



Exploring Potential Areas of Collaborative Research and Post Graduate Training in Environmental Management

MASTS – SAGES Mission to Brazil in Association with Connected Scotland and the British Council

21st – 25th September 2015

Report Date: 18-11-15

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Acknowledgments

The authors of the report are indebted to Connected Scotland partners, in particular Scottish Development International, MASTS and SAGES for co-funding the travel and subsistence expenses of the delegates from Scotland. The British Council also provided funding to support in-country travel and subsistence for some Brazilian delegates. The organisation of the event, under challenging circumstances, was managed by Petra McNeilly Rutledge and Ulrike Peter of Universities Scotland, with in-country support from the British Council. The University of Sao Paulo, the Federal University of Pernambuco and the Federal University of Minas Gerais kindly hosted the workshop events and provided hospitality.

Disclaimer

The contents of this report are presented in good faith and reflect the opinions and recommendations of its authors only and may not reflect the policies or views of the sponsoring organisations. The authors cannot be held responsible for any future use or interpretation of the report.

Context – Purpose of report and agreed rationale for visit and format

The purpose of this brief report is to provide details of the organisation, conduct, outputs and recommendations for future actions arising from three workshops convened in Brazil. The workshops were designed to provide selected delegates from two Scottish research pools with an opportunity to meet, and explore areas of mutual research interests with, selected Brazilian delegates in the field of environmental management. The MASTS delegates were focused on the marine and coastal environment; the SAGES delegates on the terrestrial environments from the uplands to the coastal zone.

The rationale for the mission was based on a report by Galloway & Associates (G&A) – “Brazil Market Analysis for the Education Sector” commissioned by Scottish Enterprise (via Scottish Development International) and British Council Scotland as part of their support to Universities Scotland to identify and prioritise opportunities in overseas markets which will be of strategic interest to the Scottish Higher Education sector over the next three years (from 2014). Brazil had been identified as one of the priority markets with the greatest potential based on the collective strengths of the Higher Education sector in Scotland. In summary, the G&A report recommended the use of the Research Pools (e.g. MASTS, SAGES) as the spearhead for engagement because they:

- demonstrate Scotland’s ability to work together in partnership;
- concentrate Scotland’s collective strengths in key areas of need in Brazil;
- offer more than any single institution;
- can facilitate Scottish and international corporate/industry engagement and partnership e.g. via Innovation Centres.

Based on their priorities, the report suggested focus should be on: Scottish Universities Life Sciences Alliance (SULSA); Scottish Alliance for Geoscience, Environment and Society (SAGES); Marine Alliance for Science and Technology for Scotland (MASTS); and the Energy Technology Partnership (ETP noting that the pools have demonstrated effective models for working internationally already (SULSA/ETP in Hong Kong, MASTS in SE Asia). The areas to be covered should be geoscience, environment, life sciences, and marine science and technology.

In addition, none of these pools are doing anything collectively in Brazil despite it being considered (at the time the report was published) as a priority area. Pools such as MASTS and SAGES have a complementary agenda offering further opportunities for engagement. In addition, at the time the report was published, there were a range of funding vehicles to help support collaborative research, exchanges and studentships between Scotland and Brazil including Science without Borders, the Newton Fund and EU funding.

Approach to defining delegates in Scotland and Brazil

Connected Scotland partners, a multi-stakeholder initiative in support of internationalisation activities of the Scottish HE sector, approached the MASTS and SAGES Directorates and invited members of the MASTS and SAGES communities to submit expressions of interest in taking part in the proposed Brazilian mission, which would comprise a series of workshops designed to bring together practitioners in relevant fields. Applicants were asked to outline their research interests and to indicate institutions and individuals that they would like to visit and engage with. As there were only sufficient funds to support up to seven delegates from MASTS and SAGES respectively, there was an expectation of oversubscription. However, uncertainty over the timing of the mission and the event ultimately taking place during University term time, reduced the number of delegates. A list of delegates; four from MASTS and five from SAGES, is provided in Appendix 1.

Calls for expressions of interest were circulated to Brazilian institutions and specifically those individuals identified by the Scottish delegates. This process was undertaken by the British Council in Brazil. The list of Brazilian delegates is also provided in Appendix 1.

