

PUCRS

MAGAZINE

YEAR 5
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ENGLISH / 2018

Several facilities, multiple possibilities to learn

A number of graduate and undergraduate courses delivered entirely in English

University celebrates its

70th anniversary

The legacy for education and the challenges for the future

PUCRS360°

BE THE TRANSFORMATION

Patrícia, 39

An alumna from the History and Law School programs of PUCRS.

PUCRS is made of the dreams, projects and ideas that are born here.

In the quest for knowledge. From the desire to create something new. From the desire to change the world.

It is as big as its students' potential and talent of its professionals.

It is a university that, above all, inspires people to transform your life every day.

Find out more about stories of transformation on:
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PUCRS
DO TAMANHO DO FUTURO

FAITHFUL TO ITS MISSION

What has driven us throughout these 70 years? What kind of changes have we made over this period of time and what are the changes that we expect to make in the present and in the future? This special edition revisits our history, celebrates our legacy and reinforces our commitment to remaining faithful to the mission initiated by Br. Afonso, founder of PUCRS. It will also keep us on the lookout for what society expects as a response to major contemporary issues. It is not only about providing training to competent professionals, but about providing genuine human excellence by showing respect to life and human values. As an institution that keeps an eye to innovation and development, we have become a vector in strategic alliances promoting local and global development. In view of all of that, we are very proud of being featured in two important university rankings: in the QS BRICS University Rankings 2019, a list of universities from the BRICS – Brazil, Russia, India, China and South Africa –, PUCRS appears as the #1 private university in the south of Brazil and the 3rd in the country overall; in the 2018 edition of Folha University Ranking (RUF), compiled by newspaper Folha de S. Paulo, PUCRS features



PHOTO: BRUNO TODESCHINI

as best private university in Brazil, for the second year in a row. Considering all private institutions, the institution stays atop in the category *Research*, and second in *Innovation and Internationalization*. We do not usually realize how far we have come because our everyday actions are guided by determination. This version of PUCRS Magazine, in English and Spanish, is for you to learn what we do to educate and change. In features all the challenges in innovation, the partnerships and international initiatives that bring us closer to other countries all over the globe, the research projects as well as our undergraduate and graduate students. Enjoy the reading!


President of PUCRS



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PHOTO: HENRIQUE AMARAL



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Orlando City and Sports Park sign a "deal" to bring sports and education together

PHOTOS: CAMILA CUNHA

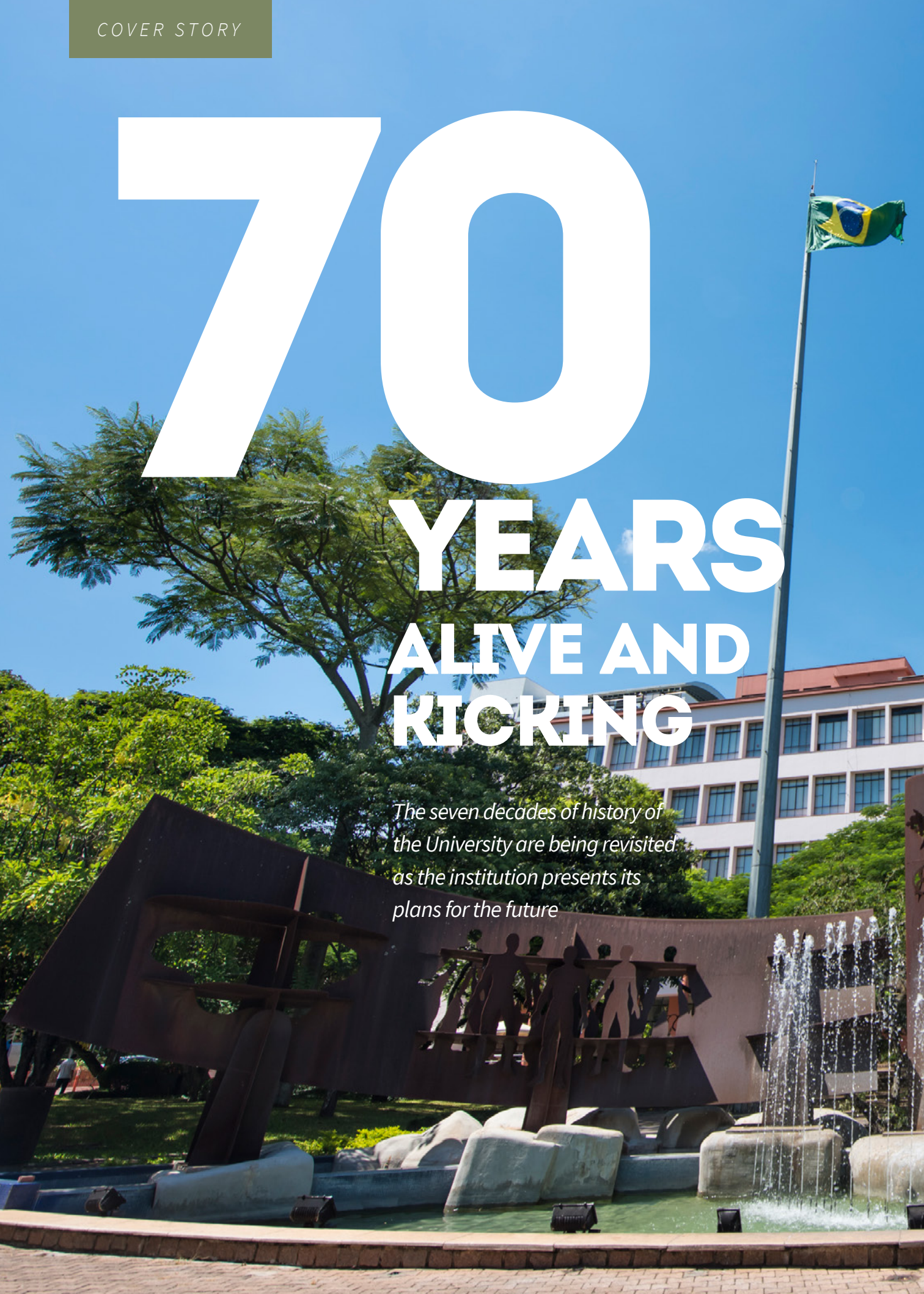


Open University

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70 YEARS ALIVE AND KICKING

The seven decades of history of the University are being revisited as the institution presents its plans for the future



The first Marist university of the world was born out of the persistence of a man. Br. Afonso (Charles Herbaux), a religious man with an entrepreneurial and visionary spirit, was responsible for a very important educational enterprise in the south of Brazil: the establishment of PUCRS, which began to take shape in the 1930s, with the aid of his faithful collaborators.

In 1927, Br. Afonso took office as the principal of *Colégio Rosário* and founded the *Instituto Superior de Comércio*. This would pave the way for the construction of what would later be the institution we now know as PUCRS. The institution, then, became a reference in the training of accounting specialists. Following students' requests to continue their studies at the college level, but being unable to do so because there were no such institutions to provide training at this level, Br. Afonso created the Undergraduate Degree in Business Administration and Finance, in Mar 1931, for 9 students. Three years later, the course would be embraced by the School of Political and Economic Sciences.

NEW SCHOOLS

The seed was sown. And so, just like the implementation of the first undergraduate degree served to meet a social need, the path taken by the

Marists, headed by the visionary attitude of Br. Afonso, was filled with successes. New social demands produced new responses. As a consequence, they gave birth to the School of Philosophy, Sciences and Letters (1940), the School of Social Work (1945) and the School of Law (1947). These four Schools and the help of Br. Faustino João and professors Eloy José da Rocha, Elpídio Ferreira Paes, Salomão Pires Abrahão, Francisco Juruena, Br. José Otão and Antônio César Alves, among others, were very important for the institution. They justified the request made by the União Sul-Brasileira de Educação e Ensino, a civil entity of the Marist Brothers, to the Ministry of Education to grant the institution the status of university.

As the world was heaving a sigh of relief after the end of WW2, in 1947, Br. Afonso and Br. Faustino João joined forces in an effort to build a university. The Schools congregated and formed the Catholic University of Rio Grande do Sul by Decree No. 25,794, dated Nov 9, 1948, signed by the president Eurico Gaspar Dutra. On Dec 8, 1948, the Archbishop of Porto Alegre and Chancellor of the University, Dom Vicente Scherer, swore in the president Armando Câmara and Senior Vice President Br. José Otão for the period 1948 - 1951. However, the status of Pontifical would be granted in 1950.



