentation of individual works.

GSA5812 PALEOBOTANY: PLANT EVOLUTION AND ITS RELATIONSHIP WITH CONTINENTAL DRIFT: 01. Plant taphonomy. Collection and preparation of phytofossils. 02. The phytofossil documentary: systematics; nomenclature and most favorable continental sedimentary environments. 03. The primitive forms of plant life. 04. The colonization of the continents: lichens and biophytes, the Cambrian and Ordovician environmental changes. Eopaleozoic phytogeographic distribution. 05. The primitive vascular plants: Rhyniopsida, Zosterophyllopsida and Trimeophytopsida and the telomic theory. 06. The evolution of Microphyllopsida or Lycopsida. The first forests, the environmental changes and Devonian-Pennsylvanian phytogeography. 7. The origin and evolution of Sphenopsida. 8. Filicopsida: Primofilices, Marattiales, Ophioglossales, Filicales, Salviniales, and Marsileales. 9. Progymnospermopsida and the evolution of the seed. 10. Gymnospermposida - Pteridospermales: the Glossopteris flora and the Theory of Continental Drift, its evolution in the Paraná Basin. 11.

Mesophytic flora and the fragmentation of Pangaea: Cycadales, Cycadeoidales, Ginkgoales, Coniferales, and Gnetales. The Brazilian mesophytic floras in the global paleofloristic scenario. 12. Origin of Angiospermopsida - their nature and initial geographic distribution. 13. Diversification and global distribution of Angiospermopsida in the last 65 Ma. 14. Fossil plants as paleoclimatic indicators.

GSA5871 INTRODUCTION TO PALEOPALINOLOGY AND QUATERNARY PALYNOLOGY: Pollen morphology of pollen, spores, and other organic microresidues found in lacustrine sediments and sedimentary rocks. Evolution of pollen grains and spores throughout Earth's evolutionary history. Paleozoic and Mesozoic floras. The emergence of angiosperms and the evolution of pollen grains. Cenozoic floras and palynological and ecological studies of the Late Quaternary.

METALLOGENESIS:

GAA0417 GENESIS OF MINERAL DEPOSITS: 1. Mineral deposits: geological characteristics and classification. Descriptive and genetic models. Mineral systems. 2. Magmatic mineral deposits associated with mafic-ultramafic rocks (magmatic sulfides and chromitites). 3. Magmatic mineral deposits associated with alkaline rocks and carbonatites, kimberlites and pegmatites. 4. Hydrothermal mineral deposits. Hydrothermal fluids, fluid-rock interaction mechanisms and hydrothermal alteration. Mechanisms of transport and precipitation of metals by hydrothermal fluids. 5. Application of stable isotopes in the characterization of the main hydrothermal fluid reservoirs. 6. Hydrothermal deposits of base and precious metals hosted in volcanic rocks (VHMS). 7. Orogenic gold deposits: metamorphic fluids in shear zones. 8. Magmatic-hydrothermal deposits of base and precious metals of the porphyry and epithermal type. 9. Iron oxide-copper-gold (IOCG) deposits: tectonic environment, alteration and hydrothermal zoning, origin of fluids and metals. 10. Lead-zinc deposits hosted in sedimentary rocks (SEDEX and MVT). 11. Mineral deposits associated with chemical and biochemical sedimentary processes. 12. Lateritic/residual deposits and supergene oxidation and enrichment deposits. 13. Metallogenesis and global tectonics. Geotectonic environments and main associated mineral deposits. Metallogenic epochs.

