

8th Rio Symposium on Atomic Spectrometry

Pousada Porto Imperial, Paraty – RJ, Brazil

01 – 06 August 2004

INVITATION

The organizers are pleased to invite you to participate in the **Eighth Rio Symposium on Atomic Spectrometry** to be held in Paraty, RJ, Brazil, **01 – 06 August, 2004**, carrying on the 16 years of tradition of this conference. The Rio Symposium was founded in 1988 with the idea to invite renowned scientists from the rest of the world to Brazil in order to give an as large as possible number of Latin American scientists, including students, a chance to participate in a high-level international conference. This idea has been extremely well received, and after the first two Symposia were organized in Rio de Janeiro, Brazil, other Latin American scientists had been offering to host the ‘Rio Symposium’ in their countries. And in the following years, Rio Symposia were very successfully organized in Venezuela, Argentina, Mexico and Chile. During those years the conference, because of its high scientific level and its special character, also succeeded to attract an increasing number of participants from North America and Europe. In 2002 the Rio Symposium returned to Brazil and was organized in Florianópolis, SC. In spite of the difficult times, particularly in Argentina and Venezuela, the Seventh Rio Symposium could attract the largest number of participants ever.

The Eighth Rio Symposium on Atomic Spectrometry will carry on as much as possible of the tradition of previous conferences. As usual there will be invited lectures, oral and poster contributions. There will also be a **Pre-symposium Course** offered on **Sunday, 01 August**, and a **Symposium Course** in the late afternoon on three days during the week. As at the Seventh Rio Symposium, the conference language will be English only, and the conference will not be split into two parts. Please also consult our **web page** www.ctc.puc-rio.br/riosymposium that will be updated periodically.

We are sure that the beauty of Paraty and the charm of your Brazilian hosts will inspire you during the Eighth Rio Symposium on Atomic Spectrometry. We invite you to present and discuss the results of your research with us, and to learn a little bit more about Brazilian history.

Reinaldo C. Campos

Bernhard Welz

LOCATION OF THE VENUE

Paraty, about half way between Rio de Janeiro and São Paulo, originally a settlement of the Goianás Indians, was discovered by the Portuguese in 1596, and became one of the most important harbors of Brazil, during the gold rush in the 18th century. The gold was transported from Minas Gerais over more than 500 km on the ‘Caminho do Ouro’, the gold trail, to Paraty, from where it was shipped to Portugal. With the end of the gold rush, and particularly after the inauguration of the railway Rio de Janeiro – São Paulo in 1870, which took the easier way on the plateau, away from the coast, Paraty became isolated and forgotten until the coastal road Rio – Santos was opened in 1970. This way the historic center with its cobblestone pavement, which was founded in 1726, remained unchanged for more than 200 years, and is now Cultural Heritage under the protection of UNESCO. The historic center of Paraty is a fantastic trip back into the past.

But Paraty has more: located at one of the most beautiful coastal areas of Brazil with a wealth of little islands in the quiet blue sea, at the foot of the Serra do Mar, which raises up to 1600 m above sea level, covered by Atlantic rain forest, it also offers unique landscape. Schooner tours and scuba diving open the beauties of the sea, and a variety of trails bring you to hidden waterfalls in the middle of the rich vegetation of the Atlantic forest, if you want to stay a few days longer. Paraty also has plenty of restaurants and bars, and offers a variety of art craft – and it is famous for its more than 300 brands of ‘Pinga’, the locally manufactured sugar cane brandy. Last not least, Paraty is the home of the world famous ‘Teatro de Bonecos’, a puppet theater for adult, a cultural gem that you should not miss.

ORGANIZERS

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SCIENTIFIC PROGRAM

Within the scope of the Eighth Rio Symposium are all aspects of atomic and inorganic mass spectrometry, including sample preparation, sample handling and speciation analysis.

Among the major topics are:

- Atomic absorption spectrometry (AAS)
- Atomic fluorescence spectrometry (AFS)
- Optical emission spectrometry (OES)
- Inductively coupled plasma mass spectrometry (ICP-MS)
- Electrothermal atomization and vaporization
- Chemical vapor generation
- Instrumental developments
- Sample preparation techniques
- Flow injection and other sample handling techniques
- Method development
- Atomization and interference mechanisms
- Chemometrics in atomic spectrometry

- Quality assurance
- Application Studies: environmental, biological and industrial samples with emphasis to petroleum and petroleum products.