Building at Praça Dom Sebastião serving as home to PUCRS from 1944 to 1967



Brother Afonso, founder of the University

PHOTO: ARCHIVE PUCRS

TIMES OF DEVELOPMENT

The successful path taken by the institution thus far has been marked by administrative and financial problems, too. A feeling of unease took over the members of the Higher Administration as the need for university-level education started taking hold in the south of Brazil. That was such a unique achievement for Marcelino Champagnat's educational undertakings.

But nothing destroyed the excitement and faith of the brothers. The joy experienced in the new achievements did not underplay the efforts that were made to award the institution the title of pontifical – which is to be granted to institutions that follow the Catholic Church's philosophical orientation and doctrine.

PONTIFICAL

Relying on the support of Archbishop Dom Vicente Scherer, Pope Pius XII signed the decree that awarded this title to Catholic Schools. On Mar 7, 1951, PUCRS became an official Pontifical University, the third in the country. This distinction recognizes the contribution of a university to the good values of church in higher education.

The following years saw the creation of projects to implement new Schools and programs geared towards not only education but also the community, sciences, arts and environmental preservation. A major undertaking that would change the higher education scenario of Porto Alegre started to take shape.



1968: first buildings on the new Campus

The Campus is born

In 1954, Br. José Otão took office as president (1954-1978) of a university that was small but still full of problems: both in terms of structure, facilities, faculty retention and qualification. By employing clear and straightforward methods, he made the structure more solid, reaffirmed the strength of the sponsor and decided to relocate the university from downtown Porto Alegre to the Main Campus, in an area that belonged to the Marist Brothers, to be shared with *Colégio Champagnat*, in Partenon.

In Mar 1957, the School of Dentistry opened its doors and, 11 years later, the president of the country Mr Costa e Silva opened the *Cidade Universitária*. Schools started

transferring to the Main Campus in 1960. The first students had problems with transportation and with the ongoing construction. In Apr 1962, the buildings that would be home to the School of Dentistry and School of Engineering were opened. As the buildings were being finished, other schools moved in.

The following decades saw the growth and consolidation of PUCRS in a peaceful setting surrounded by nature. The image of the University as an institution devoted to education and research was consolidated. It is featured among the best universities in the country, a reference in several academic areas and recognized in the five continents.

A university hospital

Following the creation of the School of Medicine, in 1970, the institution saw the need to build a university hospital to give undergraduate and graduate students the chance to do practicum work. After an assessment of needs and the implementation of an urban master plan, the construction works began in 1971 and the São Lucas Hospital (HSL) officially opened in Oct 1976. This was the first project of the Marist Brothers Institute that became a reality. At the end of 1988, PUCRS opened the Clinical Center, an innovative center that brought HSL and medical offices together. It is worth noting that the medical doctors serve as faculty members of the university, too.

Renovation for the future

Over the course of the history of the institution, 1978 was marked by the election of John Paul II as the Pope, being the third Pope in three months and by the miracle of Medicine: the first test-tube baby in the world. Argentina lifted the World Cup trophy and the people in the nightclubs would go crazy to the moves of John Travolta. In that year, PUCRS took an important step forward to achieve the excellence it has managed to maintain up until today.

As President, Br. Norberto Rauch kept a firm grip on the institution, and the University began to take a safe path to accomplishing major projects for the future and which are now a reality. Relying on an incredible innovative ability, Rauch accomplished some remarkable achievements the people of Rio Grande do Sul are proud of: Tecnopuc, a reference as a Science and Technology Park; the Museum of Science and Technology, known for its interactive experiments in different areas; the Sports Park, for being home to a wide variety of sports; the new Main Library, one of the largest ones in Latin America, and other areas devoted for the production of knowledge.

MIL PARA 2000

In his 26 years serving as president (1978-2004), PUCRS took a qualitative leap. Another distinctive factor was the focus on faculty, researchers and staff. After facing the financial imbalance during the military dictatorship, the

institution managed to increase the pay of its employees, offer benefits and move forward to a deeper transformation.

A faculty development program took effect in the 1980s. It grew out of proportion and, in 1991, the challenge *Mil para Dois Mil* was posed. The institution planned to have 1,000 faculty members with a Master's or PhDs by the year 2000. Rauch revisits the success of the plan in the book *Trajatória de um período: 1978-2004*. "The response of the faculty was great. We went way above the target that was set before the deadline."

CONTEMPORARY WORLD

On the verge of the turn of the century, collective efforts were geared towards the commitment to working on the development of people and not only professionals. People who would be capable of observing the principles and values that are essential to a just and fraternal society: that was the motto of the founder of the Marist Institute, Saint Marcellin Champagnat.

In 2004, in view of the enormous challenges posed by the new millennium and with an eye to the mission of remaining faithful to the principles of an educational institution, Br. Joaquim Clotet took office as president (2004-2016) and began to sort out priorities as the institution was then into the contemporary world. His mandate was anchored in four pillars: quality; entrepreneurship; integration between teaching, research and extension; and relationship with society.

A robust university is being conducted by the hands of the president Br. Evilázio Teixeira, as the institution celebrates its 70th anniversary. That is a legacy of the presidents who preceded him and who planted the seeds of the dreams of the university's founders. In 2017, he implemented the movement *PUCRS 360° – University in transformation*, in an effort to earn students more autonomy in their academic career, new directions for a different academic experience and more recreational and quiet study areas around Campus, such as the *Rua da Cultura* (Cultura Square).

PUCRS in numbers

- **Undergraduate programs: 55**, with different majors being offered
- **Certificate programs: 88** in progress
- **Master's: 24**
- **Doctorate: 22**
- **Students (undergraduate and graduate) in 2018/1: 27,349**
- **Undergraduate alumni by 2017/2: 166,807**

SOURCE: PROGRAD, PROPEQS AND EDUCON

Tecnopuc, 15 years of innovation

As the Science and Technology Park (Tecnopuc) celebrates its 15th anniversary, an ambitious goal has been set: to attract and generate 1,000 new startups in ten years. This goal has been stated in the strategic plan of the area of Innovation and Development and mirrors a trend that is now a reality in the most relevant ecosystems of innovation around the globe.

The Park is home to more than 150 organizations, including global giants, national companies, institutes and research centers that foster several mechanisms of business generations. Over the period of 15 years, more than 200 startups have

graduated. The newest member is the US multinational Oracle, which began its operations in October.

The Park employs more than 6,500 professionals in an area designed to create synergy between the companies and the University. It also has collaboration agreements and partnerships with more than 150 countries. Since it was founded, in 2003, its area has increased four times in size, from 20,000 m² to 90,000 m².

As one of the Latin American references in ecosystems of innovation, it is the most awarded and widely acclaimed Science and Technology Park in Brazil.



University gains momentum with Capes/Print

PUCRS is nationally and internationally recognized for the quality of teaching and the scientific, technological and social relevance of the research carried out by its academic community. It is featured as one of the best institutions from Latin America in international rankings. It has agreements with universities in Asia, Africa, Europe and the Americas for incoming and outgoing academic mobility and partnerships.

In Aug 2018, PUCRS and other



Park is home to 150 companies and employs 6,500 people



Goal: to increase the number of international students

institutions were awarded with a grant known as *Institutional Program of Internationalization* (Capes/Print) by the Brazilian Federal Agency for Evaluation and Support of Graduate-level Education (Capes). The funds will be used to invest in the continuous internationalization of the curriculum, both at the undergraduate and graduate level. This is a strategy to be used to prepare students to get into an international and multicultural professional world.

Research that transforms

Over the course of the last 20 years, PUCRS expanded its scope of operation in research and earned its graduate programs an international level of excellence. It has prioritized the production of knowledge and understood that the role it is meant to fulfil goes beyond providing professional training: it also includes making changes to society, through its strategic positioning of innovation and development.

PUCRS is keen to making advancements in research, with the challenges of an even more globalized world. The idea is to become an international environment by consolidating international

partnerships, welcoming researchers from other countries and a growing number of international students.

Another challenge is to work closely with the ecosystem of innovation in order to prepare students for a market that needs a variety of skills including relationship, leadership and entrepreneurship. These two movements have produced the Internationalization Plan, which will guide the actions of the University in every dimension in the next four years. It has also produced the Innovation Policy, which leads to a number of possibilities for an entrepreneurial culture and generation of businesses in the academic environment.

