

## Imã rio de janeiro

Durante a Semana Nacional de Nanotecnologia e Nanociências (SNNN) 2025, realizada em conjunto com a 17ª Semana de Nanotecnologia, ... Durante a Semana de Nanotecnologia, ... Article originally written by professor Carlos A. Hemais and published in 2004 in the magazine "Polímeros: Ciência e Tecnologia" honoring Professor Eloisa B. Mano, on the occasion of her eighty years. "For me, the name of Professor Eloisa Biasotto Mano intertwines with the history of Science and Technology of Polymers in Brazil, for her more than 50 years of pioneering work, completely dedicated, full time, to the development of this area in the country. After a daily coexistence of 36 years, I consider myself capable of giving a testimony about her professor Eloisa B. Mano Trajectory Professor Eloisa was born in Rio de Janeiro, on October 24, 1924, where she completed her undergraduate studies, graduating in Industrial Chemistry in 1947 and in Chemical Engineering in 1955, at Escola Nacional de Química da Universidade Federal do Rio de Janeiro. In 1961, Miss Mano obtained her Livre Docência (Became Full Professor) and Doctorate degree from Universidade do Brasil and, soon after, she competed for the Chair of Organic Chemistry at Escola Nacional de Química, being sworn in as Full Professor Eloisa's life forever, but they started to become an integral part of her existence from her employment as Chemist-Technologist at the National Institute of Technology, in 1954, at the Rubber and Plastics Laboratory, Aware of the need for a scientific deepening of her knowledge. Professor Eloisa went to conduct her training, in 1956, in Polymer Science at the University of Illinois, USA, under the guidance of the legendary Professor Carl S. Marvel, one of the world pioneers in the exploration of that science. She remained in Professor Marvel's laboratories for about a year and during this period she developed a strong friendship with the master, as well as living with several students of the eminent professor. He, like her, would occupy prominent places in the advancement of this science , which was beginning to become an important branch of scientific research. She complemented her studies in polymers at the University of Birmingham, England, under the guidance of Professor J.C. Bevington, in 1964. From 1962, as Professor of Organic Chemistry, she introduced in her Chair of laboratory classes practices involving polymerization reactions for the first time in the country. She began to awaken in her students the interest in plastics and rubbers since undergraduate studies. Soon afterwards she was already guiding undergraduate studies. Soon afterwards she was already guiding undergraduate studies. This was essential to encourage her to present a project to BNDE, aimed at creating a unique research group in the country, specialized in studying various aspects of the polymer sciences. After normal bureaucratic procedures, the project was finally approved and, on October 28, 1968, the Polymers Group was created, with BNDE funding (BNDE-FUNTEC 51 Project), with duration of four years, entitled "Chemical modifications of organic polymers". This project was renewed by BNDE for the origin of the current Instituto de Macromoléculas da Universidade Federal do Rio de Janeiro. The founding of the Polymer Group (GP) In 1968, the Polymers Group, or GP as we called it, was formed by Professor Eloisa, surrounded by her first 9 Masters students, among which were Professor Fernanda Coutinho. As well as a person responsible for all administrative management -finance of the project, I was at the time a young student starting at the university and who, later on, would become another teacher of the house. The beginning of a lot of struggle against the constant lack of products and equipment in the laboratories, as well as updated bibliographic material, did not diminish the fiber of Professor Eloisa. She always sought to create extremely creative solutions to overcome situations of great difficulties. Around 1970, an agreement was signed between CNPq and the National Academy of Sciences (NAS), in the USA, aiming to develop several aspects of Chemistry in Brazil. The program consisted of allocating an American responsible and a Brazilian responsible for each project. Together, they would try to outline strategies for the development of the area in the country. The program also provided investments of CNPq funds and a credit provided by NAS, in dollars, for the acquisition of equipment and special reagents in the United States. In addition, a junior researcher from the USA was expected to stay for around 3 to 4 years working on the project in Brazil. Among the projects awarded by the program was our research in polymers, which, under the command of Professor Eloisa, found an American "partner" in the person of Professor Eloisa, found an American "partner" in the person of Professor Eloisa, found an American "partner" in the person of Professor Eloisa, found an American "partner" in the person of Professor Eloisa, found an American "partner" in the person of Professor Eloisa already had one factor in common, since both had been students of Professor Eloisa, found an American "partner" in the person of Marvel, so the partnership was most successful. Professor Overberger began to come to Brazil regularly, at least once a year, and maintained this regularity