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A tribute to Francisco (Paco) Rodríguez-Reinoso (1941-2020)

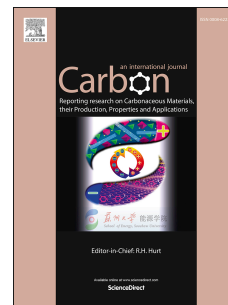
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## **A tribute to Francisco (Paco) Rodríguez-Reinoso (1941-2020)**

**Peter A. Throver (Penn State University, USA and Editor-in-Chief Emeritus, CARBON)**

If you had told me six months ago that I would now be writing this, I would have said that you were crazy! When I learned the sad news of Paco's death on August 25<sup>th</sup> and was asked to co-ordinate this tribute, it was only then that it occurred to me that I must have known him longer than any other person in the carbon community. In 1969 I had left my appointment with the United Kingdom Atomic Energy Authority, AERE Harwell, and assumed a position as Associate Professor at The Pennsylvania State University to work with Phil Walker and his group in the newly-formed Department of Materials Science and Engineering. The department was divided into four sections, one of which was Carbon and Polymer Science, and this was to be my home for the following 29 years even though Polymer Science was soon to become a section in its own right. Soon after my arrival Phil told me that a new post-doctoral student was arriving in the new year and delegated the responsibility to me. It was Paco. It turned out that Paco had already been a post-doc at the University of Bristol so was only just over three years younger than I. We immediately became good friends as well as colleagues, a friendship that was to last for over 50 years.

In the 21 months that he was at Penn State we combined Paco's expertise in oxidation with mine in electron microscopy to study the oxidation of highly oriented pyrolytic graphite and two papers were published in Carbon as a result of that collaboration. When Paco returned to Spain to take a professorial appointment at the University of Granada we remained in close contact even though our fields of interest diverged, with Paco concentrating on adsorption science. He later (1981) moved to the new University of Alicante as a full Professor, where he remained until his retirement in 2011. His international reputation in this field is mentioned by several other contributors to this tribute and I shall not attempt to discuss it here, except to say that when it became clear that the Carbon journal needed an editor with this expertise and also to handle the increasing number of submissions from Spain, I appointed him as an Editor of Carbon in 1991, a position he occupied until we both retired as Editors in 2012.

The Editor of a scientific journal not only needs to have a comprehensive knowledge of the subject, but also needs to be organised, and Paco was certainly that. His organisation of the annual Carbon Conference in Granada in 1994 was a superb demonstration of this ability. The only thing he could not control was the weather! But even that worked to his advantage because few people wandered away from the air-conditioned conference hall into the outside temperatures that hovered around 40 °C.

We usually had dinner together when we met at the annual carbon conferences and I always tried to visit him in Granada or Alicante when in Europe. I well remember the conference in Bordeaux in 1984 when we were both there without our wives and decided to treat ourselves to dinner at a Michelin star restaurant on one of the free evenings. The restaurant, Clavel, is no longer there and I have no memory of the food we ate, but the highlight was sitting near a man who was obviously a restaurant critic dining alone. With each course he had a half bottle of an appropriate wine and brought the wine and the plates of food to his nose to evaluate their scent before tasting. He made a big display of it and made copious notes. When the main course was served, he complained to the sommelier that the wine was too warm. After a protracted argument he pulled out a wine thermometer and measured the temperature to prove his point. This was our entertainment for the evening, and we never forgot it. Until then I was not aware that Paco's father was a wine merchant, and he therefore knew much more about wine, especially Spanish, than I did. His knowledge of Spanish wine, and his love of it, was later demonstrated at the Carbon Journal Editors' dinner during the Oviedo conference in 2003 when he arranged for good wines from all of the major Spanish wine-growing regions to be served throughout the evening. I often wondered how the Elsevier representative managed to cover the bill with their expenses.

After I retired in 1998 and returned to the UK, my wife Carol and I tried to arrange two visits to Alicante each year, during which we always met with Paco and Angela, as we know her, for a meal and a few hours discussing the state of the carbon world, and anything else that was on our minds. Paco made sure the wine flowed freely, and to surprise us often served a bottle that he had found in Mercadona (a local supermarket) for 3 €! Our last two visits were cancelled because of (a) Carol breaking a leg, and (b) Covid-19, but we had planned to meet this October. Sadly, this meeting can no longer take place.