High standards

- **Graduate Programs:** 24 - 11 of which have been awarded grades 6 and 7 by the Ministry of Education, which consequently earned them an international level of excellence
- **Ongoing research projects:** 1,700, 180 of which involving international partners
- **International agreements:** 233
- **Researchers:** around 350
- **Productivity grants:** 123 CNPq researchers, which is an indicator of excellence in research
- **Students:** around 2,000
- **Undergraduate research:** 611 grants to get undergraduate students involved in research
- **Research groups:** 354 active groups. This earns PUCRS the top position in Brazil among public and private institutions, as per the 2016 census
- **Research Institutes:** 4 (IMA, IPR, IGG and BraIns)
- **Research Centers:** 17
- **Multidisciplinary Research Groups:** around 60
- **Laboratories:** 120

A Campus for health care services

Relying on funds from the State of Rio Grande do Sul, PUCRS is investing in an innovative initiative in the South of Brazil geared towards education and health care assistance and promotion, in an integrated and multidisciplinary way. This campus congregates the Schools of Health Sciences and Medicine of PUCRS, and consist of six dedicated facilities: the Brain Institute of Rio Grande do Sul (Brains), the São Lucas Hospital, the Sports Park, the Rehabilitation Center, the Clinical Center and the Healthcenter Care, a center that is under construction and which will

provide unique health care and wellness services. All of that is used to bring research, teaching and assistance together with an eye to the promotion and protection of the health of the population. The University is increasingly giving the right value to these structures by remodeling them, expanding them and building new facilities. This also includes new equipment, customer service training and development actions.

The Senior Vice President Dr Jaderson Costa da Costa claims that the Health Campus is inter-

institutional and multidisciplinary. One of its components, Brains provides support to all eight schools of PUCRS as it welcomes undergraduate students as well as graduate and undergraduate researchers to learn more about the new technologies. The Institute embraces several academic areas, such as Modern Languages, Theology and Philosophy as some research groups are working on cross-sectional research. As the remodeling works of the institute began in September, the future might hold other opportunities.

PHOTO: HENRIQUE AMARAL



Inter-institutional and multidisciplinary structures



New building will be three times as large and will be ready in 2020

Expansion of Brains

The original project of construction of Brains was divided in two parts. Relying on funds from Finep, its current 2,549 m² will be expanded to 9,335 m² and is expected to be completed in 2020. It will feature new laboratories, machines, offices, cutting-edge equipment for exams and other services. “An area will be dedicated to clinical trial volunteers, such as Alzheimer’s or Parkinson’s patients. It will also be used by guardians of kids with learning, reading or developmental disorders”, says Jaderson Costa da Costa.

In his view, brains are more important than the machines.

“We can have a growing number of projects and study conditions other than neurological and neuro-oncological ones”, anticipates he.

Another area of research that will be growing in relevance is the one on biomarkers, which anticipate the onset of diseases and thus, will lead to a more adequate diagnosis. Attention will also be given to radiopharmaceuticals, an area that Brains specializes in.

INTERNATIONAL

Internationalization is another aspect that increases in relevance

with the expansion of Brains, as the number of partnerships is expected to grow. It now has about 10 international agreements with other major research centers on the planet. The expansion might lead to the implementation of new projects. “These partnerships will make a very meaningful contribution to the discoveries that will be of benefit to the population. We have made a commitment to do translational research in an effort to provide treatment to all kinds of patients, both insured and uninsured ones”, adds he.



Classroom promotes innovative pedagogy



Open area to study

SEVERAL FACILITIES, MULTIPLE POSSIBILITIES TO

Building 15 on the Main Campus embodies University's efforts to innovate

Sixteen classrooms, seven large recreational areas, an arena, an auditorium, centers for information and student services. A complex for students to experience new teaching and learning methodologies and have moments of relaxation and leisure. Building 15 on the Main Campus has become a model to be followed by universities. These changes have been made in support of the movement PUCRS 360°, which embody the changes that

have been made to the University, from teaching methods to physical facilities on Campus. They represent the initiatives to be implemented under the perspectives of A Revisited Campus and Different Learning Methods.

All materials and furniture were carefully selected to make the application of innovative pedagogical practices possible. Relying on the concept of active learning, classrooms are

equipped with a cooling system and a integrated multimedia system (overhead projector and audio). They will be used for a variety of purposes and connected to the internet to facilitate the interaction between students and professors. Students will be able to do individual and group work. These rooms will be equipped with swivel chairs, mobile white boards and flip tables to be used in a diversity of contexts, depending on the activities that will be developed.



Learning Laboratory remodeled

IMAGES: GERÊNCIA DE INFRAESTRUTURA

LEARN

LEARNING IMPACT

“The environment has an impact on the learning. We had that in mind when we started planning the changes”, said Adriana Kampff, Dean of Undergraduate Studies and Continued Education (Prograd). She claims that in this type of setting, professors can use their cell phones to project anything they want. Students’ contributions will be welcome too as they will have the chance to use their cell phones for an educational purpose. “Teachers’ roles go beyond the presentation

and development of the topics. They will raise students’ awareness of the contexts in order to investigate reality and propose solutions for the problems they find.”

The facilities will be equipped with a variety of desks of different sizes and shapes. They will make it possible for students to work in groups and move around. “The new rooms will not have fixed structures and students can rearrange the setting as they see fit”, says architect Ana Carolina Rodrigues, who works for Infrastructure

Management (Geinfra), under the Office of the Vice President of Administration and Finance.

As the construction work rolled on, we wanted to make sure the structures would work accordingly and so, we began a number of tests. The teams of the Undergraduate Studies Office and Geinfra tested the ergonomics, aesthetics, comfort and durability of objects from different suppliers. “We worked on those four concepts in an effort to conciliate the technical and pedagogical aspects”, says Ana Carolina.

MULTIPLE KNOWLEDGES

One of the claims of Prograd Professor Rosane Palacci dos Santos is the permeable character of the facilities, which are open to students from all programs of the university. "As we walk around the building, we can have a panoramic view of the Academic Schools of PUCRS. This will be a place where people will exchange knowledge. Palacci joined the group that conceived the renovation of building 15. In her view "knowledge involves practice and consists of a multitude of factors".

Most rooms will be 130 m² long. One of them, on the 2nd level, will have a rooftop. Another will be designed for brainstorming actions and relaxation and is equipped with beanbags. An office decorated with mirrors will be useful for focal groups or group discussions and product testing. Anyone will have the chance to watch the progress of the activities from an adjacent area. It will be perfect for video conferences, thesis and dissertation defenses as well as business meetings.

It will also be available for professors to schedule their classes or events. Some other courses will be taught in previously assigned rooms permanently. At least one representative from one of the eight Academic Schools of PUCRS will be part of the Pedagogical Innovation Research Groups. The idea is that building 15 be used to validate these actions. "Professors will serve as multipliers to help us materialize a second stage, as the most successful experiences will spread around Campus", says the Dean of Undergraduate Studies.

Pedagogical Innovation in 360°

Under the Pedagogical Innovation project, the pillar Teach through Research will be one of the references that will drive the evolution of the University's teaching practices. Authorship will be its broadest form of learning. Overall, a dissertation, a thesis, an undergraduate paper or the implementation of a project will embody the results of a cycle of construction of authorship to a certain extent. Anyway, investigations and problem solving will lead to high-quality and effective learning.

The major challenge is to make these experiences, in line with other specific forms of learning, play a role in other stages of academic development. Such change, as it implies a new teaching culture, curriculum structure and learning environments, must operate at different levels simultaneously (360°).

That's why, two structures are strategic. On the one hand, in each School, the Pedagogical Innovation Research Groups will be offering opportunities to materialize these new experiences, with the support, trust and coherence in terms of everyone's limitations and the possible evolution in each context. On the other hand, as spatial organization has a very strong impact on how people interact with one another, new practices are calling for a dedicated experimental space, such as building 15. The goal is to make it work as a propeller of changes. Later in the future, these other buildings around Campus are expected to be affected by these changes and this will have an influence on the training of our students to do research while they work on their degrees and work on their degrees while they do research.

João Batista Siqueira Harres

Teaching Coordinator / Prograd
Researcher of the Graduate Program in Education,
Sciences and Mathematics



On the ground level, an area will be devoted for get-togethers, relaxation and will include a kitchen

Leisure and entertainment center

The ground level will be an open-plan area devoted for get-togethers, relaxation and will include a kitchen. Students will have the chance to have some rest between their activities, heat their meals and eat them. Kitchen utensils will be available at the students' disposal. Tables and desks of different sizes and shapes will be available, too. For people who need more privacy, booths with couches will be available. The area will be equipped with showers and dressing rooms adapted to people with special needs. Total accessibility will be provided by two elevators.