of visits, even after the end of the project, until his health prevented him from making long trips in the mid-1980s. of the group, since, as Professor Eloisa said, at the time there were not many specialists in polymers in Brazil and this contributed to the exchange of ideas and conversations about research in the field, and became an ideal interlocutor, always ready to listen and share teachings about the research that was underway in the group. The group grew and at the beginning of the 70s. Professors Ailton S. Gomes and David Tabak returned from the USA, after completing their doctorates and began to supervise research. Later, Professor Raul Quijada joined the group, who also began to share the responsibility for supervising research. In a short time, the group, which was provisionally allocated to the Department of Organic Chemistry at Instituto de Química at UFRJ, started to have an enviable production and its contribution, in terms of works presented at congresses and in terms of works presented at congresses and in terms of published articles, in addition the defended theses, was among the most important within that department. The creation of the Macromolecules Institute Due to the solid growth of the group and due to its consistent scientific production, Professor Eloisa realized that if they did not become independent, they would no longer be able to grow and consolidate themselves as a center of excellence in conducting high level research in the field of polymers in Brazil. There were limitations on funds, spaces, equipment, allied to the restrictions of different orders that constrained the normal functioning of the research group. The decision was then made to start a project to transform that research group into an autonomous, multidisciplinary institute, totally focused on polymer studies, along the lines of existing institutes in the main American and European universities. The vision of Professor Eloisa, which seemed to originate from a distant dream, became reality and, after severe struggles, explanations of reasons, meetings and a lot of political discussion, approval was finally obtained, by UFRJ, for the creation of the Macromolecule Nucleus, in 1972, with provisional existence, which became Instituto de Macromeléculas - IMA, in 1977. The multidisciplinarity envisioned by Professor Eloisa made IMA stand out from any other research group in the country. engineers, mechanical engineers, economists and administrators would live together, among others. All of them focused on the study of polymers within their specialties. This was achieved, despite some limitations resulting from the lack of personnel in all desirable areas. Today, at IMA, researchers from different backgrounds are researching the state of the art of polymer science and technology, as well as aspects of the polymers and patents on polymers. The latter aspects, being developed by the Technological Management Group, are those which I coordinate at the institution. Within this spirit of multidisciplinarity, in 1971, the then GP had its postgraduate course (Master and Doctorate) in "Polymer Science and Technology" recognized by UFRJ's top management, which started to become one of the other specialties officially offered by the university. Once the research group was made independent, a new fact was created: where to lodge it? Professor Eloisa then presented a project to FINEP, with a long explanation of reasons, demonstrating the importance of the enterprise and emphasizing the need to build a building to house the new UFRJ unit, which was already born with international support and scientific production- growing technological change. In this new struggle, the support received from renowned foreign researchers was important, among which we highlight Professor Charles Overberger, from the University of Aberdeen, United Kingdom, and Professor Ernst Klesper, from the University of Aberdeen, United Kingdom, and Professor Ernst Klesper, from University of Aberdeen, United Kingdom, and Professor Ernst Klesper, from the University of Aberdeen, United Kingdom, and Professor Ernst Klesper, from University of Aberdeen, United Kingdom, and Professor Ernst Klesper, from University of Aberdeen, United Kingdom, and Professor Ernst Klesper, from University of Aberdeen, United Kingdom, and Professor Ernst Klesper, from University of Aberdeen, United Kingdom, and Professor Ernst Klesper, from University of Aberdeen, United Kingdom, and Professor Ernst Klesper, from University of Aberdeen, United Kingdom, and Professor Ernst Klesper, from University of Aberdeen, United Kingdom, and Professor Ernst Klesper, from University of Aberdeen, United Kingdom, and Professor Ernst Klesper, from University of Aberdeen, United Kingdom, and Professor Ernst Klesper, from University of Aberdeen, United Kingdom, and Professor Ernst Klesper, from University of Aberdeen, United Kingdom, and Professor Ernst Klesper, from University of Aberdeen, United Kingdom, and Professor Ernst Klesper, from University of Aberdeen, United Kingdom, and Professor Ernst Klesper, from University of Aberdeen, United Kingdom, and Professor Ernst Klesper, from University of Aberdeen, United Kingdom, and Professor Ernst Klesper, from University of Aberdeen, United Kingdom, and Professor Ernst Klesper, from University of Aberdeen, United Kingdom, and Professor Ernst Klesper, from