Choice of venues and programme

A list of proposed institutional venues based on a combination of expertise and academic ranking was circulated to the MASTS and SAGES delegates. A combination of invitation by the host institution and logistics ultimately dictated the following itinerary:

- 21st and 22nd September – University of Sao Paulo (MASTS and SAGES delegates)
- 24th September – University of Pernambuco, Recife (MASTS delegates)
- 24th September – Federal University of Minas Gerais, Belo Horizonte (SAGES delegates)

The approach was to undertake workshops in these locations through a combination of scene-setting reciprocal presentations followed by facilitated workshop discussions to identify potential research areas and, if possible, next steps to achieve concrete progress. The full programme for the workshops is provided in Appendix 2.

Supporting Information

Connected Scotland provided additional supporting information to the Scottish delegates, which is given here in Appendix 3. This information includes descriptions of the higher education and research funding structures in Brazil.

Workshop Reports

Sao Paulo – Day 1

The agenda and links to presentations are provided in Appendix 4. Presentations included: scene setting to provide context to the MASTS – SAGES mission; The Newton Fund; overview of Brazilian marine science; introductions to the MASTS and SAGES research pools.

A key focus of the group discussion was the structural and administrative challenges which need to be considered both within Brazil and by MASTS and SAGES in developing collaborations.

A significant backdrop to these discussions was the serious impacts of the economic recession which has occurred in Brazil post 2013. The expansive first part of the programme of internationalisation and investment in graduate training through the Science without Borders scholarship scheme has come to an end and future investment in a similar postgraduate programme has not yet been confirmed. In 2013/14 the UK Newton Fund was established which provides £75m investment on a match funding basis over five years for 15 emerging economies including Brazil. The current economic status of Brazil suggests that securing the matched funding required will be problematic for many institutes.

A representative of the Brazilian Government was present at the workshop and many of the questions related to domestic administrative and structural challenges together with the need for co-ordinated international co-operation. These can be summarised as:

- A need to recognise the disparity in the availability of research funding between states was highlighted, particularly as this is largely predicated on a 1% levy on state Gross Domestic Product;
- Access to State and Federal funding was discussed;
- The mechanisms for dealing with research funding at the project level were considered complex and difficult to manage;
- Improved liaison between central government and the research community was also discussed;
- Wider international collaboration with the EU and South Africa was discussed in relation to the Trans-Atlantic cooperation;
- The need to develop subject based bi-lateral strategies to identify specific areas of common interest was highlighted;
- The potential to develop “position” papers (much like those produced by the European Marine Board) was discussed as a mechanism for influencing research funders and policy makers;
- In addition to collaborative research and exchanges of staff and students, the need to strengthen basic information exchange and knowledge sharing was highlighted;
- Scotland needs to advertise its capabilities to Brazilian students – to attract applications (including the Science Without Borders scholarship scheme) at post graduate level there is potential to develop a template for dual degrees and/or jointly funded studentships;
- Senior scientists are encouraged to visit Brazil but there is a need to facilitate this process as it is often difficult to identify the best links for individuals and bridge Brazilian institutions;
- The need for exchanges of specialist technical staff was noted as there is a lack of technical capacity in Brazil;
- Brazilian funding agencies are very keen on the co-development of technology;
- Brazilian Government has developed a national strategy on oceanic policy and environmental management but issue remain around data collection, access and monitoring of data.

Sao Paulo – Day 2

The agenda and links to presentations are provided in Appendix 5. Five minute presentations were provided by each of the UK and Brazilian researchers present outlining the research capacity in-country and their personal areas of interest.

The workshop attendees separated into two groups on the basis of alignment with either MASTS or SAGES research interests.

Both groups had wide ranging discussions which attempted to identify key areas of mutual research interest, more specifically the challenges for Brazil and any opportunities to advance these interests through collaborative research or training.

Independently, both groups agreed that additional collaborative workshops/working groups specifically designed to enable MASTS, SAGES and Brazilian specialists to engage around more defined subject areas are required with a view to:

- Strengthening subject-based peer to peer collaboration between the relevant researchers in these fields;
- Define tractable research priorities and articulate these in the form of a document designed to inform funding agencies and decision makers in Brazil, the UK and EU;
- Develop proposals to undertake research/exchanges/studentships/training.