Paco told me of his illness as soon as he got the bad news. He had found that lying on one side to sleep was painful, but the doctors apparently dismissed it. He told me in March that he eventually had to insist on a scan and that was when the inoperable cancer in his lung was discovered, but he was hopeful that the treatment recommended would work. The doctors had told him that they had had good success with this treatment for men of his age. However, a scan in mid-July showed that it had had no effect and he was to start a course of chemo- and immunotherapy at the end of the month. I was absolutely certain that he would still be there for our visit in October, and the news of his death came as a great shock.

Paco was a great scientist with a world-wide reputation for excellence, thoroughness and fairness. During his career he participated in international projects with universities and research centres in the United Kingdom, France, Germany, Portugal, Chile, Brazil, Japan, Sweden, Russia, Denmark, Ukraine and the USA. He was also a great family man and is survived by his wife, five children and six grandchildren. Last October (2019) he saw his youngest daughter married, and the family photograph taken at that time shows Paco as I want to remember him – a wonderful fun-loving family man as well as a respected carbon scientist.



Photo of Paco's family taken at his younger daughter's wedding in Alicante, October 2019.

**Ángel Linares-Solano and Concepción Salinas-Martínez de Lecea (University of Alicante, Spain)**

It is truly an honour and a pleasure to contribute to this eulogy to Professor Francisco Rodríguez-Reinoso (Paco) with whom we have been fortunate to share so much since 1971. Paco was a well-known scientist who unfortunately passed away in Alicante (Spain) August 25<sup>th</sup>, 2020, after a short illness. His very intense teaching and research duties were developed mainly in two Spanish Universities (Granada and Alicante) but he also reached many foreign universities and research centres.

**University of Granada (1964-1981)**

Paco received his BSc in Chemistry in 1964 and his PhD in Chemistry under the supervision of Prof Juan de Dios López-González in 1967. During the period 1964-67, he initiated and developed his teaching activities as *“Profesor Ayudante”* and *“Profesor Adjunto Interino”*. He then moved abroad, for two postdoctoral stays, at the University of Bristol (UK, 1968-69) with Prof Douglas H. Everett and at Penn State University (USA, 1970-1971) with Profs. Phillip L. Walker and Peter A. Thrower. After these stays, he returned to Granada, to the Department of Inorganic Chemistry in 1971.

At that time, Ángel Linares was starting his PhD thesis work with Prof López-González and Prof Bañares-Muñoz, and he met Paco. Due to Prof Bañares moving to the University of Salamanca, Paco took charge of the co-direction of Ángel's PhD Thesis, as he also did with several other doctoral students. During the ten years he stayed at Granada, he was able to codirect ten PhD Theses and occupied the following teaching positions: *“Profesor Adjunto Interino”*, *“Profesor Agregado Interino”*, *“Profesor Agregado”* and in November 1981 he moved to the University of Alicante, as *“Catedrático”* (Full Professor).

Of the above mentioned ten PhD Thesis researchers, six extended their research with Paco over many years and have always being in close contact with him. Their theses were defended in 1974 (Ángel Linares), 1975 (Carlos Moreno), 1979 (Concepción Salinas (Concha)), 1980 (José Rivera) and 1981 (José Miguel Martín and Miguel Molina). Two of them stayed in Granada (Carlos and José) and the other four moved to Alicante with Paco.

**University of Alicante (1981-2020)**

Paco was always very active and competent as Full Professor, Vice-Rector of Research and Head of Department, even after his retirement in 2011. He stayed at the University of Alicante until his death, continuing his intense research as Emeritus Professor and Honorary Professor. During this period, two relevant endearing events should be mentioned.

First is his retirement in 2011. He was 70 years old when he retired and received a well-deserved retirement tribute. Prof Miguel Molina, coordinator of the event, invited Ángel to be one of the four speakers, assigning to him the teaching and research period 1972-1982.

The importance of family in Paco's life was highlighted and his professional activity was mentioned: his quality as a thesis director, teacher and researcher, his friendship as a companion on trips and conferences, his willingness to help others in difficult times, and the prestigious scientific awards he received over the years. Among others, he was named *“Member of the Granada Academy of Sciences”* in 1998, and was presented with the *“Japan Lifetime Achievement Award for Carbon”* in 2008 and the *“SGL George Skakel Memorial Award”* of the American Carbon Society in 2010.





