



22nd Biennial Conference of the British Dam Society

Keele University

11th - 14th September 2024

Delegate Brochure

Welcome to 22nd Biennial Conference of the British Dam Society at Keele University.

As BDS Chair, it is a great pleasure and an honour to welcome you to our 22nd Biennial Conference. We have 320 delegates, including 18 exhibitors joining us over the event duration. This is the largest conference we have held to date, so thank you for making this possible.

Over the next few pages, you will find some key information to aid your planning prior to and during the conference.

Our conference theme of "Managing Risks for Dams and Reservoirs'" will enable us all to share experiences, opinions, engage in discussions and focus on the future of our industry. We will be able to do this in a variety of ways including presentations, workshops, site visits and informal networking opportunities.

We are also pleased to have several social events planned for the evenings, starting with the Exhibitor Reception evening being held on Wednesday night in the Chancellor's building open space. This will be a great opportunity for networking with our 18 exhibitors and other delegates. The Young Professionals will then lead and host an event on Thursday night, again in the Chancellor's building.

On Friday evening we will have the pleasure of Alan Brown presenting the Geoffrey Binnie Lecture in the Chancellor's Building main theatre. This will be followed by our formal conference dinner in the grounds of Keele Hall. Both events will provide an excellent last night for our conference.

My thanks go out to all of those who have provided papers, posters, presentations, workshop ideas/involvement and site visits. The conference would not be possible without you.

Special thanks go to all involved in organising the conference. It is a large task to undertake on top of their normal roles.

My final thanks go to all the staff at Keele for being so accommodating to our requirements.

I hope that you will all manage to enjoy the conference, relish in the networking opportunities and engagement with old/new friends/colleagues.

Rachel Davies

The British Dam Society Chair

2024 Conference Sponsors

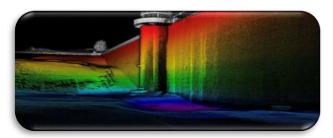
The British Dam Society would like to take this opportunity to express our thanks to the following corporate sponsors of the 22nd Biennial British Dam Society Conference.

Platinum Sponsor – Main Conference Sponsor



EDS is privileged to be the platinum sponsor of the 2024 BDS Conference and we would like to thank the society's organising committee for putting together another interesting and well-organised event with so many opportunities to learn, share knowledge and, most importantly, re-connect with our industry colleagues in person. As ever, it is great to be able to get together again to enjoy all things dam-related!





As a specialist marine and civil engineering contractor with a track record of solving technical reservoir-related underwater and confined space challenges, the EDS team is proud to have worked with many of the conference delegates at their sites all over the UK. For those that we haven't worked with yet, please feel free to stop by our exhibition stand for a chat, we'd love to meet you and introduce ourselves.

Our company purpose is to provide *engineering solutions in challenging locations for a safer environment*. We have a passion for working on reservoir projects, be they underwater isolation or replacement of historic valves and pipework, installation of siphons, emergency draw down and temporary pump systems, asset inspection, upgrade and maintenance works, confined space tunnel and tower works or safety and rescue







cover provision. We relish the unique challenges involved which give us an opportunity to live our purpose each and every day.

We take pride in developing true partnerships with our clients and their principal contractors so that we can build long-term relationships and benefit from the knowledge and experience of every job we complete. Our full-time employed team, now over 60-strong, includes a Qualified Supervising Engineer, Chartered Civil Engineer, multiple qualified diving engineers, craftspeople including fabricator welders and machinists (operating from our in-house fabrication workshops), confined space access and rescue teams, topographical and hydrographic surveyors, ROV operators, boat handlers and much more. Combined with our large array of specialist equipment and tools for every underwater inspection, maintenance & construction task, we are well-placed to work with you to solve your complex reservoir project requirements.

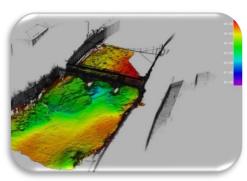
Please come and see our representatives at the conference, or contact us directly. Until then, enjoy the BDS Conference 2024!

If you'd like to keep up to date with EDS and see some of the projects we work on, follow our company page on LinkedIn by searching for 'Edwards Diving Services Ltd' or using the hashtag #teamEDS. You can also find out lots more information and contact us via our website at www.edwardsdivingservices.co.uk.

For any enquiries, please call us on 02920 862020 or email <u>office@edwardsdivingservices.co.uk</u> and we'd be happy to chat.