The outputs from these group sessions are summarised as follows:

Terrestrial Environmental Management

As part of the additional working groups, which could function as an observatory, the group was keen to take these forward under the heading of ‘Soil, water and biodiversity interconnections – harnessing natural systems and knowledge in a rapidly changing world’, which captures both the physical breadth of natural resources as well as the diverse and multifaceted policy and research challenges these interrelations require to explore. A possible observatory was seen to add the following benefits by:

- Sharing critical reflections on novel and methodological approaches;
- Adding value through the Brazil-Scotland dimension looking to expand outreach/knowledge exchange particularly within engineering, water governance and land management
- Collating information of ontological and epistemological nature.

Approaches:

To explore both aspects under the heading further, it was suggested that:

- Teams for each research theme as summarised below, would be outlining the scope of sub-themes, gaps and missing expertise; this work would commence once presentations and contact lists were distributed.
- If possible, all workshop/working group ‘proposal’ documents should be collated into a single application to: Newton Fund under the Institutional Links strand in April 2016 (subject to confirmation by the Newton Fund of the eligibility of this approach);
- Each group would also look to review other funding options (Brazil, Europe, World);

Thematic Workshops and areas of collaboration:

Much time was spent debating areas for potential collaboration where Scottish-Brazilian joint activity would make a difference and add real value. Recurring issues cutting across most themes include:

- Modelling – scaling across disciplines
- Interdisciplinary approach
- Science, society and government (policy) interface
- technology development

The suggested workshop/working group theme areas were:

- Multiple scales of land management and connectivity– edges urban/rural; marine/terrestrial;
- Improving the role of science in policy and regulation – knowledge management/exchange and methodological challenges
- Biodiversity, ecosystem services and livelihoods

Individuals have been appointed within the terrestrial environmental management working group to lead on these theme areas (subject to confirmation of a suitable funding source).

Marine Environmental Management

Approaches:

It was suggested that:

- Task Groups should be established to define: the context, scope purpose, proposed approach, format and expected outputs of each workshop/working group;
- If possible, all workshop/working group “proposal” documents should be collated into a single application to: Newton Fund under the Institutional Links strand in April 2016 (subject to confirmation by the Newton Fund of the eligibility of this approach – please note Summary and Recommendations section of this report points 1 and 2);
- Some workshops may be based on discussion only. Others may involve some case study work *in situ*;
- The British Council noted their intention to explore potential to employ a dedicated proposal/project facilitator in Brazil who could help to drive this process forward.

Thematic Workshops and Case Studies:

After considerable debate, it was recommended that each workshop/working group should consider the following cross cutting areas – noting that the emphasis will be very much subject dependant:

- Modelling
- Instrumentation/technology
- Social and economic dimension
- Science-policy interface
- Capacity/training/mobility

The suggested workshop/working group theme areas were:

- Aquaculture in an ecosystem context

- Atlantic Ocean Observatory
- Coastal Dynamics and Management Tools
- Biodiversity (specific focus to be defined)

Individuals within the marine environmental management working group volunteered to lead on these theme areas (subject to confirmation of a suitable funding source).

MASTS Recife – Day 3

The agenda, listed delegates proposed to attend and actual attendees together with links to presentations is provided in Appendix 6.

The scene setting, Newton Fund and generic MASTS presentations were provided together with more detailed science interest presentations from the delegates from Scotland and Brazil. The presentations and associated questions and answers, occupied the majority of the workshop.

The summary of the way forward outlined at the Sao Paulo workshop was presented to the Recife delegates. There was concern that the range of delegates in attendance in Recife was not sufficiently broad to contribute to all of the theme areas highlighted. It was proposed that the aquaculture theme area should explicitly include production and not just environmental “impacts”. The need to maintain focus within the proposed theme areas was also highlighted. There was, in principle, support for the proposal to undertake more focused workshops/working groups which would articulate the science requirements and develop position papers that could help to influence funders and decision makers. In addition, these more focused groups could also develop case study papers and research proposals.

However, some doubt was expressed regarding the potential for the Newton Fund to support the proposed activities and the ability to influence the subject focus of future Newton calls was also considered questionable. In addition, the Brazilian delegates noted the limited capacity of states outwith Sao Paulo to match-fund in the current economic climate. This interpretation of the status and prospects for funding was highlighted as a cause for some concern and there was a need for clarification of potential funding opportunities before delegates are encouraged to progress the proposals for thematic workshops/working groups. Notwithstanding this, however, valuable links were made and individual scientists were optimistic that relevant collaborative projects could be developed, and were enthusiastic to explore avenues for funding beyond the Newton Fund.

