

Centro Analítico de Instrumentação do Instituto de Química da Universidade de São Paulo

*Analytical Facility at the Institute of Chemistry
University of São Paulo*

Prof. Dr. Luiz Henrique Catalani – Director of IQUSP

Prof. Dr. Paolo Di Mascio – Vice-director of IQUSP

Prof. Dr. Luiz Fernando da Silva Jr. – President of the Management Committee

Timeline



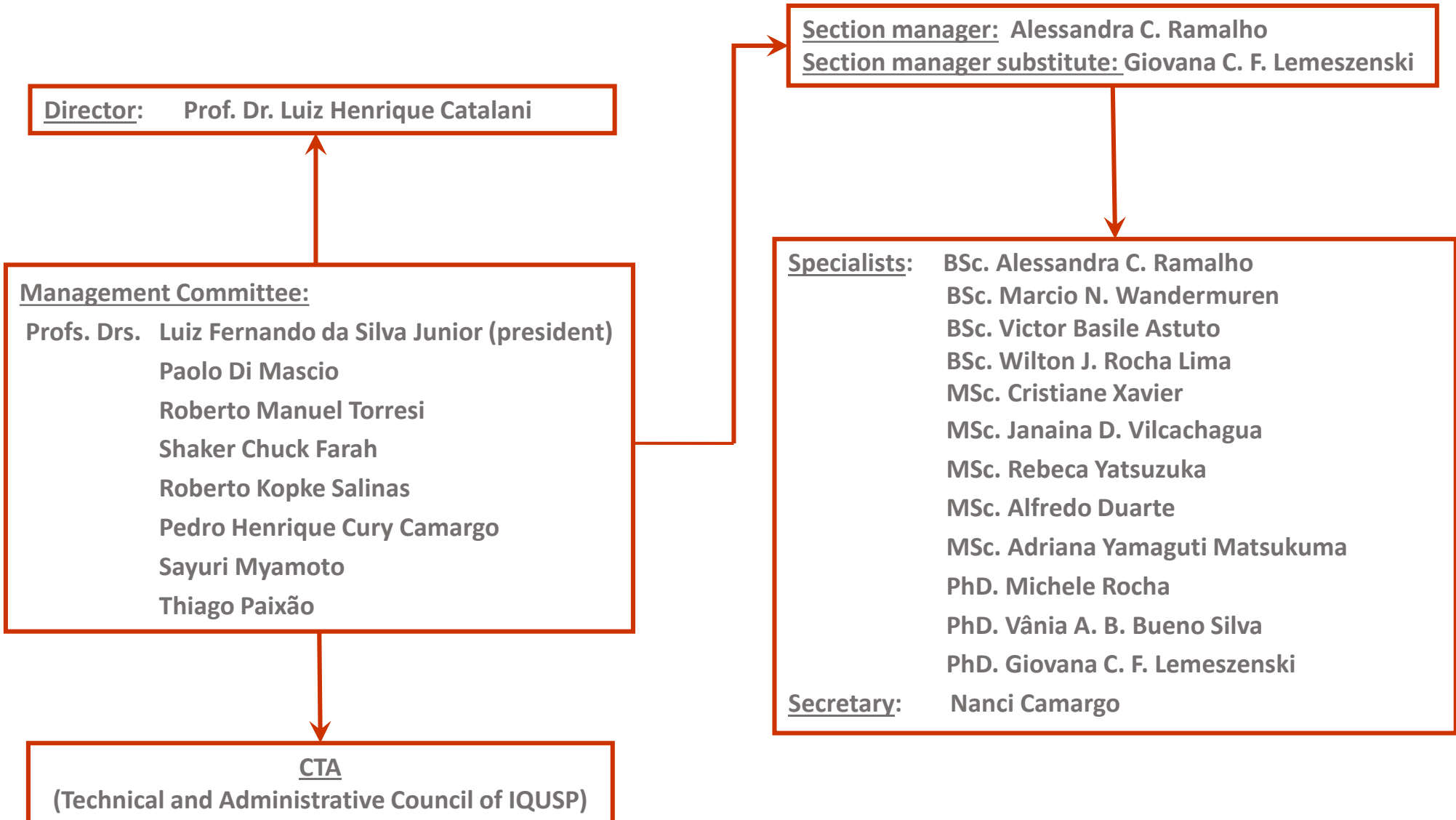
Established in 1986
4 equipment (free of charge)

1996 – dedicated physical location;
Regulations on charging \$ for analysis

2005 – Technical section of IQ-USP

2012 – Research Support Center (NAP) of USP
Centro Analítico de Instrumentação
12 laboratory specialists e 1 secretary

Organizational chart



Equipment set

How expansion and updating occurs?