GSA5863 TECHNIQUES APPLIED TO THE GENETIC MODELING OF HYDROTHERMAL DEPOSITS: 1) Techniques applied to the characterization of genetic parameters in hydrothermal mineral and petroleum deposit systems. 2) Petrographic characterization of hydrothermally altered rocks. Identification of textures, types, and styles of hydrothermal alteration. Characterization of overlapping hydrothermal events and telescoping. Mineral paragenesis and temporal and spatial evolution of hydrothermal systems. 3) Petrographic characterization of mineralized rocks. Phase equilibrium relationships in ores and phase diagrams. Mineral stability fields and physicochemical conditions (fO2, fS2, pH, temperature, pressure). Ore mobilization and remobilization. Relationship between mineralization, fluids, and hydrothermal alteration. Interpretation of parageneses and genetic models of deposits.

4) Application of stable isotopes to the study of hydrothermal processes. Identification of physicochemical parameters. Sources of fluids, carbon, and sulfur. Mechanisms of fluid evolution and estimates of fluid-rock ratios. 5) Application of fluid inclusion studies to the study of hydrothermal processes. Microthermometry and identification of physicochemical parameters. Interpretation of microthermometric data and characterization of hydrothermal fluid evolution processes. 6) Integration of paragenetic, isotopic, geochemical and microthermometric data and reconstruction of the evolutionary history of mineral and petroleum systems. Application in mineral and petroleum exploration.

GSA5964 METALLOGENETIC PROCESSES AND GEOLOGICAL ENVIRONMENTS GENERATING HYDROTHERMAL MINERAL DEPOSITS: 1) Concepts of hydrothermal deposit models and mineral systems. Metallogenic processes associated with hydrothermal mineral deposits. 2) Nature and reservoirs of hydrothermal fluids (seawater, meteoric, formational, conate, magmatic, metamorphic). Fluid evolution mechanisms: fluid-rock interaction, fluid mixing, effervescence, immiscibility. Solubility of ore minerals and metal complexation. 1) Transport mechanisms and physicochemical parameters of metal precipitation by hydrothermal fluids. 2) Hydrothermal alteration: types, styles, and distribution of hydrothermal alteration zones. Sources of metals, sulfur, and energy for hydrothermal systems. 3) Hydrothermal fluids in sedimentary basins: generation and migration of hydrocarbons and formation of hydrothermal mineral deposits. Lead-zinc deposits (SEDEX-CD, MVT, non-sulfide zinc) and copper deposits hosted in carbonate and siliciclastic rocks. 4) Cu-Zn-Pb-(Au) deposits hosted in volcanic rocks (VHMS) and orogenic gold deposits. Metamorphism of hydrothermal products. 5) Metallogenic processes, tectonic environment, and magmatism associated with magmatic-hydrothermal deposits (greisen, IRGS, porphyry, epithermal, skarn, Carlin). 7) Metallogenic processes and evolution of iron oxide-copper-gold (IOCG) and iron oxide-apatite (IOA) deposits. Hydrothermal nickel and Au-(EGP) deposits. 8) Metallogenesis and global tectonics. Brazilian metallogenic provinces.MINERAL RESOURCES EVALUATION

MINERAL RESOURCE EVALUATION:

GAA0404 MINERAL RESOURCE EVALUATION: 1. Basic sampling concepts. 2. Inventory of mineral exploration data and data preparation. 3. Principles of interpretation for the calculation of mineral resources. 4. Classical methods for the calculation of mineral resources. 4.1. Factor methods. 4.2. Mining block method. 4.3. Profile methods. 4.4. Analytical methods. 5. Computational methods for the calculation of mineral resources. 5.1. Geostatistical methods. 5.2. Non-geostatistical methods. 6. Mineral resource evaluation practices.

GAA0602 INTRODUCTION TO GEOSTATISTICS: 1. Introduction; Basic concepts. Data preparation: Composition of borehole samples: composition by bench. 2. Statistical analysis. Graphical representation of random variables. Descriptive statistics.