SAGES Belo Horizonte – Day 3

The agenda, the attendee list of proposed and actual attendees and a link to the presentations can be found in Appendix 7.

Like MASTS, presentations were given that provided some scene setting, an overview of SAGES and the Newton Fund followed by detailed science interest presentations from all Scottish and Brazilian delegates. A majority of the one day workshop was taken up by presentations and associated questions and answers.

Themes that emerged from the discussions were broadly consistent with the themes that were agreed on at the workshop in Sao Paulo, specifically: 1) multiple scales of land management and connectivity; 2) improving the role of science in policy and regulation; 3) biodiversity, ecosystem services and livelihoods. It was felt that the range of delegates in attendance at Belo Horizonte were broad enough

to not only contribute to each theme, but were also able to shape each theme further by adding a sub-heading specifying aspects to be included in the research 'proposal' documents.

While there was agreement on the research themes and for the proposal to undertake more focused workshops/working groups some concern was expressed over the challenging funding environment that Brazil has come to face over the last few months, which may affect the ability to attain funds for both workshops and the proposed research. Doubt was also expressed over the Newton Fund's limitation to supporting the actual research opposed to bringing people together. However, within these constraints individual participants were able to identify a number of projects that they could potentially commence working on together without the need for large amounts of funding.

Summary and Recommendations

The meetings revealed numerous common research interests that could be pursued to our mutual benefit. The Newton Fund could be a possible route to further those collaborations. We will keep a watchful eye on those and other calls in order to be ready to react. The following links related to the Newton Fund may be of interest:

<http://www.international.ac.uk/programmes/current-opportunities/the-newton-fund.aspx>

<http://www.newtonfund.ac.uk/>

<http://universitiesuk.us6.list-manage1.com/subscribe?u=4db2235512f3ee2993ceaec5a&id=fe132e884b>

<http://www.britishcouncil.org/education/science/current-opportunities/institutional-links-newton-2015-july>

https://www.researchprofessional.com/funding/opportunity/1116385?_mhid=78120347

At the Sao Paulo workshop delegates discussed in principle, the potential to undertake more theme focused workshops with a view to developing a Newton Fund proposal in April 2016 to support these events. As some doubt regarding the potential to bid for Newton Funds under the Institutional Links strand was highlighted at the end of the Recife workshop an approach to the Newton Fund UK office was made by email with the following response:

1. For eligibility queries regarding specific calls applicants should contact the relevant delivery partner.
2. There are currently no institutional links funding opportunities, but applicants may wish to consider the currently open 'CONFAP-UK Academies Fellowships, Research Mobility, and Young Investigator Awards for UK researchers in Brazil'.
3. CONFAP will be able to advise you on the current opportunities and eligibility at: fundonewton@confap.org.br

Despite a challenging funding environment, we will continue to assess opportunities to take this initiative forward and would be happy to discuss other options should they arise.

A broad spectrum of subject areas was discussed and we will invite the relevant MASTS and SAGES colleagues to communicate directly with counterparts in Brazil to explore ideas. It was recommended



that delegates with interests in MASTS register on the MASTS website to receive regular updates on activities within MASTS and the UK/EU marine science community generally (www.masts.ac.uk). This includes information on events, potential funding opportunities etc.

MASTS and SAGES would also be happy to publicise any Brazilian events or opportunities to our networks. In addition, MASTS broadcasts webinars on a regular basis. Brazilian delegates were invited to use this medium to introduce their work to colleagues to the wider MASTS community.

Brazilian delegates were also invited to contact MASTS if visiting Scotland and seeking advice or assistance. In addition, all delegates were invited to make Connected Scotland and the British Council aware of any projects or other initiatives that arise as a result of the MASTS-SAGES mission to Brazil.