1. Projects from the Management Committee
(Fapesp Multi-user, FINEP, USP, etc)

- Equipment is installed at the CA's space
- CA optimizes the use of the equipment
- CA is responsible for maintenance and repairs
- CA guarantees access to multiple users

2. Individual projects from researchers

- The equipment is transferred to CA's space.
- CA optimizes the use of the equipment.
- CA is responsible for maintenance and repairs.
- CA guarantees access to multiple users.
- 2 years of use (free of charge) to the project researcher

Equipment set

How expansion and updating occurs?

3. Existing equipment transferred to CA

- The equipment are transferred to CA's space.
- CA optimizes the use of the equipment.
- CA is responsible for maintenance and repairs.
- CA guaranties access to multiple users.
- 2 years of use (free of charge) to the original lab

4. Equipment from other institution or research association (CEPID, INCT, **temático**, etc)

- The equipment are transferred to CA's space.
- CA optimizes the use of the equipment.
- CA is responsible for maintenance and repairs.
- CA guaranties access to multiple users.
- Charge benefit is analyzed by management committee

Available techniques

1986 (4 individual equipment)

- Nuclear Magnetic Resonance
- Elemental Analysis CHN

Today (29 individual equipment)

- Nuclear Magnetic Resonance (5x)
- Infrared Spectroscopy
- Elemental Analysis CHN (2x)
- Atomic Emission Spectrometry ICP-AES
- Thermal Analysis (TGA, DSC, DMA)
- Mass Spectrometry (6x)
(GC-MS, LC-MS, nano-LC, Q-TOF, MALDI-TOF)
- Dynamic Light Scattering / Zeta Potential

- Mass Spectrometry GC-MS
- Infrared Spectroscopy
- Transmission Electron Microscopy
- Scanning Electron Microscopy (1 FEG, 1 benchtop)
- Confocal Microscopy
- Circular Dichroism (2x)
- Flow Cytometry (2x)
- Rotated Anode X-Ray Generator
- Powder X-Ray Diffraction
- X-ray photoelectron spectroscopy (??)

Available techniques



Associated Laboratories

Analyses from equipment located in their original research labs can be offered via [CA website](#) as an Associated Laboratory. Revenue is directed to the lab account.

Available technics from Associated Laboratories Today

- Size-exclusion Liquid Chromatography
- Atomic Absorption Spectrometry
- Triple Quad Mass Spectrometry
- Multi Dimensional Mass Spectrometry
- Contact Angle Measurement
- Polarimetry
- Raman Spectroscopy
- Infra Red Multi Photonic Dissociation MS
- DNA sequencing
- Surface and Interfacial Measurement

Web based service

website: <http://ca.iq.usp.br>

Central Analítica
Instituto de Química - USP
Centro Analítico de Instrumentação da Universidade de São Paulo

Acesso ao sistema

Login (e-mail) Senha

Esqueci a senha Cadastre-se

INÍCIO INSTITUCIONAL SERVIÇOS ANÁLISES ATENDIMENTO LOCALIZAÇÃO

14:51
19/05/2015

Website



IQ USP - Central Analítica x

200.144.182.23/Analise/Analista.aspx

Bem vindo Alessandra!
Quinta-Feira, 14 de Abril de 2016.
[Alterar senha](#) [Sair](#)