Research done by Geinfra with students has shown that an area devoted for social encounters would be appreciated. "It will be a comfortable area for you to study, relax and have quality time", says Ana Carolina. The second level will also come with areas for informal



On the rooftop, there will be an open area for students

meetings and access to the balcony. This particular level will also come with six classrooms and offices of the Office of the Vice President for Extension and Community Affairs. On the 3rd level, there will be six other classrooms, an area for sleeping, equipped with beanbags. There will also be offices for small meetings and an undergraduate research office, under the Office of the Vice President for Research and Graduate Studies,

Center for Psychosocial Support, Learning and Teaching Laboratories and Services to People with Specific Learning Needs.

The center is opening its doors in 2019 as the first courses are expected to be delivered there. However, way before it opens its doors, several workshops on teaching methods will be offered there during the Academic Development Seminar, before the scholastic year begins.

CHILD ABUSE AND INFLAMMATORY DISEASES

A study published in an international journal points to the increased likelihood of contracting diseases in the future

Children who have been abused are more prone to developing inflammatory disorders in the future, such as cardiovascular, neurodegenerative and metabolic diseases. This is what the study carried out at PUCRS and published in the journal *Neuropsychopharmacology*, of the Nature Publishing Group has shown. The article was written jointly by former PhD students of the University Carine Hartmann do Prado and Ledo Daruy Filho; former postdoctoral fellow Andréa Wieck; the coordinator of the School of Medicine's research group Cognitive Neuroscience of Development, Rodrigo Grassi de Oliveira and the coordinator of School of Sciences' Laboratory of Immunology of Stress, Moisés Bauer.

The research was conducted with two groups of healthy teenagers, from public schools of Porto Alegre. A group consisting of 41 people reported being abused in their childhood whereas 33 others did not report any kind of abuse. All of them were subject to interviews and exams for physical, cognitive and

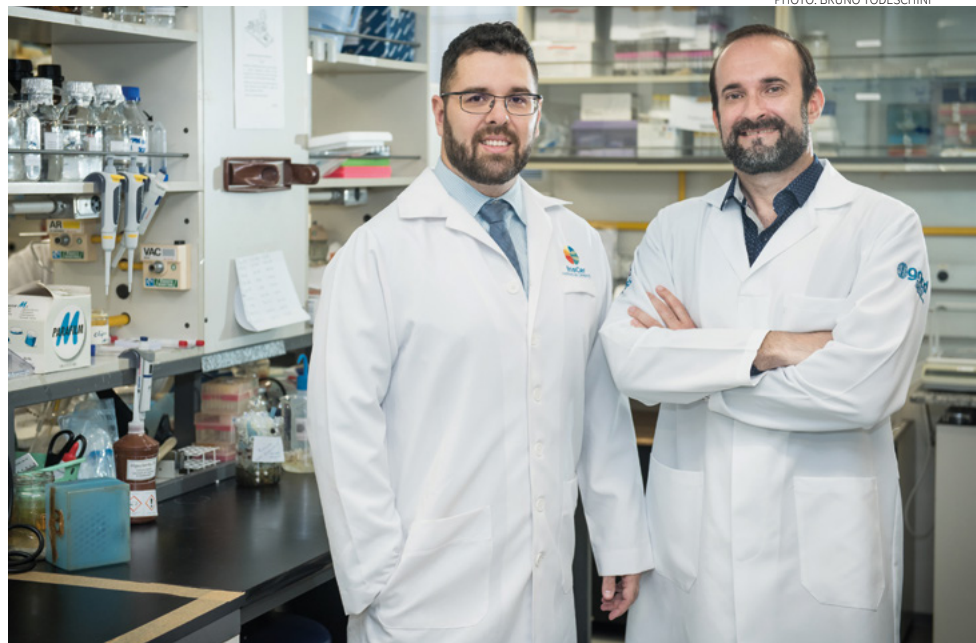


PHOTO: BRUNO TODESCHINI

Researchers Rodrigo Grassi de Oliveira (L) and Moisés Bauer

biological conditions. These tests included an analysis of their levels of cortisol (hormone directly related to response to stress) with the use of their hair and the assessment of immune response in the blood.

For the group that suffered abuse, results showed an increase of 50% in the levels of cortisol, when compared to that of teenagers who did not. The lymphocytes in the individuals in the same group were 50% more resistant to dexametasone, a drug that mimics

the action of cortisol. This means that cells are not allowing the substance, although it can be found in larger quantities.

Blood tests that looked at the inflammatory markers pointed that they are up to six times more frequent in adolescents who have had a history of child abuse. "Even before the onset of a neuropsychiatric disorder, for instance, the behavior of cells indicate a proclivity to inflammation. So the inflammation may begin before the

neuropsychiatric disorder”, says Bauer. The blood tests in the same group showed that the neurotrophin, a protein that ensures survival, development and normal operation of neurons, saw a reduction of 50%. “This is closely related to poor cognitive performance and memory”, states he.

In his view, the study proves that even the abuse an individual was subject to in the past leaves something like a scar in their adolescent bodies, a scar that has not healed. Up until now, people would believe that the inflammation would be caused by chronic diseases and the investigation has proven otherwise. “This is such a pioneering investigation because it was carried out with healthy teenagers. They were not ill, but their cells were somewhat inflamed”, adds Bauer.

Participants answered a questionnaire asking questions about the trauma they suffered in childhood, which is an international standard instrument. Results show that it is possible to differentiate the types of abuse a child suffers: physical neglect, emotional neglect, physical abuse, emotional abuse and sexual abuse. Grassi de Oliveira, one of the scholars involved in the investigation, claims that despite going through these situations at a younger age, the group did not show any behavioral or cognitive alterations during the tests: “The only thing these two groups differ are in their biology”. They were also subject to tests on memory, attention and psychiatric disorders.

Measuring cortisol in the hair

Each centimeter of hair is equivalent to a month of cortisol in the blood. The closer to the scalp, the more recent the indication of cortisol. The teenagers in the study had 3 cm of their hair measured, which corresponds to 90 days of cortisol in their bodies.

PHOTO: JESÚS RODRIGUEZ/UNSPLASH



Research findings

PHOTO: WARREN WONG/UNSPLASH



Teenagers who were victim to childhood abuse had an increase of **50% in the level of cortisol** (directly involved in stress response) as observed in their hair.

The group did not show behavioral or cognitive alterations.

The level of inflammation of their cells was up to **six times** higher, and this can indicate a predisposition to several diseases in the future, including cardiovascular, neurodegenerative and metabolic ones.

Their level of neurotrophin, a protein that ensures the survival, development and normal operation of neurons, was **50% lower**. This is closely related to poor cognitive performance and memory.

DOUBLE GRADUATION

Double degree program involving PUCRS' Law School and Università degli Studi di Parma, in Italy

Gabriela Bertol, a native of Bento Gonçalves, and Maria Laura Grilli, a native of Lanciano, Italy, have much more in common than one can imagine. Despite the distance between the two countries, both students are going to finish their degrees and be awarded with

two similar diplomas: a Law School degree from PUCRS and another from Università degli Studi di Parma (UNIPR). And the reason being is that they are in the Double Degree program between PUCRS' Law School and the Italian university, which was officiated in 2016.

Under the program, PUCRS students will have the chance to work on their degree for one year at the Italian institution and vice-versa. At the end, they will be awarded with two diplomas, one from each institution. The idea is to advance the internationalization of teaching,

PHOTO: CAMILA CUNHA



which will ensure that students can have an international experience, expand their horizons and learn about Law from an international perspective.

For Elton Somensi de Oliveira, the project's coordinator at PUCRS, the program is a great opportunity for the students' careers. "Students will benefit greatly from going to Parma, and those who come to Porto Alegre will be of great benefit to our learning environment. Strategy-wise, it is innovative as it advances incoming and outgoing mobility and corroborates our international excellence", says he.

STANDARD CURRICULUM

Law School professor, Arthur Ferreira Neto, has been to Parma and, the way he sees it, the curricula needed to be standardized and courses had to be remodeled to enable credit transfer. "Over the years, we have tried implementing the program with several institutions from overseas. However, because the curricula are very different, things would not work", says he.