3. Central Limit Theorem. Confidence interval of the mean. Correlation and regression. Regression line. Geostatistical analysis. Why regionalized variables? Regionalized variables. 4. Intrinsic hypothesis. 5. Qualitative characteristics of regionalized variables: location, support, continuity, anisotropies. The variogram. 6. Variogram properties: Amplitude, sillage, nugget effect, and spatial variance. Anisotropies: geometric, zonal, and mixed. Behavior near the origin: parabolic, linear, nugget effect, and pure nugget effect. 7. Calculation of experimental variograms. 8. Definition of the local neighborhood. Definition of the regular grid. 9. Estimates by kriging (simple and ordinary kriging). Types of ordinary kriging: point and block (sub-block discretization). 10. Cross-validation using the ordinary kriging technique.

GSA5822 APPLIED GEOSTATISTICS: 01. Introduction. 02. Sampling. 03. Review of classical statistics concepts. 04. Introduction to spatial statistics. 05. Basic concepts of Geostatistics. 5.1-Regionalized variables. 5.2-Variogram. 5.3-Variogram properties. 5.4-Variogram behavior at the origin. 5.5-Variogram models. 06. Linear geostatistical estimation methods. 6.1- Simple kriging. 6.2- Ordinary kriging. 6.3- Correction of the kriging smoothing effect. 07. Non-linear geostatistical estimation methods. 7.1-Lognormal kriging. 7.2-Ordinary cokriging. 7.3-Colocalized cokriging. 7.4-Kriging with external drift. 7.5-Stochastic simulations. 7.5.1-Verification of the bigaussian nature of the data. 7.5.2-Gaussian transformation of the data. 7.5.3-Sequential Gaussian simulation. 08. Data analysis using geostatistical techniques (with a Q&A session).

SENSORIAMENTO REMOTO E GEOPROCESSAMENTO:

0440221 GEOPROCESSAMENTO: 1. Introdução à Cartografia (sistemas de coordenadas, projeções, conceito de geóide e Datum, escala, tipos de mapas e cartas, sistema internacional de articulação de cartas; 2. Introdução Ambiente SIG e principais softwares – ênfase na utilização e apresentação do software livre QGIS; apresentação dos conceitos do Projeto QGIS (Open Source Geospatial Foundation - OSGeo http://osgeo.org/) de sua interface, principais ferramentas e das grandes potencialidades de seus Plugins; 3. Estrutura de dados: Vetor vs Raster; 4. Georreferenciamento e exemplificação dos conceitos de Geoide e datum, sistemas de coordenadas, escala, etc.; 5. Apresentação de Dados geológicos em SIG e de bases de dados espaciais; 6. Conceitos sobre GPS, Google Earth e aplicativos para Tablets e Smartphones em levantamentos de campo; 7. Gerenciamento, organização e construção de bibliotecas de dados em SIG; 8. Geoprocessamento de dados vetoriais I: operações e cálculos com dados lineares e poligonais (práticas de cálculos de áreas de recursos minerais e energéticos a partir de mapas geológicos etc.); 9. Geoprocessamento de dados vetoriais II: interpolação de valores a partir de uma nuvem de dados (práticas de interpolação e geoestatísticas de valores de dados de vazão de poços, dados topográficos, dados pluviométricos etc.); 10. Introdução ao Sensoriamento Remoto Multiespectral: principais produtos e aplicações nas análises ambientais e de recursos minerais e energéticos; apresentação de dados orbitais ao

Drone; 11. Modelos Digitais de Elevação: conceitos, formas de aquisição e processamentos: topografia, declividades, hipsometria, análises hidrológicas e extração automatizada de variáveis (ex: drenagem; lineamentos; rugosidade, classificação de potencial de risco geotécnico etc.); 12. Aplicação de métodos automatizados e Inteligência Artificial (IA) em ambiente SIG: métodos supervisionados, não supervisionados e Machine Learning; 13. Aplicação dos métodos e técnicas apresentados no curso em estudos de casos a definir: avaliação de Recursos Minerais e Energéticos; Hidrogeologia; Meio Ambiente; Riscos Geológicos; Planejamento Territorial; 14. Métodos para confecção padronizada e normatizada de layouts de mapas e cartas; 15. Atividade final da disciplina (últimos 21 dias): em duplas, alun@s elaboram um projeto temático, empregando todas as técnicas aprendidas no curso, entregando vários mapas padronizados e normatizados junto a um breve relatório sobre as metodologias.