Gold Sponsor – Conference Formal Dinner



www.glenfieldinvicta.co.uk

enquiries@glenfieldinvicta.co.uk

Glenfield Invicta brings together the strength and unique proposition of Invicta's site solutions, penstocks, and environmental expertise, with Glenfield's experience and expertise in specifying and managing the large dams, reservoirs, and hydropower schemes. All supported by the vast product portfolio from AVK UK and its sister businesses. From 'concept to completion', Glenfield Invicta end to end project solutions provide market leading valve and penstock engineering excellence, across a multitude of water and nonwater infrastructure projects.

Our experienced and multi-skilled project team work closely with our partners and key stakeholders to ensure the project is executed to exacting standards.

Silver Sponsor - Young Professionals Quiz Night



www.atkinsrealis.com

<u>chris.restorick-</u> vyse@atkinsrealis.com AtkinsRéalis, one of the world's most respected design, engineering, and project management consultancies, provides end-to-end consultancy advice and guidance, supporting our clients to respond to the technical, economic, regulatory and environmental forces challenging reservoir owners today and into the future.

We are actively engaged in the full range of services associated with reservoir engineering including water supply, flood alleviation, irrigation and hydropower, statutory inspections, dam breach analysis and flood inundation mapping together with the design and supervision of both new build, measures in the interests of safety and remedial works in the UK and internationally.

Bronze Sponsor – Session Sponsors



www.jba-bentley.co.uk

Michael.McAree@mottmac.com

Graeme.carruthers@jnbentley.co.uk



www.soil-engineering.co.uk simon.baxter@soil-engineering.co.uk





www.bacsol.co.uk stewart.gillies@bacsol.co.uk JN Bentley is a civil engineering, building and MEICA contractor that specialises in safe and efficient delivery of sustainable solutions. We're flexible in our approach, offering design and build or build-only services. We're capable of supporting Clients at all stages of project delivery, from concept to completion, however agile enough to tailor our approach to provide the support you JN Bentley have a strong heritage in the water sector, including extensive experience with reservoirs within the UK. Our work has covered all aspects and magnitudes of reservoir safety, capital maintenance and emergency work to impounding, non-impounding and service reservoirs.

Soil Engineering are award winning market leaders in both Ground Investigating and Grouting services. We pair experienced and responsive capability with nationwide coverage. Accredited Principal Contractors, Soil Engineering can provide full investigation packages across the utilities sector, and remediation works through our grouting specialisms, with safe and reliable self-delivery at the heart of what we do.

Supporting our clients for a better world - Binnies is a UK owned engineering consultancy with over 100 years' experience in dam engineering. Originally formed in 1890, the company has played a pivotal role in the design and construction of many of the world's most iconic dams. In the 21st century, Binnies reservoir team continues to thrive, providing Panel Engineer services and technical excellence in dam engineering and reservoir safety, as well as leading the way with the UK reservoir industry's digital transformation.

Bachy Soletanche is a leading design and build specialist, in modern geotechnics and foundation engineering. Our multidisciplinary team offers a comprehensive range of solutions to suit the nuances of water infrastructure projects, including those for restricted-access sites, unpredictable strata and environmentally sensitive areas. We collaborate with clients to maximise the potential of water assets so they can continue serving communities for decades to come, ensuring they are climate resilient and can accommodate our rapidly evolving world. Whether you are seeking a small-scale subcontractor or a major joint venture partner, we operate at every level and can offer as much support as you need to deliver your programme.

Conference Details

The Venue

The Conference will be held at Keele University, Stoke on Trent, Staffordshire ST5 5BG.

Most conference activities will take place in the Chancellor's building (map ref. 1), including the presentations, workshops, exhibition space, meals, and refreshments. The location of each event is detailed on the Conference Programme and a map of the Campus and Chancellor's building is included in this brochure and on the app.

Conference Registration

Registration for the conference will take place in the foyer of the Chancellor's building (map ref. 1) from 16:00 until 19:00 on Wednesday 11th September.

Registration for delegates arriving late on Wednesday night will also take place in the foyer of the Chancellor's building (map ref. 1) between 08:00 and 08:45 on Thursday 12th before the conference opens at 9am.

Accommodation – University Student Accommodation

All delegates staying in the university student accommodation have been allocated En-suite bedrooms in Barnes Hall (map ref.36) on the main campus.

Each room will be supplied with bedding, toiletries in the bathroom and will be cleaned daily.

Tea / coffee making facilities will be available in the kitchen areas in the Halls.

<u>Check In</u> - Bedrooms will be available from 1pm on the day of arrival. Delegates should go to Guest Services University Reception Chancellor's building (map ref.1) on the ground floor to collect their keys.

If you are expecting to arrive out of hours (10pm to 8am), please go to the 24hour reception at Courtyard by Marriott Keele Hotel (map ref.45)

Any problems with your accommodation should be reported to the Guest Services team on 01782 734014.