Central Analítica > Analista

Solicitação	Solicitante	Nome da Amostra	Técnica	Experimento	Equipamento	Data da Solicitação	Status	Data da Alteração	Analista
12564	Nadja C. de Souza Pinto Lardner	XP4PA	Citometria de Fluxo	Análise por citometria	FACS VERSE-BD	14/04/2016	Novo		
12563	Rafael Neri Prystaj Colombo	Bismuto maciço	MEV	Imagem MEV	Jeol - Neoscope (bancada)	14/04/2016	Novo		
12562	Vitor de Moraes Zamarion	BC_36-37	Dicroísmo circular - Usuários avançados	Espectro	Jasco J-815 A	14/04/2016	Novo		
12561	Juliana Lira Luna Freire Regueira	JR63	RMN - usuários avançados	Aquisição de dados 300MHz	Varian Inova-300MHz	14/04/2016	Novo		
12560	Benedito dos Santos Lima Neto	complexoN-iso	Análise elementar - CHN	CHN	Perkin Elmer - CHN 2400	14/04/2016	Novo		
12559	Cynthia Peres Demicheli	AsL8B(12)	Análise elementar - CHN	CHN	Perkin Elmer - CHN 2400	14/04/2016	Novo		
12558	Henrique Joel Traesel	HT13	RMN - usuários avançados	Aquisição de dados 200MHz	Gemini - 200MHz	14/04/2016	Novo		
12557	Cynthia Peres Demicheli	AsNMG(12)	Análise elementar - CHN	CHN	Perkin Elmer - CHN 2400	14/04/2016	Novo		
12556	Cynthia Peres Demicheli	AsNMG(13)	Análise elementar - CHN	CHN	Perkin Elmer - CHN 2400	14/04/2016	Novo		
12555	Jorge M. David	EC5	EM- Espectrometria de Massas	Infusão direta	Esquire - Ion Trap - Baixa res./ MS e MSMS	14/04/2016	Novo		
12555	Jorge M. David	EC7	EM- Espectrometria de Massas	Infusão direta	Esquire - Ion Trap - Baixa res./ MS e MSMS	14/04/2016	Novo		
12554	Jorge M. David	EC7	RMN	DEPT 135	Bruker - 500MHz	14/04/2016	Novo		
12554	Jorge M. David	EC7	RMN	HMBC	Bruker - 500MHz	14/04/2016	Novo		
12554	Jorge M. David	EC7	RMN	HMQC	Bruker - 500MHz	14/04/2016	Novo		
12553	Diego Rossi	difenilpropil3.0	RMN - usuários avançados	Aquisição de dados 300MHz	Varian Inova-300MHz	14/04/2016	Novo		
12552	ILTON JOSÉ BARALDI	Palha de Milho - CHN	Análise elementar - CHN	CHN	Perkin Elmer - CHN 2400	13/04/2016	Novo		
12551	Paola Andrea Benavides	Paola S2	RMN - usuários avançados	Aquisição de dados 300MHz	Varian Inova-300MHz	13/04/2016	Novo		
12550	Bruno Vinicius Motta Teodoro	bruno	RMN - usuários avançados	Aquisição de dados 300MHz	Varian Inova-300MHz	13/04/2016	Novo		
12549	Marcelo José Pena Ferreira	FZA-6	RMN	1H	Bruker - 300MHz	13/04/2016	Novo		
12549	Marcelo José Pena Ferreira	F3A-2	RMN	1H	Bruker - 300MHz	13/04/2016	Novo		
12548	Marcelo José Pena Ferreira	Mfio-A2	RMN	1H	Bruker - 300MHz	13/04/2016	Novo		
12548	Marcelo José Pena Ferreira	Mfio-A9	RMN	1H	Bruker - 300MHz	13/04/2016	Novo		
12548	Marcelo José Pena Ferreira	Mfio-A10	RMN	1H	Bruker - 300MHz	13/04/2016	Novo		