In 2016, PUCRS was approached by the Italian institution to offer the program. Since then, the curricula of the programs - both PUCRS' and

UNIPR's - have been remodeled and the courses are now equivalent.

In Ferreira Neto's view, a double degree is a unique opportunity for students. "At the end of the undergraduate course of study, the diplomas will be valid in any European state. PUCRS students awarded with a Bachelor's Degree in Law at Parma will have to pass the counterpart of the Bar Exam if they want to work as an attorney in Italy. However, this is much less bureaucratic than trying to validate a Brazilian diploma overseas, for instance", adds he.

PHOTO: GABRIELA BERTOL/PERSONAL ARCHIVE



Universal legal thought

When it comes to the program being offered in two different contexts – Brazil and Italy –, Arthur Ferreira Neto claims that Law is increasingly globalized. "Now we know that we can't think of Law strictly as an act or as something that is written in the Constitution", says he. In his view, although the teaching of law as it is at the university is taking a different perspective, the reasoning, the content and the strategic thinking have a universal dimension.

Both the Brazilian and Italian students agree that the differences in Law Studies are not as striking as some people had thought. They see the foundations of the Italian law very similar to that of the Brazilian law. "What happens is that some things will be different because the contexts in which they are applied are different. There are things that work in Italy and perhaps not in Brazil, and vice-versa", adds Gabriela.

Living a different culture in a different country and using new study methods are important factors for both of them to recommend the experience. However, people must be alert: students who come to Parma are very likely to put on a few extra pounds (not only in their luggage). Food in that city of Italy is, in fact, heavenly.



Training program for professors from the School of Technology, School of Health Sciences and Business School

ENTREPRENEURSHIP AND SOCIAL INNOVATION

PUCRS has joined Students 4 Change, a EU project, and is now offering courses employing the Service Learning methodology

Universities are the right environment to produce innovation with a focus not only technology but also on social needs. These strategies can be used to address structural problems in societies and that is why the EU is taking their chances on the project Students 4 Change (S4C), under the Erasmus + program. In an effort to advance entrepreneurship and social innovation in Latin American academia, especially with an eye to the development of their students,

the project features 15 higher education institutions from Brazil, Chile, Colombia, Costa Rica, Mexico, Germany, Spain, France and Portugal, as well as an international non-profit organization. Only two universities from Brazil are taking part in the project: PUCRS and PUC-Rio.

S4C has made a list of more than 50 tools to be used by universities in the promotion of entrepreneurship and social innovation in class. They include the map of empathy, business modeling, innovation funnel and

the problem-solving matrix, among others. In the project, PUCRS will be working with concepts, student and faculty competences and tools to be applied in the solution of social problems. The university joined forces with TU Dortmund University (Germany) to develop support mechanisms for the participating universities to continue working on their projects. "We're working in every step of the process. We'll also be working on a general and a specific report that includes the ten projects,

as we can show the experiences of each university”, says the coordinator of S4C at PUCRS, Business School professor Lucas Roldan.

IN THE CLASSROOM

The case used in the project developed by PUCRS made use of the Service Learning methodology, which has been embraced by the University’s Extension Programs, under the responsibility of the Office of the Vice president of Extension and Community Affairs (Proex) since 2016. “It’s different from the existing traditional methodologies in terms of classroom practices, lesson planning, methods and assessment. The idea is that, by addressing the problems presented by the peers, students will understand the complexity of real demands, with an eye to the provision of services and providing feedback to the companies’ representatives”, says the Director of Community Affairs, Dr José Luís Ferraro. This model, released in 2016, employs flipped classroom tools, which earn students a protagonist role in the actions and develops skills that are inherent to problem solving. The greatest advantage is that companies having

real problems can participate as “clients”. The method, which employs playful activities, is being offered to all Schools. Training programs to faculty members who wish to implement it will be offered, too.

Six undergraduate courses are being devised for S4C and they employ this method. “We’re going to use this project to qualify our faculty and expand Service Learning in a sustainable way, by mirroring the experiences of international universities that work with similar social initiatives”, says Roldan. The way he sees it, Service Learning is one of the most relevant projects under Students 4 Change for it uses the structure of a university. “We’ll be working with organizations that are connected to or are somehow address entrepreneurship and social innovation. Students will be expected to develop projects to address a problem in society in view of the existing reality during their academic training”, points he.

FACULTY TRAINING

Online training sessions were offered in support of the Service Learning courses under S4C,

from May to June. These sessions included School of Technology, School of Health Sciences and Business School professors and other faculty from the ten Latin American universities. PUCRS faculty started teaching these courses in the second semester of 2018. It featured as many as 80 professors. “PUCRS lesson plans were used in the online training. They were validated by the program coordinators and will be used again in an on-site session. We’ll have more than 200 students in the project using the Service Learning methodology under the S4C approach to deal with social problems”, says Roldan.

S4C took off in Jul 2016. Two international meetings were held and, in July, PUCRS was home to it. The event features at least five faculty members from the ten Latin American universities and representatives of EU institutions. The on-site training will serve as a coronation to the online activities. Participants will present what they consider the most important tools for the project and for the lesson plans of all universities. They will also take part in a creativity workshop.

Students 4 Change

The project Students 4 Change seeks to improve the quality and relevance of academic programs in Latin American universities, by fostering the development of social innovation and social entrepreneurship competences. Hence, the capacity to solve urgent social problems these regions are faced sees an increase. In Mar 2019, a meeting will be held in Chile, and both the outcomes and means to maintain the projects will be presented. The closing will take place in Oct 2019.



Service learning employs the model of flipped class, as students play a protagonist role

International relevance

By taking part in Students 4 Change, PUCRS is able to increase its international visibility as it works with renowned and qualified partners in a social project. “We want to be a reference in social entrepreneurship. We have been working on initiatives in this area, but in a restricted way. This is one of our goals: to implement more systemic actions to conceive and offer

solutions to social problems with the aid of our students”, points Roldan. The project also includes publication of articles in 2019, the development of an investigation bringing Service Learning and S4C together at the University and an invitation to participate in the next edition of the atlas of social innovation. “The idea is to expand the institution’s production to society”, complements Roldan.

Project S4C at PUCRS is embraced by the Office of the Vice President for Extension and Community Affairs, which is also responsible for the implementation of Service Learning. It includes the faculty members and 7th semester Business Administration major Felipe Chagas, and intern Luisa Bicchieri, a 6th semester major in the same program.

Erasmus+

The European Union program is geared towards education, training, youth and sport. In an effort to contribute to the *Europe 2020 Strategy*, Erasmus+ seeks to promote the sustainable development of its partners in higher education. The topics addressed include: unemployment reduction, education and the acquisition of new competences for adults as well as the reduction of dropout rates.



PHOTO: DISCLOSURE

A LONG ROAD TO BEAT CANCER

Oncologist Nelson Kalil compares the treatment provided to patients in Brazil with that of the USA, where he works

PHOTOS: CAMILA CUNHA



Nelson Kalil has been living in America for over two decades and he is very happy to see the advances in cancer treatment. However, the fact that Brazilian patients do not have universal access to new medications is an issue since, if they did, they would achieve complete remission. But this would be the next step to be taken. In his view, the country needs to focus primarily on the diagnosis and prevention of risk factors, including smoking addition, physical exercise and vaccines, such as HPV (human papillomavirus). “If the country does not have that in mind, in 20 years’ time things will not have changed”, warns he. Doctor can’t sit around and wait for patients in their offices; they will need to go after them, adds he.

Expanding treatment outreach is one of the challenges of the

partnership between PUCRS and Fundação Nelson Kalil, his eponymous creation. Kalil, who completed his undergraduate degree and residency at PUCRS, has been collecting donations from his US patients and from a network of specialists, as well as other entities, to be donated to São Lucas Hospital. They will also be used for the continuous development of doctors and School of Medicine professors in new diagnostic developments and individual treatments. American doctors from US universities maybe invited to deliver training sessions in Porto Alegre. Similarly, Brazilian physicians may be sent to the US. This project is also expected to embrace the development of areas of excellence in Oncology and Neuro-oncology. The Senior Vice President, Jaderson



Costa da Costa, believes that this initiative being successful can propel the development of this new attitude in Brazil.

Kalil completed residency programs in Internal medicine at Jackson Memorial Hospital/ University of Miami and in Oncology and Hematology at the National Cancer Institute and National Heart, Lung, Blood Institute, National Institute of Health as well as Johns Hopkins Hospital. He never cut his ties with PUCRS. During his visit to the President's Office, he gave an interview about the treatments and professional training.