University of Aberdeen, United Kingdom, and Professor Ernst Klesper, from University of Aberdeen, United Kingdom, and Professor Eloisa, prepare the Institute's Master Plan, containing the main goals to be achieved in the long term. What are we? Where do we want to go? What are our strengths? And the weakness? What size do we want to be? What are our opportunities and what can threat us? After these questions were answered by Professor Eloisa, supported by international consultants, the Master Plan was concluded, which served as a basis for requests for funds from FINEP for the construction of the IMA building, on the grounds of the University City of Ilha do Fundão, Rio de Janeiro. After comings and goings, budget cuts, project renewals, very long bureaucratic procedures, it was, finally, the building pre-inaugurated in November 1978, with the realization of the I SEMPOL Brazil-United States and, finally, in mid-1979, IMA started to operate entirely in the new facilities, which were not yet completely finished - which was only to happen many years later, due to the low amount of money obtained for the works. International recognition At the beginning of the 1970s, the group was already being consolidated, but it needed recognition at an international level, which would support the lines of research underway at the institution. Then, to make possible the exchange ideas with the greatest specialists from all over the world. As it was practically impossible to have all members of the group trained in the best foreign research centers, Professor Eloisa chose to develop a project for periodic international centers to Brazil. The point was to make them available for a program of intense exchange of ideas with our professors and researchers. Thus, Professor Eloisa, after a fierce battle, managed to bring to Rio de Janeiro the IUPAC, International Symposium on Macromolecules, in 1974, bringing together more than 700 participants, of which more than 100 foreigners, from 35 countries. This was the first step of a program that involved, from 1978, biannual meetings with researchers from a certain country, called SEMPOL (Polymer Seminars). These meetings lasted for ten years and were held with researchers from the United States (I SEMPOL), Argentina, Germany, Japan, Chile, and France. SEMPOLs brought the much needed international visibility to IMA, in addition to strengthening the relationship between our researchers and the most important researchers in the field of polymers in those countries. As a result of these meetings, theses carried out under joint guidance, international researchers in the field of polymers in those countries. As a result of these meetings, theses carried out under joint guidance, international research agreements, which extended over many years, and the arrival of a foreign professor to work at IMA can be counted. In this case I speak of Professor Chiaki Azuma, from Japan, who remained in the group for about three years guiding research and, upon returning to his country, continued to collaborate with IMA, through joint guidance of theses and visits to IMA every two years old. All these victories were the result of a lot of determination and a lot of struggle by Professor Eloisa, with all the support of the research group she led. In times of battle, the presence of a very strong and charismatic leadership made difference in the life of a research group that had the intention of becoming an autonomous institute, against the wishes of many university interests, who saw threats instead of opportunities. Today IMA is the only institute in Latin America totally focused on the study of polymers, in a multidisciplinary scope. Institute of Macromolecules Professor Eloisa, founder of Grupo de Polímeros, was director of NUMA and after IMA, since its creation in 1972, until 1994, when, due to compulsory retirement, the master left the direction to become Professor Emeritus at UFRJ. Honor granted not too many researchers, in recognition of their work done in favor of the development of science and technology of polymers. Also, on the occasion of Professor Eloisa's retirement, based on an initiative by the teaching and administrative staff of IMA, the UFRJ University Council agreed to change the name of the institution to Instituto de Macromoléculas Professora Eloisa Mano. On this occasion, the Polymer Bulletin magazine (USA) launched a special issue, entirely dedicated to Professor Eloisa Biasotto Mano, on the occasion of her 70th birthday (vol 34, nº 5/6, 1995). Retirement did not change the routine of the experienced master, who never ceases to come daily to IMA and actively participate in the life of the institution. Since 1995, Professor Eloisa decided to consolidate her vast knowledge, and since then she started a project to write an average of one book per year, with three works being written simultaneously at the moment. Thus, there are now over 17 books written by the master, who, too, does not neglect her activities as a thesis advisor and author or co-author of scientific articles, which are published in journals, more than 300 communications presented at congresses, holds 6 patents of invention; in addition, she supervised more than 50 Master's and Doctoral theses. Holder of several national and international awards, in 2000, Professor Eloisa was awarded by the President of the Republic Fernando