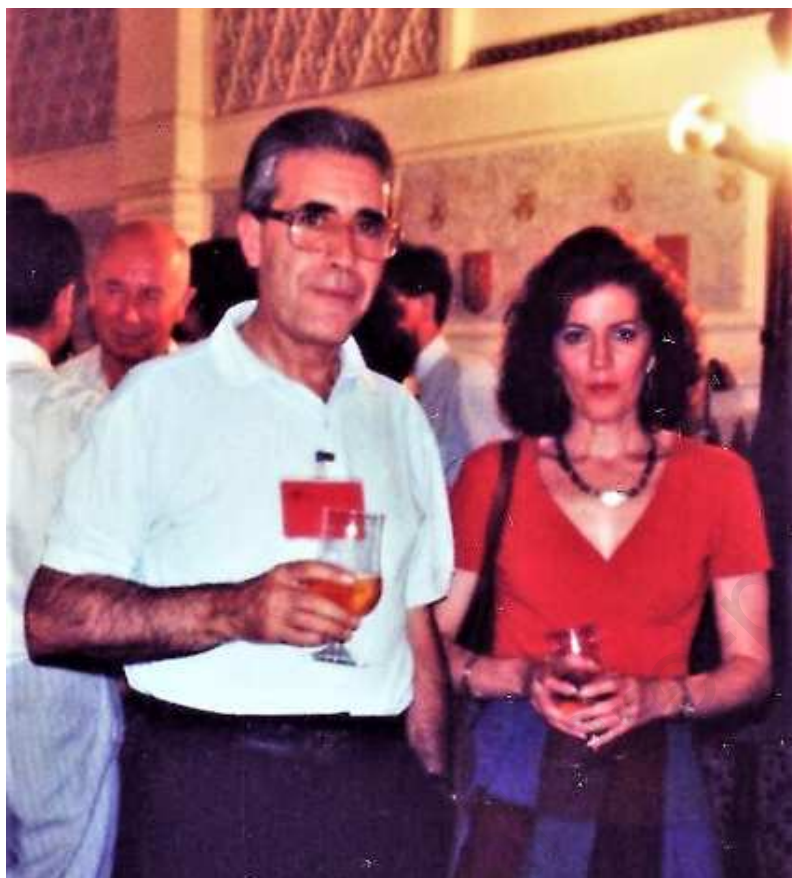
Photo taken at Paco's retirement party in 2011 – left to right, José, Carlos, Paco, Ángel, Concha and Miguel

Second is his tribute to Prof. J.D. López-González (1924-2015) written in 2015 and published in CARBON (Carbon 93 (2015) 997-998). Many sentences of this tribute could also have been written as a tribute to Paco because they are very valid. We have extracted two sentences “...*more important was his creation of the “School of Granada” in inorganic chemistry. He was an excellent leader, able to take care of all his Ph.D. students...*” and “*The fact that during his more than sixty years devoted to teaching and research he was able to place over forty pupils in academic positions in Spain, and that some of them have been extremely successful in developing carbon science in Spain. His lifetime's effort was to reach this objective and his legacy will remain for generations...*” It is fair to say that Paco was an example of such a generation. His research in carbon science has expanded the legacy of Prof. López-González, not only in Spain but all over the world and in this sense Paco had his own “School of Alicante”.

Paco's legacy is very important. His activity as a professor and his contributions as a researcher can be analysed through his Curriculum Vitae or through the available websites. He worked in different research areas and hence published in many well-known journals. We do not intend to include anything new about his intense teaching and research contribution. Nevertheless, to highlight his importance in the carbon science, we must point out that the number of his publications in the CARBON Journal was more than 90! To this already large number, we should add that more than 140 other papers have been published in this journal by his disciples (Carlos, Ángel, Concha, José, Jose Miguel and Miguel). This passion for the Carbon Journal, that Paco instilled in us all, will remain an enduring legacy of his work.

Reflecting over our many years with Paco, we know that we shared our lives with a great man who was very successful in taking care of his family, his friends and his colleagues, as well as his teaching and research activities. In addition and above all, we want to point out that what we admire most in Paco's life is the affection, kindness and dedication he had for his beloved wife, Angelines.