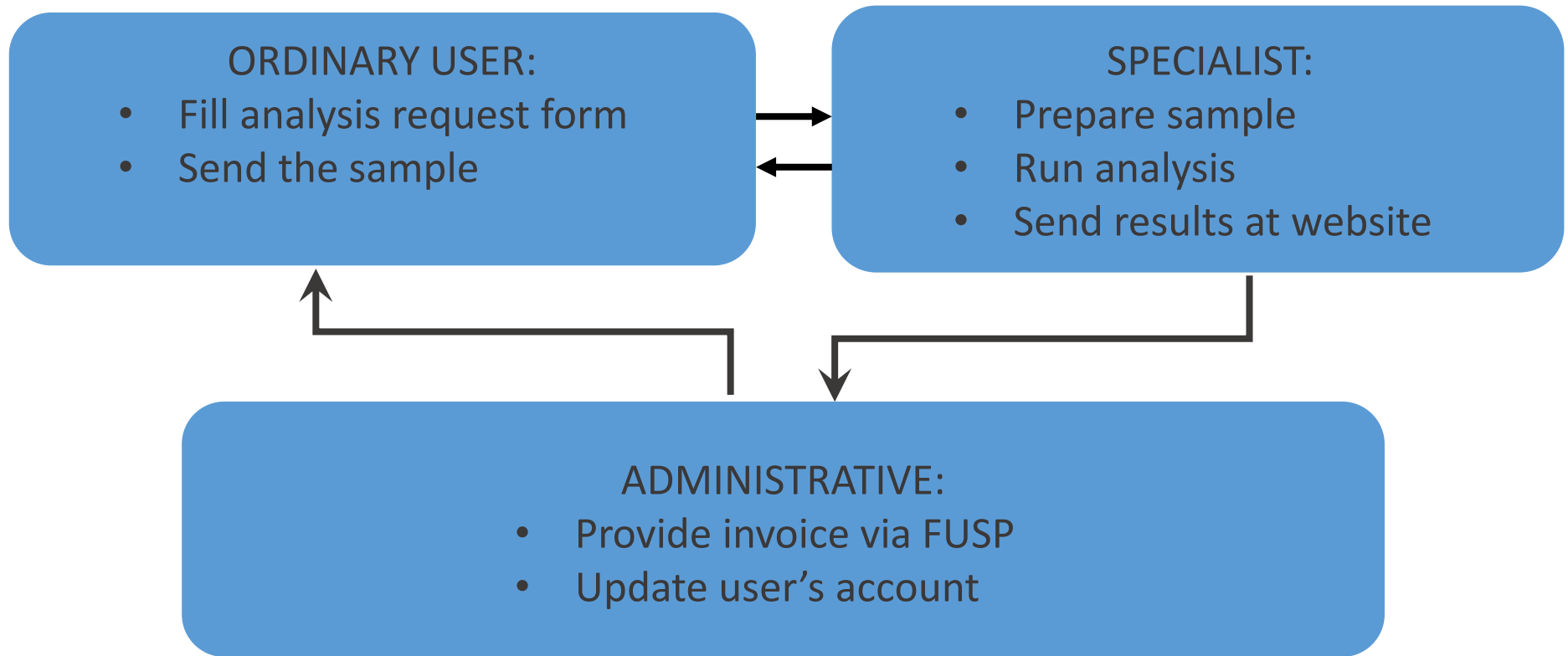
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Página 1 de 1020, registros 1 à 24 de 24467.