GAA0401 SENSORIAMENTO REMOTO: 1) Introdução ao sensoriamento remoto: conceitos, histórico, aplicações, relação com disciplinas básicas, SIG e outras geotecnologias; revisão de conceitos básicos (ondulatória, coordenadas, GPS/GNSS, escala). 2) Plataformas e sensores: sensores ativos e passivos; sistemas terrestres, aéreos e orbitais; propriedades das imagens (resoluções espacial, espectral, temporal e radiométrica); teoria das cores e composições coloridas. 3) Fundamentos físicos: radiação eletromagnética, espectro eletromagnético, interação da radiação com a atmosfera (espalhamento, absorção e reflexão). 4) Comportamento espectral de alvos naturais: água, solos, vegetação, minerais e rochas. 5) Geobotânica: princípios e aplicações; comportamento espectral da vegetação. 6) Processamento digital de imagens ópticas I: operações aritméticas e filtros de convolução. 7) Processamento digital de imagens ópticas II: análise multivariada (componentes principais e outras transformações). 8) Classificação de imagens: conceitos, variáveis classificáveis, métodos supervisionados e não-supervisionados. 9) Sensoriamento remoto ativo: fundamentos e aplicações de Radar/SAR, InSAR e LiDAR. 10) Fotogrametria digital: princípios, geração de modelos digitais e produtos 3D de alta resolução. 11) Sensoriamento remoto termal (TIR): fundamentos, aplicações e processamento digital (conversão de níveis de cinza em radiância e temperatura). 12) Integração e projeto final: orientação do trabalho prático, análise de resultados e apresentação em relatório.

APPLIED GEOPHYSICS:

GAA0308 APPLIED GEOPHYSICS: 1) Applied geophysics, its importance and different areas of activity: geological mapping, geodynamic studies, mineral resource exploration, geotechnical studies, hydrogeology and environmental studies. 2) Interrelation between the geologist and the geophysicist. 3) Framework of applied geophysics. 4) Physical properties in geosciences. 5) Gravimetry. 6) Magnetometry. 7) Gamma spectrometry. 8) Electrical resistivity method. 9) Induced polarization method. 10) Inductive electromagnetic methods of artificial source (time and frequency

domains). 11) Electromagnetic methods of natural source. 12) Ground-penetrating radar. 13) Seismic methods. 14) Geophysical logging. 15) Acquisition platforms: terrestrial, aerial, aquatic surveys and satellite systems. 16) Processing and interpretation of geophysical data. 17) Historical cases.

GSA5825 APPLIED GEOPHYSICS: 01. Introduction to geophysical methods; 02. Spontaneous potential (SP - self potential) - theory, instrumentation, arrangements, presentation of results, uses and limitations, advantages and disadvantages; 03. Electrical resistivity - theory, instrumentation, SEV and CE techniques, arrangements, presentation of results, uses and limitations, advantages and disadvantages; 04. Induced polarization - theory, instrumentation, SEV and CE techniques, arrangements, presentation of results, uses and limitations, advantages and disadvantages; 05. Electromagnetic methods - theory, instrumentation, arrangements, presentation of results, uses and limitations, advantages and disadvantages; 6. Magnetometry - theory, instrumentation, corrections, presentation of results, uses and limitations, advantages and disadvantages; 7. Gravimetry - theory, instrumentation, corrections, presentation of results, uses and limitations, advantages and disadvantages; 8. Gamma-ray spectrometry - theory, instrumentation, presentation of results, uses and limitations, advantages and disadvantages; 9. Refraction seismics - theory, instrumentation, field techniques, presentation of results, uses and limitations, advantages and disadvantages; 10. Reflection seismics - theory, instrumentation, field techniques, presentation of results, uses and limitations, advantages and disadvantages; 11. Other seismic methods - theory, instrumentation, field techniques, presentation of results, uses and limitations, advantages and disadvantages; 12. GPR - theory, instrumentation, field techniques, presentation of results, uses and limitations, advantages and disadvantages; 13. Use of the main geophysical data processing software.