May he rest in peace with God



Paco with his wife Angelines at Carbon '94 in Granada, Spain

### **Ljubisa R. Radovic (Penn State University, USA and University of Concepción, Chile)**

Professor Francisco Rodríguez-Reinoso and I came to Penn State University, which at the time was the 'Mecca' of carbon research, some ten years apart: he as a postdoc with Peter Thrower in the early seventies and I as a PhD student with Phil Walker. Although our sojourns did not overlap, quickly thereafter we became close friends, stimulated by the unique *esprit de corps* in the Fuel Science Program within the Department of Materials Science and Engineering. Over the past three decades, my family and I have cherished our close contacts with Paco, Angelines and their family: our children went to school in El Campello when we stayed a few months in their summer home, and their daughters Angie and Clarita spent some time with us in State College to brush up on their English. Every year we looked forward to receiving their status-report Christmas cards and we fondly remember their generous gifts. (Rioja wine and *turrone*s from Alicante were and still are my favorites!) This synergistic mix of business and pleasure, quite common among the international carbon community and so laudable in so many ways, culminated in a very stimulating exchange of ideas and close collaboration in several research areas. One that I will always remember developed spontaneously when I was a summer visitor at the University of Alicante, working with Angel Linares and Concepción Salinas: I had been developing a strong interest in carbon as a catalyst support and at the time I was studying a review paper that Paco had published on this subject. So I invited him to join me in preparing a more comprehensive and critical review for *Chemistry and Physics of Carbon* (CPC); as we went through several drafts, we learned a lot from each other and were able to tie up

some very important loose ends in the process. The end result was a revealing and well received publication. But the follow-up was even more remarkable: Paco's rekindled enthusiasm for the subject led him to summarize the key issues and findings in a review paper for the *Carbon* journal (based on his plenary lecture at *Carbon1997* at Penn State) and this turned out to be, by far, his most 'popular' publication (with close to 1300 citations, compared to some 400 for our joint review paper in CPC). This episode best illustrates Paco's multifaceted interests, which complemented his authoritative contributions to the tailoring of porous structure and his profound understanding of the narrow micropores in carbon materials. Paco also had supreme organizational skills and it has been a pleasure to work with him on helping to develop carbon science and strengthening the research community in many countries of South and Central America; these efforts saw their coronation at *Carbon2013* in Rio de Janeiro when the Latin American Association of Carbon Societies was formed. In the history of carbon research, as well as in the hearts and minds of his many friends and colleagues in the international carbon community, Paco will always occupy a very special and most distinguished place. He left us suddenly and so prematurely; we miss him sorely and dearly!

**Juan M. D. Tascón (Institute of Carbon Science and Technology, INCAR-CSIC, Oviedo, Spain)**

I first met Dr. Francisco Rodríguez-Reinoso in 1979, when he was a bright Associate Professor at the University of Granada and I was a Ph.D. student who did not yet dare call him Paco. I attended a summer school hosted by his mentor, Prof. Juan de Dios López-González, a true gentleman like Paco. Paco's lecture was one of the few I attended with enthusiasm. Certain talks dealt with topics so far from my chemical background, that I did not even understand what their titles meant! Thus, I confess that I spent the corresponding time exploring the magnificent city of Granada, so full of exotic charm. I hope Paco, from the place where he is now, forgives my absence from these lectures since Granada, his native city, was one of his great loves. Fifteen years later, Paco, as President of the recently created Spanish Carbon Group, chaired the organizing committee of the 1994 Carbon Conference, held in Granada. At that time, there was an almost complete attendance of delegates to the scientific sessions. The ambient temperature in those days of July 1994 was close to 40 °C, and the Granada Conference Center was one of the few secure places where one could stay without risk of melting, or even carbonizing.

Alicante (or Alacant, in the Valencian language) is another place that became familiar to carbon scientists thanks to Paco's efforts. He arrived there in 1981 as a Full Professor of a new University that had been created two years earlier. He and other dedicated scientists contributed greatly to put the city on the map of science. There, Paco substituted almond shells, an abundant agricultural by-product in the Valencian Community, for the olive stones (produced in considerable quantities in Granada and other parts of Andalusia) he had researched since his Ph.D. thesis, as an inexpensive raw material for carbons with controlled porosity. Paco partnered with several other leading European scientists to organize a series of symposia on the Characterization of Porous Solids. Some of these symposia took place in Alicante and attracted a plethora of researchers. Thanks to this and other efforts, Alicante has become a focal point for carbon science, as Penn State has been for many years, one of the two places where Paco stayed as a postdoc (the other was Bristol).