How do you integrate research and clinical practice?

This is very common in the US and this integration is actually expected. Even clinical doctors will do tests involving new drugs or will make efforts to validate them. This will keep them strongly connected to

“The number of patients given access to gold standard treatments in Brazil is too small. And the number of those signed up for clinical trials is even smaller.”

the pharmaceutical company to get protocols released and give patients access to medications, whether or not they are at a university. If a standard treatment is not right, patients may take part in experimental studies. That is important because 95% of the treatments are conducted in the medical offices. In Brazil, doctors must be in the academia, for it ensures quality and safety.

What costs are a patient expected to bear in the USA?

Health care plans cover the appointments as well as the FDA-

approved medications and/or clinical routine protocols published and updated after consensus reached among the main academic centers. Additional costs, such as drug administration, nursing, etc. are to be included in the clinical protocol. Uninsured patients will be evaluated and, from 24 to 48 hours, will hear from the pharmaceutical company whether it will cover the medication. In case it does, the company will only cover a small percentage of the drug.

What's new in the treatment?

15, 20 years ago most patients would be internalized. Today, 99% of procedures are offered at outpatient care facilities. Why? Because of the high-quality level of stations and the medication. This avoids nausea and other complications, including infections. This makes it less costly. The doctors who design these protocols are FDA (Food and Drug Administration) researchers or, at

least, are certified by the American Board of Internal Medicine. Today, the key points are the biological agents, target-therapy medications that will keep the cancer cells from growing in specific mutations, as well as immunotherapy. The levels of tolerance are exceptional. Former president Jimmy Carter is now over 90 years old. He had a very aggressive brain melanoma but now he continues working in his company as he has been on complete remission for a while. Without it, the survival rate would be of only a few weeks. What does the future hold? Fewer patients on radiotherapy and surgery, a lower rate of internalizations as well as a larger number of clinical protocols. Current discussions are centered around the ideal combination: biological agents, including radiotherapy with technological advances, such as proton therapy, which are now available in several academic centers.

In Brazil, the standard treatment is not always offered by the universal health care system

Globalization gives people immediate access to new information, but data interpretation and therapeutic decisions need to be personalized by the patient and their doctor. The cost of medications is an issue. For instance, some target therapies or immunotherapy drugs might demand an investment from USD 150,000 to 200,000 per year per patient. The medication is either

released by the pharmaceutical company, at no cost, or will not be released at all. In Brazil, it is very common to include advanced stage cancer patients in clinical trials, but result are palliative. This is a high cost with minimal return.

After approval, states need to acquire medications

Drug approval is quite a bureaucratic issue. As an example, we can mention the breast cancer medications that have been used in the USA for more than 10 years and which Brazil is now trying to approve. We cannot doubt their efficacy. Patients are dying because they have no access to them. A balance needs to be reached between the cost and the response to the drug. But Brazil should focus primarily on the reduction of risk factors.

Is that why you work in the USA?

(Giggles.) There is another reason. Brazil offers very limited control even over standard drugs. In the USA, in the event of any

“Constant exchanges between professionals will enhance the technical skills and specialists from outside of the country will be able to see the potential of PUCRS. This will increase the number of donations.”

complications, the system will acknowledge them immediately. It works in close connection with the pharmaceutical industry. In Brazil, I have no idea where they come from or how good they are in terms of quality. It is a different focus. Drugs need to be commercialized in the early stages of the disease rather than in the later stages. In the USA, patients have access to new drugs after they are approved by FDA and before the health insurance accepts them. This is important because of a record number of Hematology / Oncology - approved substances.

A shorter path

And quick. Why this does not occur in Brazil is quite a cultural issue: doctors and pharmaceutical companies look at it from different perspectives. In the USA, if you want to attend a congress, the industry will not pay a first class ticket overseas. I will not take friends or family for a dinner to discuss cases. It is illegal. I am not there to sell medications to other doctors, but to discuss how to develop them. If something is wrong with a patient, I have to report it. This goes to the pharmaceutical company and to FDA. When the community is granted access to the drug, it is common to hear of effects we were unaware of. Patient discipline is essential too. Everyone will receive a manual about the drug and the disease. They have access to selected and accurate information at home.

ARE YOU READY FOR A GLOBALIZED JOB MARKET?

A number of graduate and undergraduate courses delivered entirely in English

English, as one of the most spoken languages on the planet, is a lingua franca in businesses, tourism, academia and international relations. Having the skills to communicate in that universal language is no longer a line in a person's résumé, but a basic requirement in the job market. More than being a source of information and a provider of academic and humanistic training, the university must prepare its students for a world without borders, an international environment where activities beyond academic mobility will abound as they will foster the exchange of experiences and cultures.

PUCRS offers its students the challenge to learn the classroom topics in English, just like they would if they were in a university overseas. Courses delivered entirely in English are offered both at the undergraduate and graduate levels. They are useful for students to work on specific terminologies and develop competences for a globalized world.

This will prepare students for graduate school overseas,

networking activities with professionals from all over the world, job opportunities in global companies and even for getting a job abroad. Courses in English have been implemented under the university's strategic plan with an eye to internationalization, in that many of these courses are interdisciplinary. "They have been designed for both incoming and outgoing academic mobility

students for a variety of reasons: these students might take part in international competitions, go to graduate school abroad, brush up their language or even live in internationalized environments", says Gabriela Wallau, of the Office of Academic Development, which is accountable to the Office of the Vice President of Undergraduate Studies and Continued Education (Prograd).

PHOTO: BRUNO TODESCHINI



Classes taught in a language other than Portuguese as they would be taught in an university overseas



MEANS OF COMMUNICATION

PUCRS is keen on implementing English as a Medium of Instruction (EMI), a growing trend at world-level universities. At the undergraduate level, the courses in English use the language as a means of communication to delve into the topics. “It’s not an English class, it’s a class taught in English”, adds Gabriela, who teaches the course *Alternative Dispute: Resolution Mediation, Arbitration and Conciliation and Business Law II: Corporations*.

Many courses are guided by interdisciplinary work. Cristina Perna is responsible for the course *Theories*

in Language Acquisition and, in her view, it brings together insights from Philosophy, Psychology, History, Communications and Medicine. “Students can learn a lot from one another and relate to topics that were addressed in other courses. A full immersion into the language, which may serve to encourage them to do an academic mobility program in the future. It is good for their biological, physiological and neurological functions as learning an additional language increases brain plasticity”, says she.

At the age of 53, business administrator José Gazola is now back in school. He was influenced

by his daughter, who is a Medical School student. He chose Modern Languages, an old dream, and takes classes with Perna. He claims that doing courses in English is an excellent opportunity. “In such a competitive and globalized world, English is essential for all professions, in any area”, reflects he. There is something else to it: they mostly mirror the undergraduate curricula. By choosing to take the course in English, students will be exempt from taking it in Portuguese. In the second semester of 2018, 15 courses were offered and the number of students reached to 200.

PUCRS, a destination for international students

Undergraduate courses in English can be an alternative for international students who wish to go on an academic mobility program in Brazil but whose competence in Portuguese is low. In the second semester of 2018, these courses are being attended by 22 mobility students. Conversely, they may opt for the course *Portuguese for International Students*, which is offered at no charge in the two weeks that precede the beginning of the scholastic semester.

Zachary Lohnes, a 5th semester

Philosophy and Gender Studies major of Dalhousie University (Canada), chose Brazil because of his interest in the South American culture. He found in PUCRS the chance to have classes in his native language. “This is such a positive experience for me in many ways. The course on *Digital Entrepreneurship* has made me look at the world from a perspective I had not yet envisioned. It helped me expand my sense of business structure and digital world. It is great to have professors who speak the same

language I speak”, says the 23 year-old who arrived in Porto Alegre in June and will be staying here until December.

Professor Rafael Chanin delivers the course entirely in English and brings theory and practice together. In his classes, he uses different skills, such as reading, speaking, and listening comprehension to facilitate learning. “15% to 20% of the class is devoted to contextualizing the meaning of entrepreneurship and its basic concepts. The remaining 85% - 80% is devoted to group work and brainstorming activities. These activities include defining the business they want to work and developing its potential with a specific audience”, says he. Over the course of his career, Chanin has welcomed students from different parts of the world, including Barthes Island, in the Pacific. These students designed a website for people interested in visiting the territory, with an eye to tourism. “If they want to sell things, they will use everything they know and the tools they learn in class”, adds he.