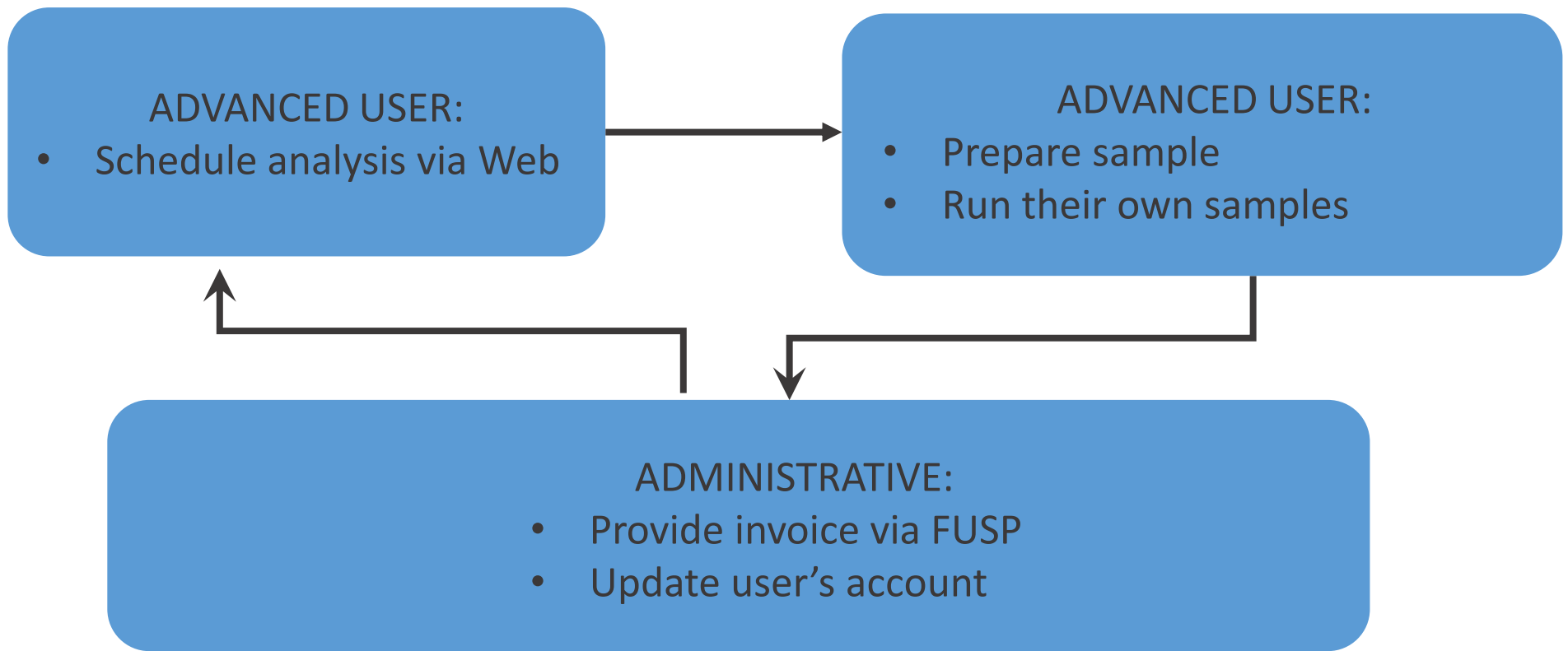
Fone: (11) 3091-3212 - Av. Prof. Lineu Prestes, 748 - São Paulo - SP