The mention of Penn State reminds me that Paco worked there (with Profs. Philip L. Walker, Jr. and Peter A. Thrower) on the oxidation reactivity of highly oriented pyrolytic graphite. We tend to associate Paco with adsorption and catalysis by porous materials such as activated carbons, a wide area in which he obtained worldwide recognition; however, he also worked on other topics and had a comprehensive vision of the entire field of carbon science. Rather than giving a lot of data about Paco's life and achievements I prefer to summarize my feelings saying that his work and leadership have placed carbon science in Spain, and in several Latin American countries, to which he generously devoted much time and effort, in a rather honorable position, at least compared with other

branches of science. Scientists from Spanish-speaking countries felt extremely proud as we saw him receiving important prizes in places such as Clemson and Nagano; or (forgive me for being a little bit frivolous) when we saw him and his wife, Angelines contributing elegance and glamour at social events at Carbon and other conferences.

I will now focus on our relationship with the Carbon journal. Paco was a member of the so-called Honorary Editorial Advisory Board for Carbon between 1984 and 1990. Then, as indicated in an editorial published in 1991 in Carbon to welcome him on board, "... the editors felt the time had come, because of the number of papers now being received from Spain, to have a full-time Associate Editor in that country." Needless to say, many of these papers had been authored by Paco's team. In the ensuing years I remember his courtesy in calling me by phone either to announce that I was going to receive from him a "small gift", referring to a manuscript he was sending me for review, or to reprimand me as I had passed a deadline as reviewer (instead of sending me a "dry" invitation or reminder as is the common practice today). He did editorial work for more than two decades under the leadership of Prof. Peter Thrower. Then, in 2012, when the latter stopped being Editor-in-Chief, Paco also stopped being an Editor of Carbon, and I inherited from him a resplendent couple of shoes. Being less cryptic, I can say that at that time, I was invited to become Editor to handle manuscripts in the same areas (carbon surface science, adsorption, catalysis and so on) that Paco had been typically managing since 1991. On that opportunity, a colleague who is well acquainted with the journal told me, mischievously smiling, that it was difficult for him to imagine me in Paco's shoes! Of course, I didn't need to hear this to realize the magnitude of the challenge I faced, as Paco was somebody extremely respected by authors and reviewers. Thus, since 2012, besides conventional editorial tasks I have had to do my best to keep Paco's shoes in good shape!

One of the many things I have learned from Paco, and also from Peter, is the importance of carefully personalizing communication with authors and reviewers. Therefore, I refrain from using automatic reminders, although they can be fantastic tools for time saving. Also, following the practices of Peter and Paco, I often address the corresponding authors using their first name, or even their nickname, spoiling the solemnity of manuscript acceptance letters a bit. In fact, Paco always encouraged everyone to address him by his nickname, and I can tell you that this was not common here in Spain with university full professors! For those interested in learning about the origin of the common Spanish nickname Paco (for Francisco), a frequent explanation is that it is an abbreviation of a Latin title, "Pater Comunitatis" ("Father of the Community") that was given to Saint Francis of Assisi, founder of the Franciscan order of friars (the "Community").

Paco and I were together at the Carbon editors' meeting held in Kraków on the occasion of Carbon 2012 (the last for him and the first for me), and he invited me to visit him in Alicante to give me some advice including practical training with the Elsevier Editorial System (EES). However, I could not find time to do that. Unfortunately, we humans –and I think, especially scientists– tend to prioritize urgent matters rather than important ones. Moreover, I immediately began to receive manuscripts for handling and had to quickly learn to use EES in a self-taught way. To compensate for that lack of training by an experienced editor, I regularly communicated with Paco by phone over the following years, mostly exchanging views about the evolution of the Carbon journal. He rather unexpectedly called me one day in March 2020 just before the confinement we suffered in our country as COVID-19 spread in Europe. He wanted to hear about the present state of Carbon. I initially thought he had some concern about the journal, however he did not identify any specific problem in spite of it being a long conversation. I remember that I told him that I had largely failed to follow a recommendation he gave me in 2012: to try to only invite as reviewers people I knew personally. In response, he fully acknowledged that this would be impossible nowadays. Near the end of the conversation I told him that we expected a significant increase in impact factor (fortunately, this prediction proved true a few months later). Now I think that the concern I detected could have been associated with his health because, as we know now, this worsened during that month.

That is the last time I spoke with Paco. May his soul rest in peace.



### Harry Marsh (University of Newcastle, UK)

Paco graduated from the University of Granada, Spain, as a distinguished student in 1965, followed by a Ph.D. study with Professor Juan Lopez Gonzalez (1967) and then for a time in the University of Bristol to study under Professor D.H. Everett whose interests were in thermodynamics, including the thermodynamics of adsorption processes. Here, he learnt his English and extended his interests in adsorption in microporous materials.

