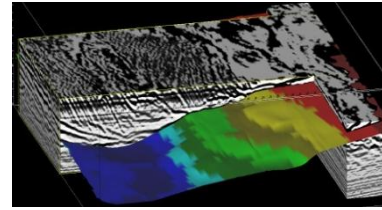


## Fluvial Sedimentology



*Supervisor; Greg Sambrook Smith*

Recent work on the South Saskatchewan River, Canada (Sambrook Smith et al., 2006) and Rio Parana, Argentina (Sambrook Smith et al., 2009) has developed techniques for quantifying and assessing the evolution of sandy braided river deposits. This has allowed new understanding between formative processes and preserved deposits to be fully realised. Applications are now welcomed from potential postgraduate students to develop these techniques further. An opportunity exists for successful applicants to join recently commenced projects working in such diverse environments as Bangladesh, Bolivia, Paraguay or the USA. Study topics might include exploring differences between meandering and braided river deposits, quantifying the alluvial architecture of confluence scours, exploring how grain size changes influence the depositional product, looking at larger channel stacking patterns in floodplain environments or quantifying how the small-scale internal architecture of dune forms relates to flow conditions. The successful candidate will join large international teams who are working on these projects with the primary aim of generating new datasets and modelling approaches for simulating the long term evolution of river deposits. The student will have primary responsibility for collecting, processing and analysing 2D and 3D geophysical data most appropriate to the topic of study and field site chosen. Techniques used might include established methods such as ground penetrating radar and resistivity or development of new methods such as parametric echosounding.

The ideal candidate would have a broad earth science background with a particular interest in the sedimentology of fluvial systems. Experience of geophysical techniques would be advantageous but training can be provided if required. A willingness to learn new techniques and work with large datasets would, however, be essential. Informal enquiries to Greg Sambrook Smith (e-mail: [g.smith.4@bham.ac.uk](mailto:g.smith.4@bham.ac.uk)). If you have alternative ideas for projects in the same broad area of fluvial sedimentology then please also e-mail to discuss these.

### References

- Sambrook Smith, G. H., Ashworth, P. J., Best, J. L., Woodward, J. & Simpson, C. J. (2006) The sedimentology and alluvial architecture of the sandy braided South Saskatchewan River, Canada. *Sedimentology*, 53, 413-434.
- Sambrook Smith, G. H., Ashworth, P. J., Best, J. L., Lunt, I. A., Orfeo, O. & Parsons, D. R. (2009) The sedimentology and alluvial architecture of a large braid bar, Rio Parana, Argentina. *Journal of Sedimentary Research*, 79, 629-642.
- Sambrook Smith, G.H., Best, J.L., Ashworth, P.J., Lane, S.J., Parker, N.O., Lunt, I.A., Thomas, R.E. and Simpson, C.J. (2010) Can we distinguish flood frequency and magnitude in the sedimentological record of rivers? *Geology*, 38, 579-582