The scientific program will consist of invited lectures, oral and poster presentations. In addition, there will be offered a Pre-Symposium Course and a Symposium Course. The **Final Program** will be published on our web page www.ctc.puc-rio.br/riosymposium in June 2004.

Language

The official language of the Seventh Rio Symposium will be English. There will be no simultaneous translation.

Invited Lecturers

The most famous scientists active in the field of Atomic Spectrometry have been invited to present their latest research during the Eighth Rio Symposium, and many of them have already accepted the invitation. A list of the Invited Speakers and the topics of their presentations will be published on our web page as soon as we have got the final confirmation. Invited lectures will be 25 min long with an additional 5 min for discussion. Invited Lectures can use the following projection means: MS Power Point data-show presentation, slide and overhead projector. Authors are responsible for the correct placement of slides in the tray and are requested to deliver the slide tray in due time to the person in charge of the projection. Slides and other material should be collected after each lecture session.

ABSTRACTS

Submission of Abstracts

A one-page Abstract of any submitted oral or poster contribution must be received by the organizers not later than **15 April, 2004**. Title and Abstract will be included in the Final Program and Book of Abstracts only if full payment of the Registration Fee for the presenting author has been received by that deadline. Non-registered participants will not be allowed to present an oral or poster contribution.

The Abstract should be written in English and be submitted electronically, using the Abstract Form that will be available on our web page, followed by a hard copy on white paper by airmail together with the Registration Form.

Please carefully consult the Rules for Preparing an Abstract. Abstracts that do not follow these rules will be returned for re-typing.

Go to our webpage www.ctc.puc-rio.br/riosymposium to submit or abstract.

Rules for Preparing an Abstract

The following rules should be followed when preparing an abstract for the Eighth Rio Symposium on Atomic Spectrometry. It is also necessary to follow IUPAC Terminology Recommendations in order to avoid too much heterogeneity in terminology. Abstracts that do not follow these recommendations might not be accepted.

- The Abstract should be prepared in English language as MS Word document, using font 12 Times New Roman, single spacing.
- Use a margin of ca. 3 cm on top and 2,5 cm on both sides and at the bottom.
- **Write the title in bold characters, font 14, centered.**
- Leave a blank line after the title.
- Write the author(s) first name(s) and family name(s), with the presenting author's name underlined, using font 12, centered as well.
- If the presenting author is not the corresponding author, please mark the corresponding author with an asterisk*.
- Do not leave a blank line; write the affiliation, address and e-mail of the corresponding author in *italic* type, also centered. In case of multiple addresses of the authors, please use superscripts, such as a, b, c, and use a new line for each new affiliation.
- Following the address(es), leave one blank line, and type the text of the abstract using font 12, single line spacing. Do not indent paragraphs.
- If figures are included, they have to be in black and white only, must be drawn clearly in digital medium and must be an integral part of the abstract.
- The abstract must not exceed one page.

IUPAC Terminology Recommendations

Over many years already, the International Union for Pure and Applied Chemistry (IUPAC) is gathering experts to establish and publish recommendations on the use of proper

common terminology in chemistry, and also in **Atomic Spectroscopy**, in order to facilitate communication among scientists of different fields, and to avoid misinterpretation because of ambiguous terminology. Obviously, only a few selected terms can be mentioned in the following, however, it is strongly recommended to stick to these terms (and the related acronyms) exclusively in preparing Abstracts and Posters for the Seventh Rio Symposium on Atomic Spectrometry.

- A sample is **analyzed**, and an element is **determined**, e.g. the analysis of soils and sediments, and the determination of cadmium and lead.
- The element to be determined is the **analyte**.
- The correct terms and acronyms for frequently used spectrometric techniques are:
- **Atomic absorption spectrometry (AAS)**
- **Flame atomic absorption spectrometry (FAAS)**
- **Electrothermal atomic absorption spectrometry (ET AAS)**, or
- **Graphite furnace atomic absorption spectrometry (GF AAS)**
- **Hydride generation atomic absorption spectrometry (HG AAS)**
- **Cold vapor atomic absorption spectrometry (CV AAS)**
- **Inductively coupled plasma optical emission spectrometry (ICP OES)** – note that the acronym AES is reserved for ‘Auger Electron Spectroscopy’
- **Inductively coupled plasma mass spectrometry (ICP-MS)**
- **Electrothermal vaporization (ETV)**
- The term ‘Zeeman AAS’ is incorrect, as Zeeman has nothing to do with AAS. The only use of the Zeeman-effect in AAS is for background correction. Hence, the only appropriate term is (atomic absorption spectrometry with) **Zeeman-effect background correction**.
- Interferences in atomic spectroscopy are generally classified into **spectral interferences** and **non-spectral interferences**. The latter are best classified according to the location or point in time when they occur, such as **transport interference, dissociation interference, ionization interference, vapor phase interference** etc. Terms such as ‘chemical’ or ‘physical’ interference should be avoided. The term ‘matrix interference’ is meaningless, as by definition **all** interferences are caused by concomitants, i.e. the matrix. The term **matrix effect** may be used to describe a complex combination of interferences that have not yet been identified.
- All calibration techniques are **techniques**, NOT ‘methods’. Hence they should be called **standard calibration technique, analyte addition technique** (NOT method of additions) etc.
- **Speciation** is the occurrence of an element in different forms. When referring to the analytical activity of identifying and determining different **species**, it is recommended to use the term **speciation analysis**. The process of classification of an analyte according to physical (e.g. solubility) or chemical properties (e.g. bonding, reactivity) is called **fractionation**.