The competition will be governed by constitutional principles, notably that of impartiality, as well as by the provisions of the Statute and General Regulations of the University of São Paulo and the Internal Regulations of the Institute of Geosciences.

1. Applications must be submitted exclusively through the link https://uspdigital.usp.br/gr/admissao, within the period indicated above. Candidates must submit a request addressed to the Director of the Institute of Geosciences, containing personal information and the area of expertise (specialty) of the Department to which they are applying, accompanied by the following documents:

I – identification documents (RG and CPF or passport);

II – a detailed report, in Portuguese or English, attesting to published works, activities performed relevant to the competition, and other information that allows for an evaluation of their merits, in digital format;

III – proof of holding a Doctorate degree, granted by USP, recognized by it, or valid nationwide;

IV – original thesis or text that critically systematizes the candidate's work or part thereof, in Portuguese or English, in digital format;

V – proof of military service for male candidates;

VI – certificate of electoral discharge (certifying that the candidate is up to date) or a detailed certificate issued by the Electoral Court less than 30 days before the start of the application period.

§ 1 - The detailed report referred to in item II means the presentation of a reflective analysis on academic background, personal study experiences, work, research, publications, and other information relevant to academic and professional life, indicating motivations and meanings.

§ 2 - Supporting elements of the report referred to in item II, such as models, works of art, or other materials that cannot be digitized, must be submitted by the last business day before the start of the competition.

§ 3 - Dropbox or Google Drive links, or any other link that refers to a page that can be modified by the candidate, will not be accepted as proof of the items listed in the memorial.

§ 4 - For the purposes of item III, defense minutes without information on accreditation will not be accepted when the granting of the Doctorate degree depends on this provision within the issuing educational institution. The candidate is hereby informed that in this case, the lack of proof of such accreditation will result in the rejection of their application.

§ 5 - The systematic text referred to in item IV, an alternative to the original thesis, must be critically prepared, with the necessary theoretical articulation, preceded by an introduction and completed by conclusions. It must be individual and authored by the candidate. The works on which the systematic text is based may have been co-authored with other researchers and must be attached in any language in which they are written. The Congregation may request a translation from the candidate, if deemed necessary.

§ 6 - Faculty members currently working at USP will be exempt from the requirements set forth in items V and VI, provided they have proven due payment at the time of their initial contract.

§ 7 - Foreign candidates will be exempt from the requirements set forth in items V and VI, and must demonstrate that they are in good standing in Brazil at the time of taking the exams.

§ 8 - When registering, candidates with or without disabilities may indicate the need for specific resources to take the exams, and must attach a medical report issued no more than two (2) years ago, written in Portuguese or accompanied by a sworn translation, clearly stating the need for adaptation. § 9 - It is the candidate's sole responsibility to upload their documents in the specific field indicated by the system at https://uspdigital.usp.br/gr/admissao. They are aware that uploading documents in a different order than that established therein will result in their application being rejected.

§ 10 - It is the candidate's sole responsibility to submit their documents in their entirety (front and back) and in a legible file. They are hereby informed that if they do not correct any irregularity caused by uploading an incomplete or illegible document within the application period, their application will be rejected.

§ 11 - Late submission of documents by the candidate will not be permitted, even during appeals.

§ 12 - At the time of registration, the candidate may express their intention to take the exams in English, in accordance with Article 39, and its sole paragraph, of the Bylaws of the USP Institute of Geosciences. The content of the tests carried out in English and Portuguese will be identical.