Paco never stopped working, at first improving his own experiences, and then reaching out to support others. My first meetings with Paco were at Penn State University where he was a post-doc with Professor Peter Thrower, under Professor P.L. Walker. He came to my laboratories in 1980 shortly after his marriage to Angela. Here, he assisted in my studies of microporous coals.

After my retirement from Newcastle University (1991), followed by time in the USA, I worked in INCAR, Oviedo, Spain. It was from here that I was approached by Paco to work in Alicante (Visiting Professor) to assist with teaching and the preparation of publications.

Paco was a prolific researcher but had limited facility to publish in the English language. My task was to clear this backlog of publishable material. This worked extremely well with over 300 papers to be found in established journals as well as three books. With my wife, I lived in rented accommodation in the older part of Alicante, away from the area of ex Brits and learned enough Spanish to be comfortable in lecturing to Paco's students in Spanish. I also assisted with Paco's research programmes resulting in twelve joint publications.

Paco was very much a family man, in Granada and Alicante. His entire family came to Paco's 70<sup>th</sup> birthday celebrations, 9<sup>th</sup> September 2011 in the Melia Hotel, Alicante.

In 2003 I was asked by The University of Alicante to produce a **seminal** collection of the publications of Paco, a truly colossal task. This collection was published, 2006, in book format, as "Activated Carbon", Harry Marsh, Francisco Rodríguez-Reinoso, by Elsevier. In 2011 Elsevier posted me three copies of the above book translated into high-quality Japanese, which still has annual sales.

### Katsumi Kaneko (Shinshu University, Japan)

In May of this year I received an e-mail from Paco telling me about the wedding of his younger daughter. He attached a really beautiful picture of his whole family of seventeen members and also informed me of the promising treatment of his illness. I was so happy to see this wedding picture including Paco and know of his positive attitude to his illness. I did not imagine he would pass away so quickly. In April and May we discussed by e-mail the two-step activation mechanism for steam and CO<sub>2</sub> activation, because he was the best scientist on carbon activation. His comments were essential for the publication of a paper by one of my PhD students, which was recently accepted by Carbon. I wanted to publish it with Paco, but he preferred no co-authorship. I should have persuaded him to be a coauthor more strongly. Last November I invited Paco to deliver a series of lectures on nanoporous carbons for young researchers in Shinshu University. The lectures were really splendid. However, he did not look as well as he usually did. Probably he had made a great effort preparing for the lecture. I had a pleasant time with Paco in Alicante last February, staying only for one-night, after attending a conference in Portugal. I had considered cancelling my attendance at the conference due to the rapid spread of COVID-19 but Paco strongly persuaded me to come to Alicante and this gave me precious time with him.

In 1986 I attended the Kiselev Memorial Symposium in the ACS Conference in Atlanta, where I presented a general paper. The chair, Professor Zettlemoyer, gave me special discussion time and Paco, Ken Sing and Brian McEnaney questioned me extensively. This was the first time I had met him, but I did not talk personally with him. I first talked with Paco at the Characterization of Porous Solids meeting held in Bad Soden in 1987 where he had a strong interest in my poster. He was one of

the world's experts on adsorption science, while I had just started my international activity. He gave me strong support and stimulation. When I was at Chiba University, he visited me three times. We had a joint Spain-Japan project from 2009 to 2014 on Nanotechnology for Environmental Challenges. Paco visited Nagano four times after my move to Shinshu University and I have visited him in Alicante at least seven times. In 2017 he suggested that I join him in editing a book on "Nanoporous Materials for Gas Storage". It was very nice chance to interact with him. Many excellent friends and colleagues contributed to the book which was published in 2019 by Springer. This book was a heartfelt gift from Paco. Thank you, Paco.

Paco was a pioneer in modern science on porous carbons and he has established new methods of understanding them. He published a well-known book on "Activated Carbon" (Elsevier, 2006) with Dr. H. Marsh, showing his deep understanding of carbon and adsorption science. The method of characterizing carbon ultramicropores using CO<sub>2</sub> adsorption established by Paco is indispensable to understanding nanoporous carbons. We need Paco's excellent leading role in carbon science more, but we have lost him. Professor J. Silvestre-Albero (Ximo), has succeeded to Paco's research laboratory to challenge new directions in carbon and adsorption science. Fortunately Paco has left a promising core for carbon science at Alicante University. His scientific DNA could lead to new carbon science in Alicante.