Oral Presentations

Selected topics from the submitted titles will be chosen for oral presentation (15 min long with an additional 5 min for discussion). Oral presentation can use the following projection means: MS Power Point data-show presentation, slide and overhead projector. Authors are responsible for the correct placement of slides in the tray and are requested to deliver the slide tray in due time to the person in charge of the projection. Slides and other material should be collected after each lecture session. Details will be available on our web page after the final program has been established in June 2004.

Poster Presentations

Posters will get special attention during the Eighth Rio Symposium on Atomic Spectrometry as a means of presenting the latest research results, and to offer time for extensive discussion. There will be a certain day allotted for each poster when the author should be present at his poster during the poster viewing time. All Posters have to be prepared in English language following IUPAC Terminology Recommendations. The posters are 90 cm wide and 130 cm high.

Last-Minute Posters

In order to make possible presentation of the latest research results, poster contributions may be submitted until 31 May 2004, provided that a full Abstract, a Registration Form and full payment for the presenting author has been received by the deadline.

Poster Prize

Elsevier Science has agreed to sponsor the Eighth Rio Symposium on Atomic Spectrometry, and to grant four one-year subscriptions to *Spectrochimica Acta Part B: Atomic Spectroscopy*, one each for the authors of the best poster of the four poster sessions. An international jury will make the selection

Publication of Contributions

Original research work, presented at the Eighth Rio Symposium is eligible for publication in a Special Issue of ***Spectrochimica Acta Part B***, dedicated to this symposium. Manuscripts should be prepared according to the Instructions for Authors of this Journal, and

three copies should be submitted to Prof. Dr. Bernhard Welz preferably during the Seventh Rio Symposium, but not later than 30 August 2004. All manuscripts will be subject to the usual peer reviewing process before their acceptance.

Courses

Pre-Symposium Course: Sunday, 01 August 2004, 09:00 – 17:00 (6 hours)

Please consult our web page for details

Symposium Course: Monday, Tuesday and Thursday, 02, 03 and 05 August 2004, 18:00 – 20:00 (6 hours)

Please consult our web page for details

SOCIAL PROGRAM

Sunday, 01 August	Welcome Cocktail: later afternoon. Free for participants and accompanying persons.
Wednesday, 04 August	No scientific program. Half-day schooner excursion including lunch. Price to be announced. Alternately: Half-day hike on the Caminho do Ouro including lunch. Price to be announced on our webpage.
Wednesday, 04 August	Atomic Dinner: 16:00 – 22:00: Open-air barbecue in sub-tropic environment. Details to be announced on our webpage.
Friday, 06 August	Bottle Party. Free for participants and accompanying persons. You are invited to bring a bottle of a typical drink from your country.

Pre- and Post-Symposium Tours

A variety of tours are offered before, during (for accompanying persons) and after the Symposium. Please consult the web page of Paraty Tours for details.
paratytours@paratytours.com.br

Brazil Air Pass

The Brazil Air Pass is sold only in connection with an international flight, and only outside Brazil to non-Brazilians and Brazilians who are residents of a foreign country. With this pass you can travel by air to almost any destination within Brazil at a very low fare. Please contact your local travel agent for details.

GENERAL INFORMATION

Location: Pousada Porto Imperial

The conference hotel is located in the Historic Center of Paraty, and is within a walking distance of most other hotels and pousadas in Paraty. Coffee and refreshments will be served during the morning and afternoon breaks, but the participants have to take their meals at their hotels or at one of the numerous restaurants or bars in town.