Appendix 1: List of Delegates

| SÃO PAULO | | |
|-----------------|-------------------|---|
| First Name | Last Name | Institution |
| Clarissa A. | Barreto | University of São Paulo |
| Izabel | Boock de Garcia | CEPTA/ICMbio |
| Andrew | Brierly | University of St-Andrews |
| José A. | Cuminato | University of São Paulo, São Carlos Campus |
| Ozelito P. | de Amarante Jr | Federal Institute of Maranhão |
| Daniela M. | de Figueiredo | Federal University of Mato Grosso |
| Débora M. | de Freitas | São Paulo State University, Coast Campus |
| Rita C. Ribeiro | de Souza | Environmental consultant |
| Karen | Diele | Edinburgh Napier University |
| Jorge | Eduardo Kotas | CEPSUL/ICMbio |
| Vanessa | Empinotti | Universidade Federal do ABC |
| Katharina E. | Esteves | Fisheries Institute , São Paulo |
| Ruth | Falconer | Abertay University |
| Alessandra | Fonseca | Federal University of Santa Catarina |
| Luis H. P. | Garbossa | Santa Catarina Agricultural Research and Extension Corp. |
| Antonio | Ioris | University of Edinburgh |
| Mark | James | Marine Alliance for Science & Technology Scotland (MASTS) |
| José Eduardo | Martinelli Filho | Federal University of Pará |
| Petra | McNeilly Rutledge | Universities Scotland |
| Rodrigo | Medeiros | Universidade Federal do Paraná |
| Mariana C. | Oliveira | University of São Paulo |
| Paulo | Pagliosa | Federal University of Santa Catarina |
| Ulrike | Peter | Universities Scotland |
| Andrei | Polejack | Ministry of Science, Technology and Innovation |
| Heather | Price | University of Stirling |
| Cleonice | Puggian | State University of Rio de Janeiro |
| Jonathan | Ready | Federal University of Pará |
| Leonardo R. | Rörig | Federal University of Santa Catarina |
| John | Rowan | University of Dundee |
| Jose Augusto | Senhorini | CEPTA/ICMbio |
| Douglas | Speirs | University of Strathclyde |
| Fin | Stuart | Scottish Universities Environmental Research Centre (SUERC) |
| Alexander | Turra | University of São Paulo |

| BELO HORIZONTE | | |
|-------------------------|------------------|---|
| First Name | Last Name | Institution |
| Daniel | Abreu | Federal University of Mato Grosso/Sinop |
| Carlos A. | Carvalho Filho | Federal University of Minas Gerais |
| Sara | Cuadros Orellana | Fiocruz |
| Julio Cesar | do Reis | Embrapa |
| Ruth | Falconer | Abertay University |
| Antonio | Ioris | University of Edinburgh |
| Fernando | Laureano | PUC Minas |
| Paulo P. | Martins Jr | Minas Gerais State Agricultural Research Institute/ Universidade Federal de Ouro Preto |
| Nilo | Nascimont | Federal University of Minas Gerais |
| Ulrike | Peter | Universities Scotland |
| Ricardo | Pinto-Coelho | LGAR-ICB Federal University of Minas Gerais |
| Heather | Price | University of Stirling |
| Azeneth E. | Schuler | Embrapa |
| Fulvio R. | Simao | Minas Gerais State Agricultural Research Institute |
| Fin | Stuart | Scottish Universities Environmental Research Centre (SUERC) |
| João Herbert Moreira | Viana | Embrapa |

| RECIFE | | |
|----------------------|-------------------|---|
| First Name | Last Name | Institution |
| Claudio | Anjos | British Council |
| Arnaud | Bertrand | Institut de Recherche Pour le Development |
| Nadege | Bouchonneau | Federal University of Pernambuco |
| Andrew | Brierly | University of St-Andrews |
| Raquel | Coimbra | Universidade Federal Rural de Pernambuco |
| Monica F. | Costa | Federal University of Pernambuco |
| Alexandre Fonseca | D'Andrea | Federal Institute of Paraíba |
| Gerson Fernandino | de Andrade Neto | Federal University of Bahia |
| Edmilsop S. | De Lima | Federal University of Pernambuco |
| Karen | Diele | Edinburgh Napier University |
| Mark | James | Marine Alliance for Science & Technology Scotland (MASTS) |
| Petra | McNeilly Rutledge | Universities Scotland |
| Tatiana Viera | Poletto | Federal University of Santa Catarina |
| Ricardo S. | Rosa | Federal University of Paraíba |
| Ralf | Schwamborn | Federal University of Pernambuco |
| Lilia P | Souza-Santos | Federal University of Pernambuco |
| Douglas | Speirs | University of Strathclyde |