Thank you, Paco. Please rest.



Professor Kaneko and his wife Hiroe with Paco in the Japanese restaurant of the Metropolitan Hotel, Nagano, Japan.

**José Luís Figueiredo (University of Porto, Portugal)**

I first met Paco in the late 1970s, when we both were regular participants in the meetings organized by the Adsorption Groups of the Spanish Royal Chemical Society. At that time, he was still affiliated to the University of Granada, but he then moved to the newly established University of Alicante. Within a few years, Paco had built a solid reputation as an expert in the preparation and characterization of activated carbons. It was in that capacity that I invited him to lecture at the NATO Advanced Study Institute on Carbon and Coal Gasification that I organized in 1985 (Alvor, Portugal, May 20-31). That meeting marks the beginning of our friendship, strengthened in the 1990s when we both collaborated in several projects and networks of the Ibero-American Programme on Science and Technology for Development (CYTED). In the following years, I had the privilege to enjoy Paco's companionship on many occasions, when we travelled together to meetings in South America, the USA and Europe, and could witness his gentle and joyful personality, kindness, and subtle sense of humour.

The outstanding leadership ability of Paco was revealed during the CYTED Programme, especially when he became coordinator of Project V.3 (Development of adsorbents for the separation of gases, 1994-1998). In this period, he became the mentor and provided support for many South-American research groups working in the fields of Adsorption and Carbon Materials. He also played a key role in the development of carbon science in Portugal. More recently, he helped us to establish the "Portuguese Carbon Group" within the Portuguese Chemical Society, participating in the 1<sup>st</sup> national meeting (Porto, 12-13 June, 2017) with a Plenary Lecture on "The unique versatility of carbon materials".

Paco was an outstanding Professor and scientist, and he set up a reference group on Advanced Carbon Materials at the University of Alicante that will provide inspiration for many future generations of carbon researchers. Paco left us too soon, at the age of 79. We mourn the departure of a very dear friend; may he rest in peace.



Participants in the 1<sup>st</sup>. Iberoamerican Workshop on Molecular Sieves, Caracas, Venezuela, (May 6-8, 1991). Paco is standing at the far left



**Duong D. Do (University of Queensland, Australia)**

This is a very sad for the Carbon community. I have known Paco for more than 30 years, and found him a very easy person to talk to, both on scientific matters and social and life matters. There can be no doubt in anybody's mind that he has made a significant contribution to the Carbon society and has put the Alicante school on the world stage with numerous excellent papers that I have enjoyed reading. He has edited proceedings in COPS, and written a couple of books on activated carbon. He had a great personality and a good sense of humor that we both shared in so many scientific meetings. One particular thing that we both share is a very good local food, and one conference that comes to mind is FOA IV in Kyoto in 1992. We had two dinners every night! After the dinner organized by the conference we went to downtown Kyoto for a second dinner to further enjoy the Japanese food and Japanese drink (common denominator!) and the following picture is evidence of that. After a week in Kyoto, I am not sure about Paco, but I gained 5kg. I would safely assume that he also gained the same amount.

With Paco's supervision of many young scientists, I am sure that his legacy will live on and have an impact on the adsorption and carbon community.



Duong Do, Yusuke Nakayama and Paco outside a Japanese restaurant in Kyoto in 1992.



**Juan Carlos Moreno-Piraján (Universidad de los Andes, Bogotá, Colombia)**

My first contact with Professor Francisco Rodríguez-Reinoso was through what he published when I was a doctoral student. From that work, began my admiration for someone who could present his knowledge in a simple and straightforward fashion that awakened in me an enthusiasm for carbonous materials. In 1995, we received his visit to Colombia. I managed to meet him to talk about my doctoral thesis, which I was about to defend. At that moment, I realized that behind all of those papers that I had followed ferociously, there was not just a great scientist but a more incredible human being. I still remember his kind words on my work. His kindness was confirmed in the coming years I was able to share with him. From that moment, I didn't waste any opportunity to follow him, not just in his papers but in person—for his allure compelled one to learn from him. A few years later, he returned to Colombia as a member of my wife's (Liliana Giraldo) doctoral committee. It was on that trip he suggested—in his position as director-general of "The Ibero-American Program of Science and Technology" (CYTED<sup>1</sup> from the Spanish) that I be the coordinator of the web in Colombia. At that point I commenced working with him and acknowledged his scientific value and his willingness to share his wisdom with others. Throughout CYTED, he organized several workshops, which spanned Latin America, in parallel with many conferences. Through those workshops, he assisted young researchers improve their techniques and guided those who were beginning to achieve a thorough knowledge of materials science. Nowadays, Latin America has well-established research groups investigating carbonaceous materials thanks to Paco's work, which has spanned several years. He also helped consolidate collaboration between scientists and their labs: exchanging equipment and facilitating internships.