Address: Pousada Porto Imperial

Rua do Comércio, 23970-000 Paraty, RJ, Brazil

Tel.: (55) 24 3371-2323 / Fax: (55) 24 3371-2111

Lodging

Besides the Pousada Porto Imperial there is a wide variety of other hotels and pousadas available within the Historic center and its vicinity. Prices range between R\$ 50 and R\$ 300 per room (currently about US\$ 20 to US\$ 100). **Please go to our webpage www.ctc.puc-rio.br/riosymposium to make your reservation.**

Airport Shuttle

Paraty is about 250 km from Rio de Janeiro and about 300 km from São Paulo. Bus transportation from Rio de Janeiro International Airport will be arranged at regular intervals. Individual transfer from Rio de Janeiro or São Paulo airports can also be arranged as well. Further details will be available on our home page in due course. **Please go to our webpage www.ctc.puc-rio.br/riosymposium to make your reservation.**

Walking in Paraty

The Historic Center of Paraty is for pedestrians only, i.e. you have to be prepared to walk a kilometer or two every day. And keep in mind that the cobblestone pavement of the streets in Paraty is original from the 18th century. This means it is by all means **NOT** made for **high-heel shoes**. Bring sturdy walking or tennis shoes, and hiking boots if you plan to go on one of the trails.

Weather

The winter in Paraty is usually sunny and mild with little rain, although there might be days with temperatures as high as 30 °C, or as low as 15 °C – so, be prepared.

Foreign Currency / Credit Cards

Most hotels and shops accept credit cards. Some places accept payment in American Dollars. To exchange foreign currency, please contact exchange offices at the Brazilian Airports or Banco do Brasil in Paraty.

Passport, Visa and Vaccination

Participants are advised to contact their local travel agent to obtain information regarding the documents required for entry into Brazil.

REGISTRATION

Registration should be made on-line using the Registration Form provided on our home page. In addition, a **printed and signed copy** of the Registration Form, together with a proof of payment (in case payment has been made by bank transfer) has to be sent to the Symposium Organizers by fax (+ 55 21 31141309) or e-mail (fagundes@ctc.puc-rio.br). Use a separate form for each participant. Reduced registration fee applies when registration and payment were made until **15 April 2004**. After that deadline, the full Registration Fee applies automatically. Authors who have submitted an oral or poster presentation have to register and make payment before this deadline in order to make sure that their title and abstract will be included in the final program.

There are two different Registration Forms, one for Brazilians, with prices in Brazilian Reais (R\$), and another one for non-Brazilians, with prices in American Dollars (US\$).

Brazilian Residents

Brazilian residents should proceed the payment ONLY by bank transfer to Banco Itaú – ag. 1108, account 22195-1 – Faculdades Católicas. The Registration Fees are given below.

Registration Fees for Brazilian Residents

		Before 15 April	After 15 April
Conference	Participant	R\$ 600,00	R\$ 800,00
	Student	R\$ 250,00	R\$ 350,00
Pré-Symposium Course	Participant	R\$ 100,00	R\$ 150,00
	Student	R\$ 50,00	R\$ 75,00
Symposium Course	Participant	R\$ 100,00	R\$ 150,00
	Student	R\$ 50,00	R\$ 75,00

Please go to our home page for Registration

Residents of all other countries

Residents of all other countries can make their payment through a credit card or by bank transfer to Bank ITAU, swift code ITAUBRSPSPO, agency 1108, account 22195-1 – Faculdades Católicas. The Registration Fees are given below.

Registration Fees for Non-Brazilians

		Before 15 April	After 15 April
Conference	Participant	US\$ 280.00	US\$ 380.00
	Student	US\$ 140.00	US\$ 190.00
Pré-Symposium Course	Participant	US\$ 50.00	US\$ 75.00
	Student	US\$ 25.00	US\$ 40.00
Symposium Course	Participant	US\$ 50.00	US\$ 75.00
	Student	US\$ 25.00	US\$ 40.00

Please go to our home page for Registration

CANCELLATION

Reservations may be cancelled until 15 June 2004, in which case 50% refund of the fees already paid will be made after the conference. It will not be possible to offer any refund if cancellation is made after that date.

HOTEL RESERVATION

Hotel reservations should be made through Paraty Tours. **Please consult our web page www.ctc.puc-rio.br/riosymposium to “HOTEL RESERVATION”.**

Host Institution

PUC-Rio

Travel Agency

Paraty Tours

Sponsors

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