



Prof A. Lawrence
University of Edinburgh
UK

11th April 2009

Dear Andy,

UK Gravitational Wave Research Community / VOTC:UK

We are writing to confirm our proposed agreements on collaboration between the UK gravitational wave astronomy community and VOTC:UK. The gravitational wave astronomy community includes:

- Researchers affiliated to the LIGO Scientific Collaboration (LSC) who are engaged directly in the design, operation and exploitation of current and future ground-based interferometers.
- Researchers engaged in development work for the proposed LISA mission, planned for launch around 2020.

As previously discussed with you, the following specific projects represent clear opportunities for collaboration between VOTC:UK and the communities:

1. Working with IVOA to agree standards on expressing user identity and authorisation and secure access protocols. This issue is of particular importance to the UK ground-based gravitational wave community since data from the LIGO, GEO and VIRGO ground-based interferometers is currently proprietary. Moreover, in order to exploit maximally the future potential of the VO for “Multi-messenger” astronomy, we recognise the need to develop and implement systems for authorisation and secure access that will be compatible with those used elsewhere in astronomy. The primary GW contact for these activities will be Martin Hendry in Glasgow.
2. Upgrading the preliminary computational grid for distributed data processing with European partners – building upon the experience gained by the Particle Physics community and the RAL e-Science Centre – in order to facilitate the running of gravitational wave data analysis applications on the grid. The particular issues to be addressed here include workflow scheduling, on-demand data replication, and standardising access to shared software packages. The primary GW contact for this activity will be Bangalore Sathyaprakash in Cardiff.
3. More specifically, developing the necessary infrastructure and protocols to facilitate extension of the German-led “Einstein-at-home” high-throughput data search application to run

Dr Martin A. Hendry

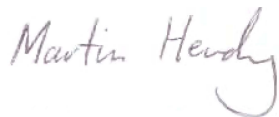
Department of Physics and Astronomy, The University of Glasgow,
Glasgow G12 8QQ, U.K. *Tel:* 0141 339 5685 *Fax:* 0141 330 5183
martin@astro.gla.ac.uk, <http://www.astro.gla.ac.uk/users/martin/>

first on the UK grid and then across Europe. This will potentially leverage for E@H close to Petaflop computing power from distributed hosts. The primary GW contacts for this activity will be Martin Hendry and Graham Woan in Glasgow.

4. Establishing a semi-automated system for gravitational-wave astronomy users to search across all wavelengths for E-M counterparts to candidate gravitational wave events. The specific goal here will be to work with IVOA to develop protocols for “Multi-messenger” searches. The primary GW contact for this activity will be Martin Hendry in Glasgow.

We look forward to working with VOTC:UK on these projects.

Best regards,

A handwritten signature in cursive script that reads "Martin Hendry".

Dr Martin Hendry
Dept of Physics and Astronomy