Henrique Cardoso with the Grand Cross of the National Order of Scientific Merit, area of Chemistry. Naturally, this relevant achievement made IMA community very proud. In addition, in May 2003, the Associação Brasileira de Polímeros created the Professora Eloisa Mano Award for the best work in the field of polymers. His former students at the National School of Chemistry, at the School of Chemistry at UFRI, at the Institute of Chemistry at UFRI or at IMA are countless and many have occupied prominent place in the Brazilian Petrochemical Industry, such as Otto Perrone (ex-President of Rio Polymers), Amilcar Pereira da Silva (former INPI Director). I would also like to recall the various initiatives taken by Professor Eloisa to bring t IMA community together socially. The famous Christmas parties, which for many years brought the families of all to IMA, the members of the institution, from teachers to students and staff technical and administrative. The master personally participated in the arrangements of these parties are a very close proximity between the elements constituents of the institution, making them reinforce the spirit of the institution, so emphasized by the dear teacher. The Juninas parties , that she organized on the ground in front of typical festivals of the middle of the year. This included the construction of tents, the prizes, the typical food, appropriate music, jokes, a fake wedding ceremony with fiancés and delegates. And countless dinners also organized at her home: many times with more than one hundred guests, with the most varied excuses to be given: from homage to a foreign teacher to a commemoration of a title received. And on these festive occasions, she has always been the striking collaboration of her sister. Rachel Mano, who brought her touch of finesse and elegance in all social activities. In these 36 years of living together. I still consider myself today learning new things each day with the experienced master. From the first contact, I was surprised by Professor Eloisa. When I was invited by her to work in the research group that was forming, I was then a young man, a university student, inexperienced professionally, and told her frankly: "I have no experience in the service, but I will try". AND she replied: "I don't have it either, let's learn together!". This is why Professor Eloisa Mano, who this year, in her fullness intellectual, in its full professional vigor, with many plans to carry through for the years ahead, completes its eighty years, and deserves a special issue of Revista de Polímeros : Ciência e Tecnologia. Congratulations to Professor Eloisa and congratulations to Revista de Polímeros for the initiative to carry out this fair tribute. This institute, was declared as emeritus professor, the institution's name changed after her, becoming thus "Institute of Macromolecules Professora Eloisa Mano (IMA- UFR])". It is considered a reference in the field of Polymer Science and Technology in Brazil and Latin America. It is nationally and internationally recognized by its consolidated Stricto Sensu graduation program 7, which achieved the "Concept 7", maximum qualification degree conferred by national agency CAPES. Since 1977, the graduation program has formed more than 1000 Masters and Doctors. The Institute also participates in the structuration of several undergraduate programs as well as it has strong presence in scientific initiation programs, besides that, IMA occupies a prominent place among the four Units responsible for the implementation of the UFRI Nanotechnology Undergraduate program, and has been strongly acting in this area. Aware of the need to transfer academic knowledge to society, IMA also counts on a graduate "Lato Sensu" program, which since 2000 has already gualified approximately 400 professionals in the Specialization in Plastics and Rubber Processing, who stand out in more than 250 companies and institutions around the country. The Extension courses of Technical Level in the area of Polymers and Teacher Training in Polymer Education and the Provision of Services to industry complete the profile of the IMA Interactive Institute, which includes the Tripod of Teaching, Research and Extension. The IMA-UFRJ is an institution of inter and multidisciplinary character, whose main area of knowledge of Science and Technology of Polymers is classified by CAPES in the category of Engineering II. IMA has worked in the areas of Engineering (Chemistry, Production, Mechanics, Materials, etc.), Pharmaceutical, Chemistry, Biomedical, Nanotechnology and Food, among others, representing an immense diversity of interest in researches and projects, offering unrivalled opportunities for the most complete training of a professional. Descrição Geral Por favor leia a descrição com atenção! Lindo Imã Souvenir Rio de Janeiro Brasil, uma ótima opção para presentear alguém ou a si mesmo(a)! Descubra e explore o Rio de Janeiro através dos nossos chaveiros emborrachados. Com detalhes vibrantes e durabilidade garantida, nossos chaveiros emborrachados. Com detalhes vibrantes e durabilidade garantida, nossos chaveiros emborrachados. Personalize suas chaves ou presenteie amigos e familiares com esta coleção única que celebra a diversidade e a beleza desta cidade fascinante. Especificações do Imã: Material: Emborrachados Região: Rio de Janeiro Formas de Pagamento Avaliações