Appendix 2: Full Programme

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| <p>Sunday 20 Sep</p> <p>São Paulo</p> | <p>Arrival and check in at Transamérica Executive Faria Lima <i>Rua Pedroso Alvarenga, 1256 - Itaim Bibi, São Paulo</i> <i>+55 11 3089-7500</i></p> <p>7:30PM welcome dinner</p> <p>Plaza Navona Restaurant, Transamérica Executive Faria Lima</p> |
| <p>Monday 21 Sep</p> <p>São Paulo</p> <p>08:30</p> <p>09:30 – 09:40</p> <p>09:40 – 09:55</p> <p>09:55 - 10:10</p> <p>10:10 – 10:40</p> <p>10:40 – 11:00</p> <p>11:00 – 11:30</p> <p>11:30 – 12:15</p> <p>12:15 – 12:45</p> | <p>Environmental Management Workshop: MASTS & SAGES</p> <p>USP – University of São Paulo Instituto de Relações Internacionais Av. Prof. Lúcio Martins Rodrigues, s/c, travessas 4 e 5 - Cidade Universitária - Sala da Congregação (next to Sweden Restaurant) Contact in USP: Mrs. Ilza Godoi – Tel.: +55 11 11 2648-0183 Producer who will support the event: Mr. Fernando Scuby – Tel.: +55 11 95555-7979</p> <p>Meet in hotel lobby for group transfer to USP</p> <p>Welcome words <i>Prof Dr Mauricio da Silva Baptista, Associate Director for International Cooperation (AUCANI)</i></p> <p>Introduction from the British Council <i>Claudio Anjos, Director Education and Society, British Council Brazil</i></p> <p>Welcome and scene setting <i>Dr Mark James, Operations Director, MASTS</i></p> <p>Opportunities through Newton & the UK Science and Innovation Network (SIN) <i>Claudio Anjos, Director Education and Society, British Council Brazil and Diego Arruda, Newton Fund Manager, UK Science & Innovation Network</i></p> <p>Q&As</p> <p><i>Morning tea break</i></p> <p>An introduction to MASTS and SAGES and research pools in Scotland <i>Dr Mark James, Operations Director, MASTS</i> <i>Professor John Rowan, Director of the Centre for Environmental Change and Human Resilience, University of Dundee & SAGES Member</i></p> <p>The role of the Chico Mendes Institute for Biodiversity Conservation (ICMbio), its policy priorities, and its work with universities <i>Jose Augusto Senhorini, ICMbio</i></p> |

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| 12:45 – 13:00 | Q&As |
| 13:00 – 14:20 | <p><i>Lunch & networking break</i></p> <p>Restaurante do Clube dos Professores Restaurant of the Professors' Club Rua do Matão, 801-Cidade Universitária, São Paulo-SP http://www.usp.br/coseas/COSEASHP/COSEAS2010_RCD.html</p> <p><i>Transport has been hired to bring the group to the restaurant</i></p> |
| 14:20 – 14:50 | <p>The role of the Oceans Sciences and Antarctica Secretariat for R&D Policies and Programmes (SEPED), Ministry of Science, Technology and Innovation, (MCTI) its policy priorities, and its work with universities</p> <p><i>Andrei Polejack, Coordinator, SEPED.</i></p> |
| 14:50 – 15:05 | Q&As |
| 15:05 – 15:35 | <i>Afternoon tea break</i> |
| 15:35 – 16:45 | <p>Discussion: opportunities and challenges of research collaboration in Brazil</p> <p><i>Perspectives from the Brazilian researchers</i></p> |
| 16:45 – 17:00 | <p>Wrap up: capture any action points & outline agenda for the following day</p> <p><i>Dr Mark James, Operations Director, MASTS</i> <i>Professor John Rowan, Director of the Centre for Environmental Change and Human Resilience, University of Dundee & SAGES Member</i></p> <p><i>(Group transfer back to hotel)</i></p> |
| Tuesday 22 Sep | Environmental Management Workshop: MASTS & SAGES |
| São Paulo | <p>USP – University of São Paulo Instituto de Relações Internacionais Av. Prof. Lúcio Martins Rodrigues, s/c, travessas 4 e 5 - Cidade Universitária - Sala da Congregação (next to Sweden Restaurant) Contact in USP: Mrs. Ilza Godoi – Tel.: +55 11 11 2648-0183 Producer who will support the event: Mr. Fernando Scuby – Tel.: +55 11 95555-7979</p> |
| 08:15 | Meet in hotel lobby for group transfer to USP |
| 09:00 – 09:10 | <p>An introduction to USP's work in 'Environmental Management'</p> <p><i>Profa. Dra. Mariana C de Oliveira - Biosciences Institute</i> <i>Theme: Marine Algae biodiversity studies in Brazil</i></p> |
| 09:10 – 09:30 | <p><i>Prof. Dr. José A. Cuminato – Institute of Mathematics Sciences of São Carlos - ICMSC</i> <i>Theme: Cepid-CeMEAI - Center for Mathematical Sciences Applied to Industry</i></p> |

