

Spin

*Boletim de Circulação Interna do Instituto de Física da UFRGS
Publicado às Sextas-feiras*

Edição Especial n° 3

Informes:

Prof^a. Wrana no IF: A Prof^a. Wrana Maria Panizzi estará visitando o Instituto de Física no dia 13 de junho, 3a. feira, das 15:30 às 16:30 horas, no Anfiteatro do IF, para discutir sua proposta de gestão como candidata ao cargo de Reitora no período 2000 - 2004.

Comitê UFRGS – Universidade Viva – 2000: O Comitê coordenador da campanha da Prof^a. Wrana (que se encontra licenciada do cargo) como candidata à Reitora está sediado no andar térreo da Escola Técnica de Comércio. Ramais: 5148 (Secretaria) e 5095 (Prof. Wrana). As contribuições para a campanha devem ser creditadas à Conta Corrente 3151212, do Banco do Brasil, Ag. 1899-6, em nome do Coordenador de Finanças, Prof. Carlos Alberto M. Callegaro. A “home-page” da campanha é www.wrana2000.ufrgs.br.

Em 8 de junho de 2000.

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O Provão de Física

Neste domingo, dia 11 de junho de 2000, das 13 às 17 horas, 1.685 estudantes de 86 cursos de Física do Brasil, incluindo 25 do nosso, estarão participando do Exame Nacional do Curso de Física.

A prova, com 4 horas de duração constará de 40 questões de múltipla escolha, abordando conteúdos gerais; e 5 questões discursivas, distintas para bacharelandos e licenciandos sobre conteúdos específicos. No dia da prova entregarão também a folha de respostas e um questionário pesquisa que lhes foi enviado pelo INEP, e no qual opinam sobre todos os aspectos do curso.

A COMGRAD vem dando um apoio todo especial aos estudantes, que estão tensos, naturalmente, mas confiantes. Em 1999 a COMGRAD realizou um Simulado do Provão com 13 estudantes que se graduaram em 1999/II. O Simulado envolveu 31 questões.

Avaliação do Curso de Física por uma Comissão de Especialistas

No segundo semestre, em data ainda a ser definida, o Curso de Física será avaliado por uma Comissão de 2 ou 3 físicos, durante dois dias, quanto às condições de oferta, envolvendo três aspectos:

- organização didático-pedagógica
- qualificação do corpo docente
- adequação das instalações gerais e específicas

A aprovação em 3 anos consecutivos na avaliação de oferta recredencia o Curso.

A Comissão de Graduação terá grande envolvimento direto durante a visita, mas os preparativos exigem intensa conscientização e participação de todos os professores e funcionários.

O relatório de avaliação, formatado em Access, será baseado em ampla coleta de dados que deverão estar disponíveis por ocasião da visita; e em entrevistas com professores, chefes, coordenadores e estudantes.

Está sendo organizado um roteiro de atividades, a serem realizados por diferentes grupos e pessoas, além de algumas reuniões gerais.

Combinados o ENC e o Relatório da Comissão de Especialistas com a avaliação nacional e internacional do Curso de Pós-Graduação, e mais a auto-avaliação e a avaliação externa realizada no âmbito do PAIUB, poderemos ter uma visão bastante precisa de como nos vemos, de como nos vêem e, quiçá, de como somos.

Visit Report of the Institute of Physics of the Federal University of Rio Grande do Sul (Porto Alegre)

Overall assessment : the program meets the international standards

Preliminary

The Institute of Physics of the Federal University of Rio Grande do Sul (Porto Alegre) has 60 faculty members, which are active in the graduate program 66 PhD students and 39 MSc students. The dominant activities are experimental physics, theoretical physics and astronomy. Theoretical physics (29 faculty members, 24 PhD students and 12 MSc students) and experimental physics (23 faculty members, 30 PhD students and 17 MSc students) have an approximately equal weight, whereas Astronomy has a smaller surface (7 faculty members, 10 PhD students and 7 MSc students).

This year, the Institute has a severe funding problem since the previous fundings from Finep and PadCT (IMRS/ year until last year) are no longer available. Three groups (Ion Implantation Superconductivity, and Astronomy) have already been accepted into Pronex, and two more groups (high pressure physics and theory) should be accepted soon. The current funding given by Pronex amounts to 20% of the funding of the previous years. As a result, a lot of time seems to be spent for looking for different sources of fundings of small amplitude, both for equipment and for travel expenses..

Organization of the visit

The visit was well organized and well prepared, although a full day did not allow us to visit all the research groups.