2. Applications will be formally evaluated by the Congregation of the Institute of Geosciences of the University of São Paulo within 90 (ninety) days after the end of the application period, with the decision published in the State Official Gazette within 5 (five) business days.

§ 1 – The selection process must be completed within 120 (one hundred and twenty) days from the date of publication of the approval of applications in the State Official Gazette, in accordance with Article 166 of the USP General Regulations.

§ 2 – The call for the examinations will be published in the State Official Gazette at least 5 (five) business days before the examination.

3. The examinations will consist of:

I – defense of a thesis or text that critically systematizes the candidate's work or part thereof – weight 4;

II – evaluation of the memorial with public oral examination – weight 3;

III – Didactic evaluation – weight 3;

§ 1 – The summons of registered candidates for the tests will be published in the Official Gazette of the State.

§ 2 – The candidate who, at any time, will be eliminated from this competition, without prejudice to any applicable legal sanctions:

a) arrives after the time established for the start of the competition or any of the tests, including the point drawing, if any;

b) fails to appear when their presence is requested in the phases of the competition or is absent from the tests without authorization from the Judging Committee;

4. The tests listed in sections I to III of item 3 of this notice may be conducted via videoconference, with the presence, at the competition venue, of the candidate, the President of the Judging Committee, and at least two other members of the Judging Committee.

§ 1 - Examiners who are at a distance will be allowed to evaluate and question under the same conditions that would be offered to examiners present at the competition venue.

§ 2 - Tests in which a videoconferencing system or other electronic means is used will be suspended (for thirty minutes) if a technical problem is verified that prevents the adequate participation of any examiner or the candidate.

§ 3 - If the connection is not restored within thirty minutes, the competition will be suspended and must be resumed from the stage at which the technical problem occurred.

§ 4 - Tests completed before the occurrence of technical problems in the videoconferencing system or other electronic means will be preserved.

§ 5 - All occurrences must be recorded in the final report.

§ 6 - A secure electronic system adopted by the University must be used in the activities of the competition that require the Judging Committee to meet in a closed session.

5. In the public defense of a thesis or text, the following rules shall be observed:

I – the thesis or text shall be sent to each member of the Judging Committee at least thirty days before the examination;

II – the duration of the questioning shall not exceed thirty minutes per examiner, with the candidate having the same amount of time to respond;

III – if there is agreement between the examiner and the candidate, a dialogue may be established between them, observing the overall time limit of sixty minutes.

6. The evaluation of the memorial and the public oral examination will be expressed through an overall grade, assigned after all candidates have spoken, and should reflect their performance in the oral examination, as well as the merit of the candidates.

§ 1 – The merit of the candidates will be judged based on the set of their activities, which may include:

I – scientific, literary, philosophical or artistic production;

II – teaching activity;

III – activities of training and mentoring disciples;

IV – activities related to providing services to the community;

V – professional activities, or others, when applicable;

VI – diplomas and other university honors.

§ 2 – The Judging Committee will preferably consider the titles obtained, the works and other activities carried out after obtaining the doctoral degree.

7. The teaching evaluation test is intended to verify the candidate's organizational capacity, production or teaching performance.

Sole paragraph - The teaching evaluation test will be public, corresponding to a postgraduate-level class, and conducted based on the program outlined in this notice, in accordance with the General Regulations of USP and article 49 of the Internal Regulations of the Institute of Geosciences, and with the following rules:

I – it is up to the Judging Committee to decide whether the topic chosen by the candidate is relevant to the aforementioned program;

II – the candidate may not exceed sixty minutes in their presentation, and the Judging Committee must interrupt them when the 60th (sixtieth) minute of the test is reached;

III – each member of the judging committee may ask questions about the class taught, not exceeding fifteen minutes, ensuring the candidate equal time for the answer.