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| <p>09:30 – 11:00</p> <p>11:00 – 13:00</p> <p>13:00 – 14:00</p> <p>14:00 – 15:00</p> <p>15:00 – 15:15</p> <p>15:15 – 16:30</p> <p>16:30 – 17:00</p> | <p>Case studies: presentations on research projects from Brazilian and Scottish Researchers <i>5 min presentation from each researcher</i></p> <p><i>Morning tea break</i></p> <p>Case studies: presentations on research projects from Brazilian and Scottish Researchers <i>5 min presentation from each researcher</i></p> <p><i>Lunch & networking break</i></p> <p>Restaurante Sweden (Faculdade de Economia e Administração - FEA) Av. Prof. Luciano Gualberto, 908, Butantã – São Paulo</p> <p>Discussion about areas of joint interest</p> <p><i>Afternoon tea break</i></p> <p>Small group break-out sessions: identifying areas for joint projects.</p> <p>Wrap up: report back from groups and capture any action points and necessary follow-up <i>Dr Mark James, Operations Director, MASTS</i> <i>Professor John Rowan, Director of the Centre for Environmental Change and Human Resilience, University of Dundee & SAGES Member</i></p> <p><i>(Group transfer back to hotel)</i></p> |
| <p>Wednesday 23 Sep</p> <p>09:30 – 12:42</p> <p>09:50 – 11:00</p> | <p>Travel</p> <p>MASTS: Flight São Paulo to Recife GOL G31282</p> <p>Check in at Golden Tulip Recife <i>Avenida Boa Viagem, 4070 - Boa Viagem, Recife</i> <i>+55 81 3201-8200</i></p> <p>SAGES: São Paulo to Belo Horizonte GOL G32008</p> <p>Check in at Allia Gran Hotel Pampulha Suites <i>Intendente Câmara, 540 - Liberdade, Belo Horizonte</i> <i>+55 31 3311-0100</i></p> <p><i>(Group transfer to/from the airports will be arranged for both groups)</i></p> |
| <p>Thursday 24 Sep</p> <p>Recife</p> | <p>Environmental Management Workshop: MASTS</p> <p>UFPE – Federal University of Pernambuco Museu de Oceanografia da UFPE</p> |

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| | <p>Campus Universitário da UFPE, Recife. Endereço: Av. Arquitetura, s/n - Cidade Universitária Recife - PE - CEP: 50740-550 Contact in UFPE: Prof. Edmilson de Lima – Tel.: +55 81 99172-5257</p> |
| 08:30 | Meet in hotel lobby for group transfer to UFPE |
| 09:30 – 09:40 | Welcome and scene setting <i>Dr Mark James, Operations Director, MASTS</i> |
| 09:40 – 10:30 | An introduction to MASTS and research pools in Scotland <i>Dr Mark James, Operations Director, MASTS</i> |
| 10:30 – 11:00 | Opportunities and challenges of research collaboration in Brazil <i>Perspectives from the Brazilian researchers</i> |
| 11:00 – 11:30 | <i>Morning tea break</i> |
| 11:30 – 12:00 | Opportunities through Newton & the UK Science and Innovation Network (SIN) <i>Claudio Anjos, Director Education and Society, British Council Brazil</i> |
| 12:00 – 12:15 | Q&As |
| 12:15 – 13:00 | Case studies: presentations on research projects from Brazilian and Scottish Researchers <i>10 min presentation from each researcher</i> |
| 13:00 – 14:00 | <i>Lunch & networking break</i> |
| 14:00 – 15:00 | Case studies: presentations on research projects from Brazilian and Scottish Researchers <i>10 min presentation from each researcher</i> |
| 15:00 – 15:30 | <i>Afternoon tea break</i> |
| 15:30 – 17:00 | Identifying themes for joint projects |
| 17:00 – 17:15 | Wrap up: capture any action points and necessary follow-up <i>Dr Mark James, Operations Director, MASTS</i> |
| | <i>(Group transfer back to hotel)</i> |
| Thursday 24 Sep | Environmental Management Workshop: SAGES |
| Belo Horizonte | <p>UFMG – Federal University of Minas Gerais Av. Antônio Carlos, 6627 CEP: 31270-901 - Belo Horizonte, MG Escola de Engenharia (EE) da UFMG, Bloco 1, sala 4517 Contact in UFMG: Prof. Nilo Nascimento – Tel.: + 55 31 8806-5723</p> |
| 08:30 | Meet in hotel lobby for transfer to UFMG |