In a first stage we had a meeting with the director of the Institute and most of the faculty members, during which all the important general information was given to us, and where we could start an open discussion. Then, we visited the library and a few laboratories. Finally we had a fairly extensive discussion with a group of about 30 students.

Evaluation of the quality of the graduation program.

Our overall impression is that this quality is very good, and completely comparable to international standards, but that the program needs additional fundings. The students have the opportunity to use advanced equipment, and some of the students who are involved into experimental research seem to have built major parts of experiments locally. Astronomy students gain observational experience in Brazil and more rarely at foreign observatories.

The material support is also very good : they have access to a well equipped library, although some cuts will have to be made in a near future because of lack of funding. Also, new well equipped computer labs have been recently installed in Physics.

The average duration of a PhD is of 53 months which is close to the desired duration of 48 months, and of 25 months for MSc. (Since the grants for MSc are given for 2 years, there results a strong pressure on the students during their MSc work) There seems to be a very strong selection during the course of the studies : only 15% of the undergraduate students are able to graduate. The students told us that, this year, 30 of them wanted to start a MSc after their graduation but that only 11 of them were allowed to do so. One strong point is that all students have tutorial activities which are independent from their main research subjects. Some MSc courses are performed in very small groups, and the qualifying examination requires a bibliographical work.

During the discussion, the students asked for more courses and complained that they did not really know what were the selection criteria, since these criteria seemed to be changing from one year to the other, and were never clearly announced. Another problem is that, because of funding problems, the students have limited access to international conferences and to international or national research facilities.

Representation of faculty members in the national and international community

Examination of the resumes shows that nearly all the faculty members have performed research stays in foreign laboratories. The number of papers is large and a large fraction of them are published in top international journals. Several faculty members have been invited to international conferences and have contributed chapters in textbooks, and to serve as referees on major international allocation panels (e.g., in Astronomy).

Technological and scientific production of the faculty

On the average, the level of the research is surely comparable to the one performed in research institutes of other countries, with impressive results in many topics. The Institute has reached a critical mass in material science, where most of the current up to date topics (thin films, magnetic thin films, ceramics, sol-gel processes, high Tc superconductors, surface treatment by ion beams, high pressure physics) are addressed and where both synthesis and characterization are satisfactorily represented. From the list of publications, the level of the theoretical group is also very impressive.

The Astronomy Department is a small unit within the Institute. With 9 Faculty the Department falls in the class of small graduate programs. It has therefore wisely chosen to focus its efforts in specific aspects of extragalactic astronomy, Galactic studies, and stellar structure and evolution. Within their chosen areas most of the research is fully up to modern international standards, and is often carried out with international collaborators. For the future, the Astronomy Faculty are taking advantage of new observational capabilities in infrared techniques, and in extending their tradition of working with large archival databases; archives have the advantage of being freely available to the international scientific community, allowing the UFRS astronomers to carry out on modern data sets without the need for students to travel. Through careful choices of collaborations, many of which are international, and the use of LNA telescopes, the Astronomy Department is very productive, with about 3 major refereed publications per Faculty, the majority of which are in the top refereed journals. This

equals the average output of equivalent size (but usually more highly funded) astronomy programs in North America or Europe. The Astronomy Department has trained people who are now becoming leaders in their research fields; it is fully competitive with equivalent programs elsewhere in the world.

A significant fraction of the research in both Physics and Astronomy is performed in collaboration with national and foreign Institutes. For the astronomers, such collaborations are essential ingredients in gaining access to advanced research facilities, such as the large telescopes in Chile or observatories in space.

Among the outstanding facilities, we saw several ion accelerators. The very original and up to date aspects of this research concern metals, polymers, and also material characterization, (RBS, PIXE and ERDA). and we hope that this will be amplified in the future, with respect to ion implantation in semiconductors.

The various other experiments that we saw were equipped with modern equipment, and we were impressed by the technological capabilities of some groups who built their own equipment. Our impression was that the labs were very busy, with many students involved in the experiments. The Astronomy Department relies on computers. Its internal network of workstations and microcomputers is adequate, but external internet connections are not up to modern standards.

The Astronomy program also lacks any substantial instrumental enterprise. This is not surprising given the size of the group, but it is an area to consider where expansion to become possible in the future.

The interactions between the various professors seem satisfactory, although a closer collaboration between experimentalists and theoreticians, especially in magnetism, may appear desirable.

Several faculty members are strongly concerned about developing a collaboration with the industry, which is indeed desirable in view of the research themes. Although the amount of existing collaborations is still insufficient, some success has been reached, mostly in optics.

Brasilia March 30, 2000

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