He certainly had the character of a mentor which was evident in his selfless help. I recall my invitation (the first of many to our research group) to visit my start-up laboratory in Bogotá. Colombia was going through hard times back then. However, he accepted without hesitation, to visit for four uninterrupted months, during which he helped design my first system to measure gas isotherms (following figure).

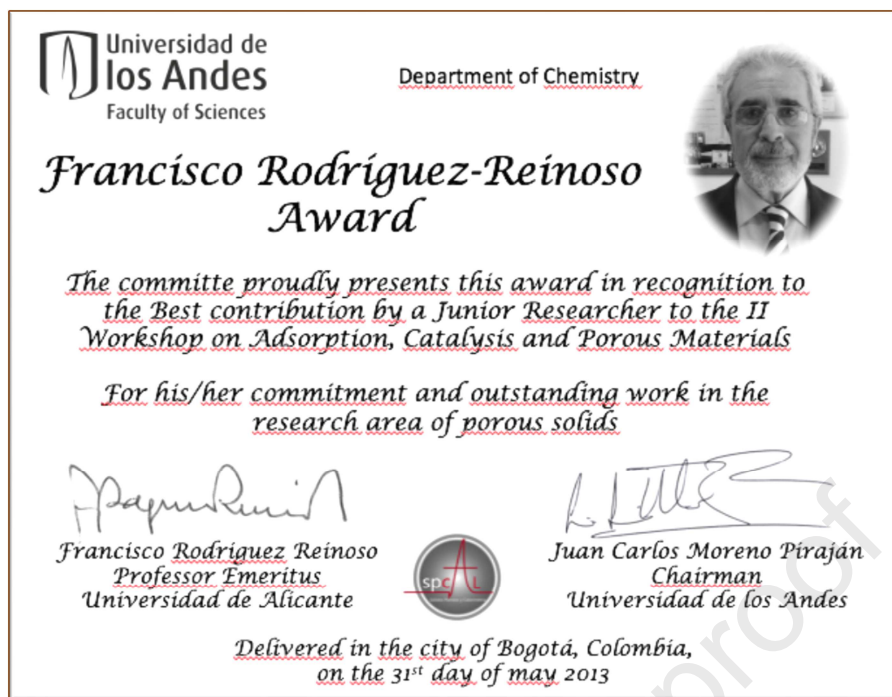
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<sup>1</sup> CYTED was a website created in 1984 in which had the participation of 21 Hispano-Portuguese countries. Dr. Reinoso was director-general of the Sub-Thematic Network of "Adsorbents for Environmental Protection." Through that position, he named every coordinator in Latin-America and facilitated cooperation between the participating countries.



Volumetric adsorption equipment that was designed, assembled and calibrated with Paco's help in 2006.

The influence Dr. Reinoso had in Latin America was so significant that in 2010 the Universidad de los Andes in Colombia began to organize every three years a "Workshop of Adsorption, Catalysis and Porous Materials." The Francisco Rodríguez-Reinoso award was created, which recognises the best work presented by a graduate student and consists of a plaque signed by him. We expect to maintain this award over time. Dr. Reinoso himself endorsed the prize and twice presented it. He said, "I am delighted to receive this kind of distinction that is not normally given in life, and this is an exception." This year we would be celebrating the fourth workshop and the corresponding award. He had prepared to come to Colombia for the event but, unfortunately, life did not let this happen.



The "Francisco Rodríguez-Reinoso Award"

In 2021, we will organise "IV Workshop of Adsorption, Catalysis and Porous Materials." This time without the presence of such a great mentor and an extraordinary adviser. But confident that day by day in our work, he will still be with us. Finally, thinking about Dr. Reinoso, this saying comes to mind: "A teacher affects eternity; he can never tell where his influence stops." (Henry Adams).



Paco with Professor Moreno-Piraján at the 2013 workshop in Bogotá, Colombia.