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|----------------------|--|
| 09:00 – 09:20 | Meeting with Director of the Engineering School of UFMG <i>Prof. Alessandro Moreira</i> |
| 09:30 – 09:40 | Welcome and scene setting <i>Professor John Rowan, Director of the Centre for Environmental Change and Human Resilience, University of Dundee & SAGES Member</i> |
| 09:40 – 10:10 | An introduction to SAGES and the research pools in Scotland <i>Professor Fin Stuart, Head of noble gas laboratories, Scottish Universities Environmental Research Centre & SAGES Member</i> |
| 10:10 – 10:30 | Opportunities through Newton & the UK Science and Innovation Network (SIN) <i>Person still to be defined</i> |
| 10:30 – 10:45 | Role of the Brazilian Corporation of Agricultural Research (Embrapa) and its policy priorities |
| 10:45 – 11:15 | <i>Julio Cesar Reis, Embrapa</i> Q&As |
| 11:15 – 11:30 | <i>Morning tea</i> |
| 11:30 – 12:00 | Case studies: presentations on research projects from Brazilian and Scottish Researchers |
| 12:00 – 13:00 | <i>10 min presentation from each researcher</i> <i>Lunch & networking break</i> |
| 13:00 – 14:00 | Case studies: presentations on research projects from Brazilian and Scottish Researchers |
| 14:00 – 15:00 | <i>10 min presentation from each researcher</i> Discussion about areas of joint interest. |
| 15:00 – 15:30 | <i>Afternoon tea break</i> |
| 15:30 – 16:00 | Identifying themes for join-projects. |
| 16:00 – 17:00 | Wrap up: capture any action points and necessary follow-up |
| 17:00 – 17:15 | <i>Professor John Rowan, Director of the Centre for Environmental Change and Human Resilience, University of Dundee & SAGES Member</i> <i>(Group transfer back to hotel)</i> |
| Friday 25 Sep | Individual meetings & or travel |
| 10:12 – 13:40 | MASTS Flight Recife to São Paulo GOL G31285 |
| 10:58 – 12:50 | SAGES Flight Belo Horizonte to São Paulo GOL G31805 END OF FORMAL PROGRAMME |

Appendix 3: Supporting Information

View online: https://www.dropbox.com/sh/d1345ri5j8l69m5/AAC1BGLoB4qboNI_klBNMPx5a?dl=0

Appendix 4: Sao Paulo – Day 1 - Agenda and links to presentations

View online: <https://www.dropbox.com/sh/x6ax3l9wuabc30e/AAC4jmPbLf5arylq6ju8XD6na?dl=0>

Appendix 5: Sao Paulo – Day 2 – Agenda and links to presentations

View online: <https://www.dropbox.com/sh/x6ax3l9wuabc30e/AAC4jmPbLf5arylq6ju8XD6na?dl=0>

Appendix 6: Recife – Day 3 – Agenda and links to presentations

View online: <https://www.dropbox.com/sh/x6ax3l9wuabc30e/AAC4jmPbLf5arylq6ju8XD6na?dl=0>

Appendix 7: Belo Horizonte – Day 3 – Agenda and links to presentations

View online: <https://www.dropbox.com/sh/x6ax3l9wuabc30e/AAC4jmPbLf5arylq6ju8XD6na?dl=0>

Appendix 8: Mission Budget

| Expense | Total Budget | Budget Holder | Contribution |
|--|--------------|--|-----------------------------|
| Scottish delegate travel, accommodation & meal expenses | £28,000 | Scottish Development International MASTS SAGES | £14,000 £5,500 £5,500 |
| Brazilian delegate travel, accommodation & meal expenses | £13,000 | British Council Scotland MASTS SAGES | £10,000 £1,500 £1,500 |
| Catering | £2,000 | Universities Scotland | £2,000 |