11:10
14/04/2016

Workflow

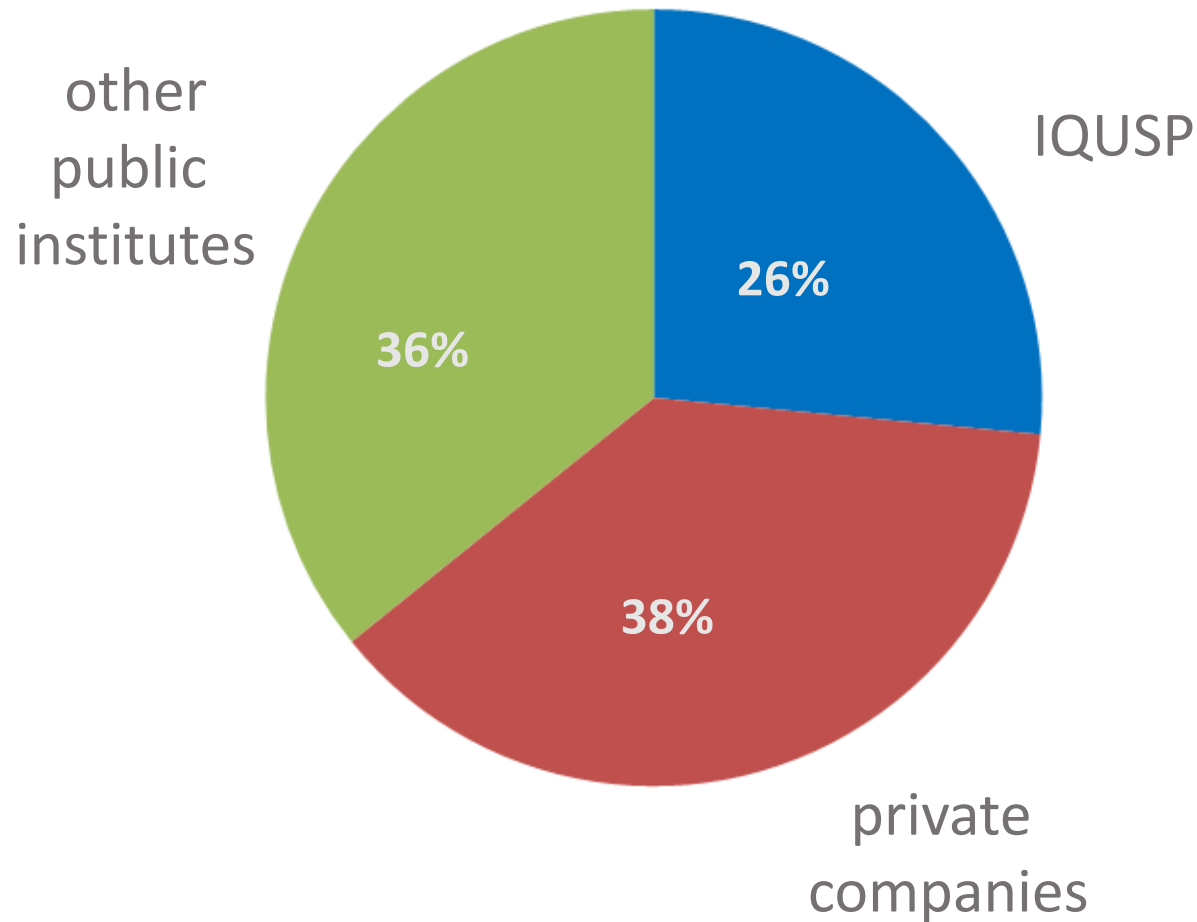


Workflow



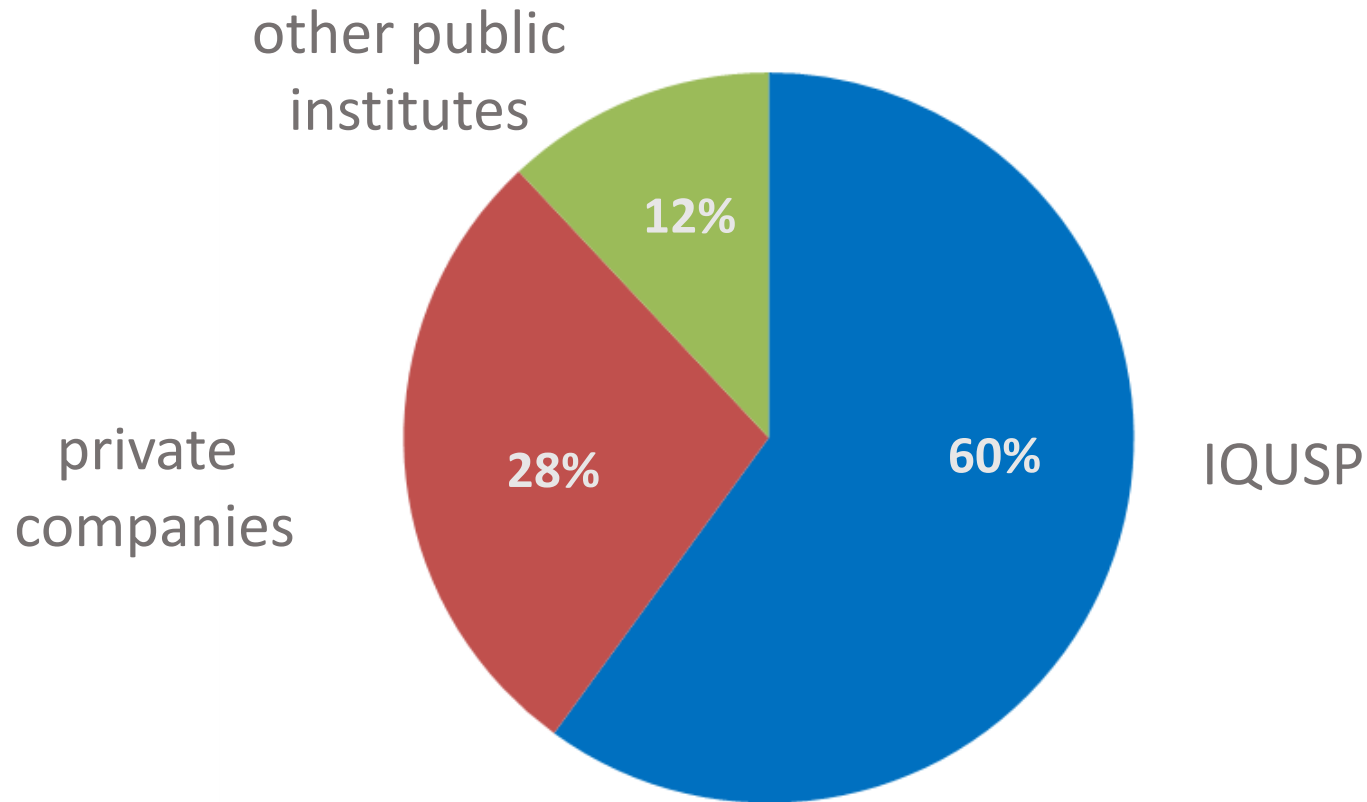
User profile

About **1.800** registered users



Service profile

About **10.500** analyses in 2015

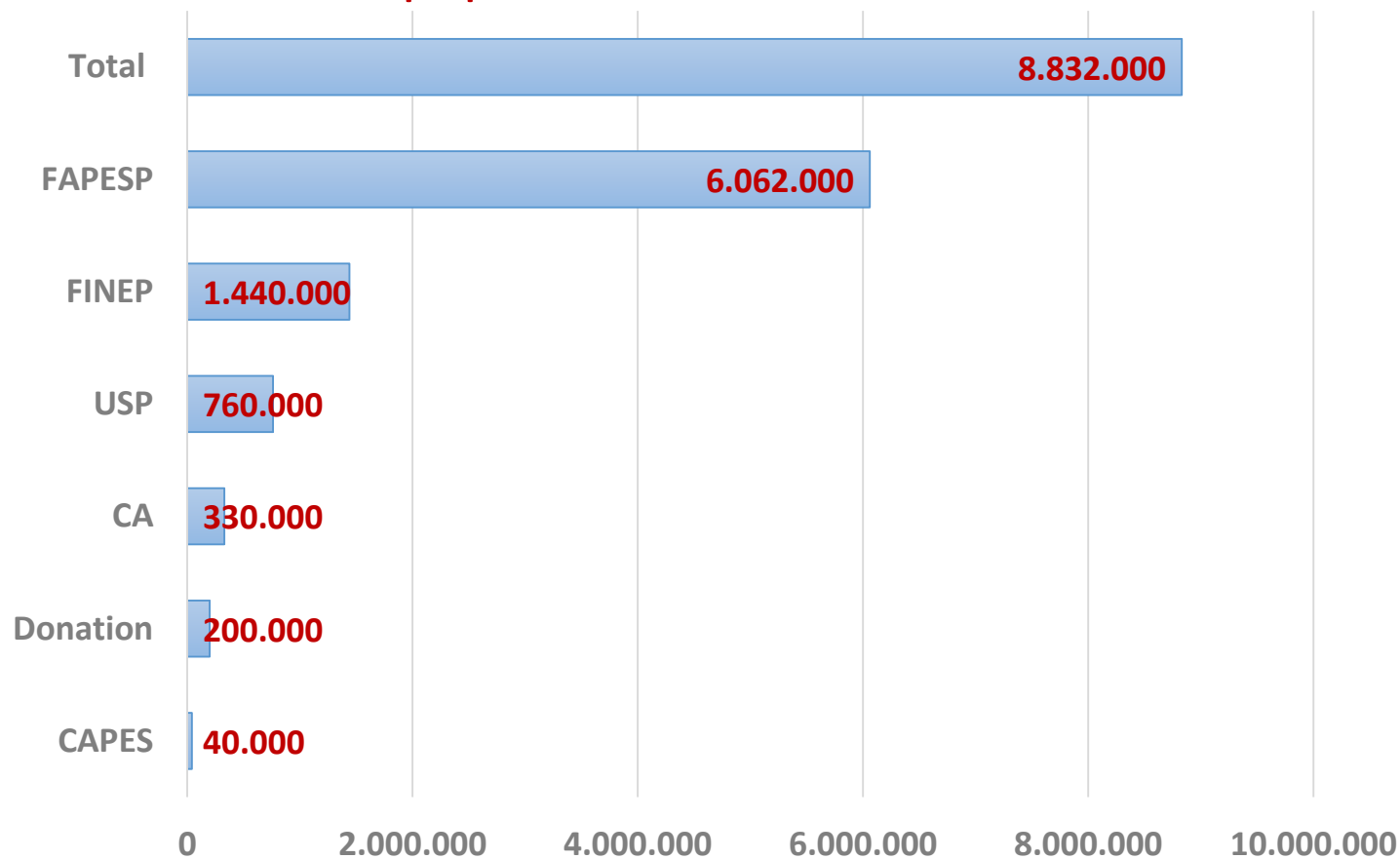


Pricing policy

IQUSP: 1X
other public Institutes: 2X
private companies: 5X

Funding profile

Equipment installed in US\$*



**approximate updated prices*

Budget

- Revenues from analyses in 2015: R\$ 768.239,00
- General expenses in 2015: R\$ -856.092,59