Canadian student Zachary Lohnes, is enrolled in the courses that are delivered entirely in English

The language of science

The Dean of Graduate Studies, Christian Haag Kristensen, claims that English is the language of science and the courses in that language are helpful for students’ speaking, writing, reading and listening skills. On that line, PUCRS is promoting internationalization at home and providing its students with insights into global issues as well as a

deep immersion into the terminology of their area. “We are going to invest heavily in the internationalization of the curriculum and increase the number of international students in our programs”, says he.

Students play an active role in class and, as they acclimate to a friendly atmosphere, they feel comfortable in using English. “These

courses make a very meaningful contribution and develop a relationship of encouragement and camaraderie among students. Although our graduate students are expected to read scientific materials in English and watch movies and series in English, not many of them will have a chance to practice speaking”, says Mônica Vianna.

Opportunities abroad

PUCRS now offers 22 graduate-level courses in English, all of which are elective, and offered regularly. From the second semester of 2016 to the second semester of 2018, 235 students were enrolled in them, 12 of which were internationals. Mario Alejandro Duque Villegas, a Biological Sciences major from Caldas University (Colombia), is working on his Master's in Cellular and Molecular Biology and does the course on *Scientific Writing and Communication*.

The fact that the University offers courses in English was one of the reasons he chose it. "In professional terms, having a Master's from Brazil and in a language other than my mother tongue is great in and out of itself, but getting to know a different culture and how people do science there is important for my career. Personally, it has been a challenge. In the beginning of the year, I couldn't string a sentence together in Portuguese but people would be very understanding", says he.

MORE CONFIDENCE

For the professor who teaches the course, Mônica Vianna, language competence is essential



Mario Villegas does the course on Scientific Writing and Communication taught by Mônica Vianna

for the students' professional development, especially in science. "This experience earns them more confidence to explore development opportunities abroad, such as doctoral internships and internships in laboratories. Science is 'made' in English and, as one of the scholars I use in my courses says: a scientist is a communicator."

Although this course is offered to students in the Graduate program in Cellular and Molecular Biology, students enrolled in any other programs are eligible for it. According

to Mônica, students in the graduate programs in Psychology, Medicine and even Materials Engineering and Technology and Electrical Engineering, have taken it. "These kids get fully integrated and play an active role in our discussions. By discussing specific aspects of their areas of expertise and original programs, not only can we advance interdisciplinarity but also the development of a broader perspective. This is how they get to know the university outside of their programs", adds she.

LEXIS - LANGUAGE CENTER

In addition to the courses in English, PUCRS' Language Center - Lexis offers a number of language programs. Today, German, Spanish, French, Greek, English, Italian, Japanese, Russian and Libras - Brazilian Sign Language are offered. Find out Learn more at www.pucrs.br/humanidades/lexis

PORTO ALEGRE, A COMPLEX OF INNOVATION

Alliance involving universities intends to make the city a world-class ecosystem of innovation

To develop a strategic agenda for Porto Alegre to become a complex of technological businesses and startups to attract investments and innovative companies and retain talents. This is the mission of the partnership between PUCRS, UFRGS and Unisinos, signed by their presidents in April, and which gave birth to the Alliance for Innovation of Porto Alegre. Under this agreement, local governments, businesses, corporate entities and other educational institutions are expected to share resources and work together.

“Three institutions that embrace knowledge, research, culture, development and social responsibility are joining forces in a project that seeks to change the city”, said the President of PUCRS, Br. Evilázio Teixeira. Rui Oppermann, President of UFRGS, claims that the institutions have been working on individual initiatives of innovation but are now going to bring their initiatives to a higher level and create new opportunities. The way Marcelo de Aquino, from Unisinos, sees it, one of the goals of the Alliance is to

“retain the talents” here due to the shortage of challenges.

VISION OF FUTURE

Jorge Audy, Superintendent of Innovation and Development of PUCRS, views this project as an idea to put in practice a number of actions intended for the development of the city. “We need laws to expedite the generation of new technological businesses. We also need to create a positive atmosphere to attract investments from abroad”, said he.

The President of the International

PHOTO: GUSTAVO DIEHL/RELEASE



Presidents of PUCRS, UFRGS and Unisinos signed agreement in April



Tecnopuc: power of economic and social transformation

Association of Science and Technology Parks (Iasp), Josep Piqué has been hired to assist the Alliance in the implementation of the project. The native of Spain is one of the founders of 22@Barcelona, a project that revitalized the industrial area of that city and made it a reference in smart cities. He will map out the strengths of Porto Alegre, as well as the main challenges and actions to be taken. “My mission is to be as transparent as I can in saying what needs to be done to build the city’s vision of future”, said he.

NATIONAL REFERENCE

The way Br. Evilázio Teixeira sees it, the Alliance will make Porto Alegre a national reference in innovation and entrepreneurship and the national and international connections will lead to social and economic development. “PUCRS is certain of its role as a facilitator of the progress of the city, state and country”, added he.

Piqué, who relies on a solid experience as a consultant for similar

projects in Medellín (Colombia) and Florianópolis, claims that initiatives like this must evolve from a common mission, designed and shared by all interested parties. To his mind, the parties need to think about what they expect of Porto Alegre and then, put together an agenda for what needs to be done.

As far as he is concerned, science and technology parks at universities would be restricted to academic settings and would respond to the challenges of companies and of the university community. From now on, they will have the power to transform the economy and society. “Cities relying on parks will be able to address these issues and connect to other parks from all over the world. Parks serve both as the coordinators of the local ecosystem of innovation and as agents to bring the global ecosystem together”, adds he.

“Universities have been working on their technology parks since the early 2000s. Now we have another challenge. We’ll help change the city”, concludes Audy.

University cooperation

The Alliance for Innovation of Porto Alegre will be run by members of the three institutions: one from PUCRS, two from UFRGS and another from Unisinos. PUCRS will be represented by Jorge Audy, Superintendent of Innovation and Development. The executive group will make the everyday decisions but distinct teams to address specific issues are expected to be formed. These might include other educational institutions, entities and companies.

The three universities rely on high-level innovation environments and Porto Alegre has a number of interesting actions in the area. In Audy’s view, we need to revisit cities and look at them as spaces for experimentation, prototyping and new products and services. “We need spaces for the youth to develop new ideas. We’ll create the conditions for people to make their dreams come true and build a better future”, concludes he.

THE FUTURE IS A REALITY NOW

Although the title of this report contains the word future, I would like to make it clear that much of what we are talking about now is a reality. This is so because the world is changing at an unprecedented pace. The speed of the transition from the industrial revolution to digital revolution has been exponentially higher than that of the transition from the agricultural to the industrial revolution. The next two decades will be different from everything we have experienced over the last 100 years.

We are talking about multi-level disruption. Organizations working in networks rather than in a linear and hierarchical fashion. And a real technological revolution is around us. Futurists say that this disruption will speed up and change the way people live their lives in cities completely. It will also affect their relationships, patterns of collaboration, entrepreneurial attitude and learning styles. They also claim that the world today operates in a more open logic as individuals collaborate and, most importantly, as resources abound.

That is what we heard at PUCRS, earlier in May, when we opened our doors to the Vice President of HP Inc., Doug Warner, at Tecnopuc. The executive shared his views about the future of technology and how this



PHOTO: BRUNO TODESCHINI

RAFAEL PRIKLADNICKI

Director of the Science and Technology Park (Tecnopuc)

affects the strategic directions these professionals need to take.

That is not something new. But some of the things he said called my attention. Disruptive technologies are not always obvious. And there are many fallacious predictions to them. That was the case of, for instance, Marity Cooper, who invented the cell phone. In 1981 he anticipated that cell phones would not replace landlines. We know how the story ended. In the future, there is a lot of room for potential and development, disruptive innovation

and technology. The economy of the 21st century is guided by knowledge, entrepreneurship and innovation. And we must understand it and keep up with it otherwise we will lag behind.

So, what should we do to get ready for this new world? Are our professions going to come to an end? Yes! Robots will be regarded as workforce as a company's employees are today. Simple like that. Then, we can anticipate that some jobs will be absorbed by technology, but we cannot

anticipate which jobs will emerge. What we ought to understand is that technology is having us revisit some professions, some more than the others. Top models, telephone operators, drivers, assistants and secretaries (Have you heard about <https://claralabs.com/> or Google Duplex?). And son on and so forth. But technology is a means. And as some jobs will cease to exist, others will emerge.