Sole paragraph - In the public defense of a thesis or text, the examiners shall take into account the intrinsic value of the work, the mastery of the subject matter, as well as the candidate's original contribution to the relevant area of knowledge.

c) makes, in the test documents that require the anonymity of the authorship, any sign, mark, initial, annotation or signature that allows their identification;

d) adopts inappropriate behavior or behavior that disrupts the conduct of the tests or any other stages of the competition, disturbing the order of the work, whether through verbal manifestations or conduct incompatible with the fairness and tranquility of the environment;

e) carrying a firearm at the test site, even if legally authorized to carry it, except in exceptional cases provided for by law and expressly authorized by the Judging Committee.

4. The tests listed in items I to III of item 3 of this notice may be conducted by videoconference, with the presence, at the competition site, of the candidate, the President of the Judging Committee and at least two other members of the Judging Committee.

§ 1 - Examiners who are at a distance will be allowed to evaluate and question under the same conditions that would be offered to examiners present at the competition site.

§ 2 - Tests in which a videoconferencing system or other electronic means are used will be suspended (for thirty minutes) if a technical problem is verified that prevents the adequate participation of any examiner or the candidate.

§ 3 - If the connection is not restored within thirty minutes, the competition will be suspended and must be resumed from the stage at which the technical problem occurred.

§ 4 - Finalized tests will be preserved before the occurrence of technical problems in the videoconferencing system or other electronic means.

§ 5 - All occurrences must be recorded in the final report.

§ 6 - A secure electronic system adopted by the University must be used in the activities of the competition that require the Judging Committee to meet in a closed session.

8. The evaluation of the professorship competition will be conducted according to the following rules:

I – the grade for the teaching evaluation test will be assigned immediately after the completion of the tests for all candidates;

II – the evaluation of the memorial and the public oral examination will be expressed by means of a global grade in accordance with item 6 of this notice;

III – after the thesis or text defense of all candidates is completed, the test will be evaluated with the assignment of the corresponding grade;

9. The test grades will range from zero to ten, and may be rounded to the first decimal place.

10. At the end of the evaluation of the tests, each examiner will assign each candidate a final grade, which will be the weighted average of the partial grades given by him/her.

11. After the evaluation, the Judging Committee will prepare a detailed report on the candidates' performance, justifying the grades.

Sole paragraph - Individual reports from its members may be attached to the Judging Committee's report.

12. The result will be announced immediately by the Judging Committee in a public session.

Sole paragraph – Candidates who achieve a minimum final grade of 7 (seven) from the majority of examiners will be considered qualified.

13. The Judging Committee's report must be reviewed by the Congregation for approval, after formal examination, within a maximum period of 90 (ninety) days.

Sole paragraph – The Congregation's decision and the Judging Committee's reports must be published within 5 (five) working days.

14. An appeal may be filed within 10 (ten) days from the date of publication of the respective act in the Official Gazette, under penalty of preclusion, in the following cases:

I – decision of the Congregation that constitutes the Judging Committee;

II – review of the applications by the Congregation, regarding formal requirements;

III – approval of the final report of the Judging Committee by the Congregation.

§ 1 – The merit evaluation of candidates is the exclusive and non-delegable responsibility of the Judging Committee, and the appeals bodies are not responsible for its re-analysis, but only for verifying the legality and regularity of the evaluation process.

§ 2 – Appeals filed based on item I of this section, after consideration by the Congregation, will only proceed to higher instances after eventual approval by the Congregation of the final report of the competition.

§ 3 – In the processing of appeals filed based on item III of this article, the indicated candidate will be guaranteed the right to respond, in the form of counter-arguments, within 10 (ten) days from the date of notification.

15. Clarifications about this notice may be provided by the Academic Division of the Institute of Geosciences of the University of São Paulo, at Rua do Lago, 562 - room 306 - Butantã, São Paulo - SP, e-mail: atacigc@usp.br.