Description of expenses:

- Consumables R\$ 171.089,63 20%
- Investments (TGA, web) R\$ 104.750,00 12%
- Renovations R\$ 42.788,00 05%
- Maintenance (preventive/corrective) R\$ 383.817,19 45%
- IQ/ISS/FUSP: R\$ 153.647,80 18%

TOTAL R\$ 856.092,59

Payroll in 2016 R\$ 1.639.287,00
(~US\$ 497,000)

What is essential for an Analytical Facility Center to be successful?

- Define an integrated and transparent model of management.
- Management committed to the projects.
- Dedicated area and adequate infrastructure.
- Specialized technical team.
- Web-based service and open access to all users.

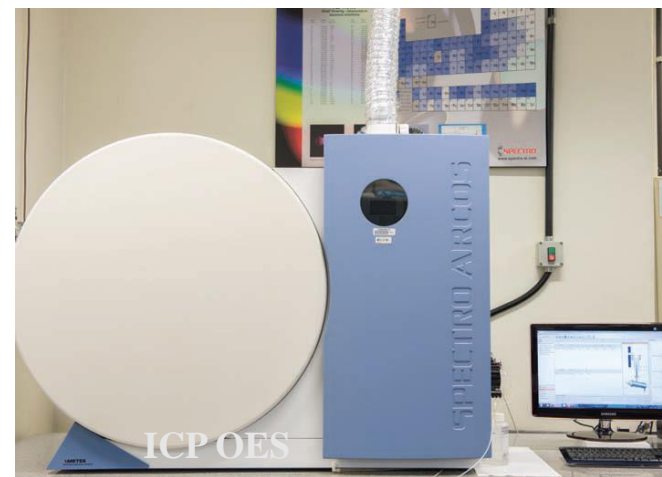
Some equipment



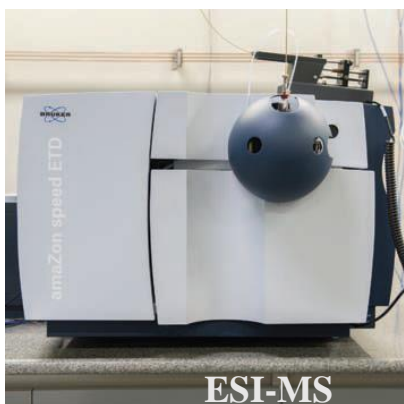
RMN 800MHz



MALDI-TOF MS



ICP OES



ESI-MS



RMN 300MHz



Analyser CHN



DMA

Some equipment



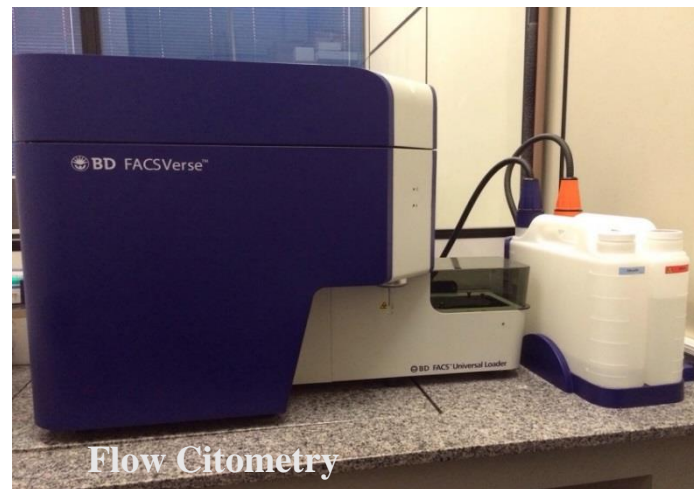
X Ray



TEM



SEM



Flow Citometry



Infrared

Thank you !

Luiz H. Catalani
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