We know that we need a different form of education for these new jobs.

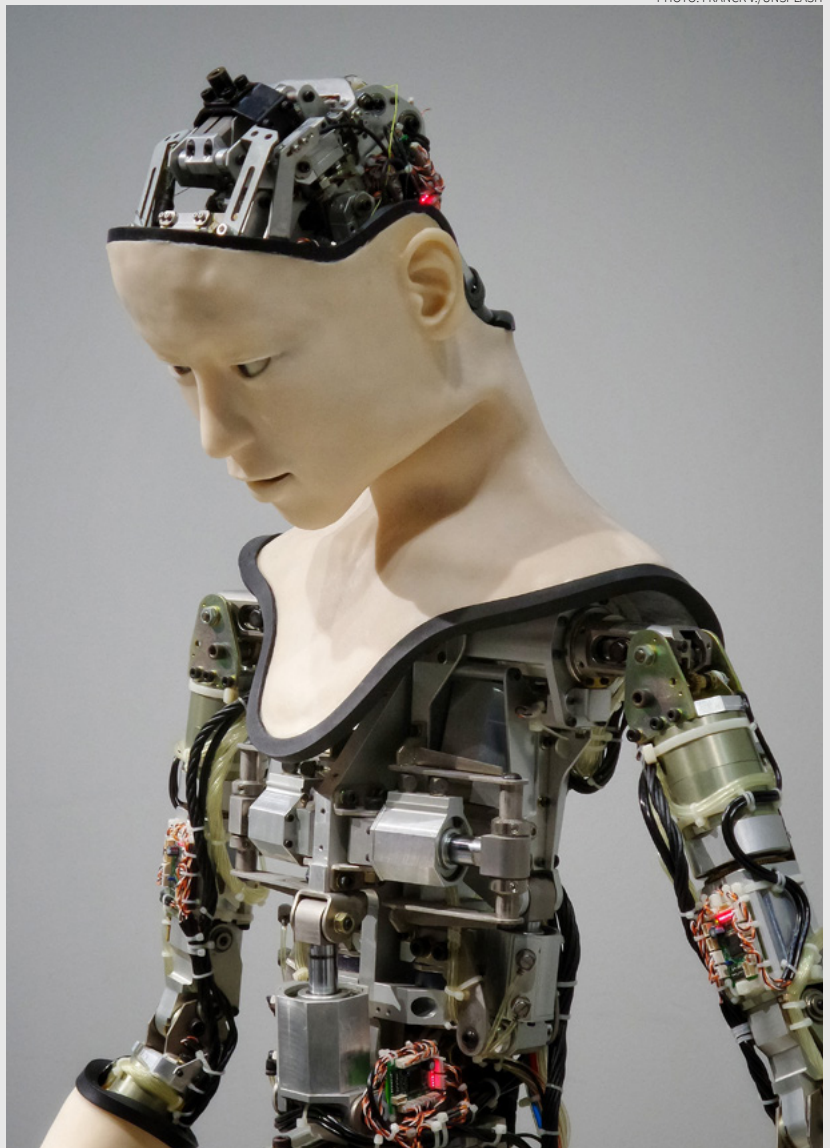
And these include the makers, the tutors, active methodologies and education through research. And also an approach more in line with the contemporary world. The robots that make us more concerned about things will actually make us more humane. They will make us work smartly and develop our intellectual potential. And we must be aware that we will be surrounded by technology. But bear in mind that in ten years from now, or even earlier, we will probably be discussing the impacts of this technology in everyone's professional practices.

So, what are we supposed to do today? I am going to make some suggestions: 1) Being exponential is key. We must seek continuous professional development. 2) Make mistakes. To make mistakes is to learn not to fail. In a few years' time, everyone will be working to learn rather than learning to work. 3) Creativity, empathy and courage are some of the skills of

the future. And 4) Start to envision your career, your professions under a different perspective. How? By looking at Law under the perspective of Artificial Intelligence; Psychology under the perspective of Engineering. Computer Science under the perspective of Sociology; Communications under the perspective of Business Administration; Medicine under the perspective of Philosophy! I saw this reality in 2016, when I shared the stage of the project *Fé e Cultura*

with my colleague Chico Kern, from the School of Humanities. As a School of Technology faculty, I saw him talk about the future of labor, under the technological and human perspective. Innovative and social. The conclusion we reached was that the world is increasingly diverse, connected and interdisciplinary. And the most important opportunities will emerge from that. And the most important professions will emerge from that. In a future that is now a reality. Good luck!

PHOTO: FRANCK V./UNSPASH



TEACHING SOCCER TO BOYS AND GIRLS

Orlando City and Sports Park sign a “deal” to bring sports and education together

One, two, three... Go! By giving commands in English, Orlando City Soccer School coaches are instructing their students in the training sessions at PUCRS’ Sports Park. Teaching soccer in a foreign language is one of the goals of the partnership between the US team and the University, which began in August. Orlando City Soccer School is making its presence felt at the Park. Footsteps of Kingston (the team’s mascot) can be seen all over the complex. The dressing rooms, which are predominantly purple, the administrative area and the soccer

fields are characteristic of the team that is playing on Brazilian soil.

Unlike the traditional soccer schools, it trains youth aged 3-21 to become authentic citizens as the curriculum includes ethics as one of the topics to be addressed. “We’re looking for students who wish to learn about soccer regardless of their qualifications. For the young kids it’s all about having fun while they learn. For the teenagers, it is an open door to a university”, says Pedro Viana, representative of Orlando City Soccer School. “It’s a unique concept since it brings innovation to soccer

and development of children and adolescents together. The active involvement of participants in an educational context is filled with moments of entertainment”, adds the Park’s coordinator, Márcio Müller.

SCIENTIFIC METHOD

The methodology and training schedule of Orlando City Soccer School were scientifically developed in the USA and are the same as those that are used in the first team. Teachers and coaches have been carefully selected and trained in view of the standards required for both the youth and professional leagues of the USA.

At the Park, the dedication of the kids, is a matter of pride for many families. Mateus, 6, who plays in the category Baby Fut fills her grandmother, Lizete da Rocha, with joy. “He is so excited that will he ask me all the time if he’s going to play. He’s loving the classes”, says she. Raquel Lima, is surprised about the structure and the teaching methods that are being used with her son, Ryan, 5. “He loves playing so much that he used some cleaning products to make a circuit at home”, adds she.



Coach Karla Loureiro and student Gustavo Saraiva



Mateus and Ryan can't control their excitement for the classes at the Sports Park

Girls will not be left out at Orlando City, too. Twin sisters Laura and Juliana Vieira, 12, who prefer to play as striker and defender, respectively, are very enthusiastic about the sessions. “It’s so cool. What I like most is to trade passes”, comments Laura.

BEYOND SPORT

Coach Karla Loureiro, a former professional player who has served for the Brazilian Team Under-17, claims that soccer goes beyond the soccer field. “We need to make it clear that we respect and understand the rules”, says she. Training sessions are very intense and girls love them. “They are soon to play at the University Stadium.”

Driven by the desire to study abroad, just like many other people, Gustavo Saraiva, 18, is a player in the category Performance. “I want to study Business Administration at the University of Colorado, with a focus on innovation and entrepreneurship. My performance so far will help me achieve this goal”, points he. The

coordinator of the Pedagogy program, Sônia Bonelli, adds that although many students are not planning to become professional athletes, sports add values and principles. “It’s essential for the cognitive, affective and psychomotor development. When they work on these areas, they become more creative and reflective and consequently develop other skills”, ponders she.



PHOTOS: CAMILA CUNHA

Twins Laura and Juliana

Structure and mobility

Orlando City Soccer School will sit an area equipped with six Football 7-a-side pitches with synthetic turf, one regular synthetic turf pitch, a FIFA optimal-size natural grass field and six covered multisport pitches for soccer classes. The program Soccer Camps will allow Physical Education, Health Care, Physiotherapy and Communications professionals working in Brazil to have opportunities to visit the structure of the team in Florida. “We also intend to take a group of girls to play soccer in the USA”, adds Viana. Several remarkable players of the national team of Brazil have played in Florida. Orlando Pride (girls soccer) is the current home of striker Marta, four-time elected best soccer player by FIFA. As for the boys, former players Kaká and Júlio Baptista have put on the purple jersey.

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