<u>Check Out</u> - Guests are requested to vacate their rooms by 9.30am on the day of departure and return keys to the Guest Services University Reception Chancellor's building (map ref.1)

Luggage can be left in a room in the Chancellor's building on Saturday 18th September following check out.

Accommodation – University Hotel

All delegates that have booked university hotel accommodation have been allocated bedrooms in the Courtyard by Marriott Hotel which is also located on campus (map ref.45).

<u>Check In</u> - Bedrooms will be available from 3pm on the day of arrival. Delegates should go to Courtyard by Marriott Hotel Reception Desk to collect their keys (map ref.45). Any problems with your accommodation should be reported to the Reception Desk.

<u>Check Out</u> - Guests are requested to vacate their rooms by 12pm on the day of departure and return keys to the Reception Desk.

Luggage can be left in a room in the Chancellor's building on Saturday 14th September following check out.

How to get there

Directions by Car

Keele University Campus is between Junctions 15 and 16 on the M6, and is just west of Stoke-on-Trent and Newcastle-under-Lyme, halfway between Manchester and Birmingham.

From the north:

Leave the M6 motorway at Junction 16, signed A500/Alton Towers. At the motorway roundabout turn right onto the A500 for Crewe and Nantwich. The University is signed from here. At the next roundabout, go straight on the A500 (A531) and at the next one turn left onto the A531 (A525) for Keele. After approximately 7 miles, turn right at the roundabout onto campus. From the motorway junction to Keele the journey time is about 20-25 minutes

From the south:

Leave the M6 at Junction 15 and follow the signs for the A519 into Newcastle-under-Lyme. The University is signed from the first roundabout. Two miles out of Newcastle, turn left at the roundabout onto campus. From the motorway junction to Keele the journey time is about 15-20 minutes.

Car Parking

Keele University operates an ANPR parking system.

A unique parking link is available for you to complete for your vehicle registration:

Keele Parking Permit

Delegates/attendees must register their car **PRIOR** to arrival at Keele.

All parking is subject to availability. We recommend car sharing or use of public transport as parking is limited.

Once registered vacation parking is available in any University approved permit holder car park (excluding Pay and Display, C4 pre booked car park, Innovation Centre car parks and the Courtyard by Marriott).

Vehicle and contents are parked at the owner's risk and no liability is accepted for any loss or damage, however caused. Please help us to reduce the risk of vehicle crime by removing valuables from view in your vehicle.

Please ensure that your vehicle is parked in accordance with Keele University Traffic/Parking Policies as displayed on the car park signage. Any breach may result in an infringement notice being issued which could include a charge. Please note that a fine will be levied for failure to register your vehicle.

Directions by Public Transport

The nearest railway stations to Keele are:

- Stoke-on-Trent (5 miles/8km)
- Crewe (12 miles/19km)

For national train times and enquiries go to: nationalrail.co.uk

From Stoke-on-Trent train station, 'First' buses operate No. 25 service. The bus stop is on your left when exiting the station, on the opposite side of the road (opposite the taxi rank). More details can be found on the **First Group website**.

From Crewe bus station, 'D&G' buses (No. 85 service) to Newcastle-under-Lyme leaves from the stop to the right of the station entrance towards the roundabout. The service leaves at 5 minutes past the hour (Monday to Saturday), taking about 50 minutes, and stops in Keele village or Barnes Hall.

Directions by Air

Manchester Airport is nearest to Keele and is about 35 miles (56km) away.

There are other airports that you may also arrive at:

- East Midlands Airport
- Birmingham International Airport
- Liverpool John Lennon Airport



Conference Venue Locations

The following locations will be used throughout the conference. The map references refer to the campus map and Chancellor's building map on page 15 and 16.

Campus Location	Map ref	Conference Uses / Comments	what3words location
Barnes Hall	36	University Accommodation	https://w3w.co/sounds.ranks.defend
Courtyard by Marriott	45	Hotel Accommodation Breakfast (for delegates staying in the Hotel)	https://w3w.co/rush.hunt.snows
Chancellor's Building	1	Conference Registration	https://w3w.co/golf.goats.lush
Westminster Theatre (Chancellor's building)	1	Morning technical sessions Geoffrey Binnie Lecture	https://w3w.co/magma.power.dunes
Chancellor's building (multiple rooms)	1	Workshops - various	https://w3w.co/golf.goats.lush
Open Space (Chancellor's Building)	1	Exhibition Ares	https://w3w.co/universally.zooms.tips
Chancellor's Building Layby near CP3	1	Coach Pick Up Location	https://milky.count.simple
The Kitchen Table (Chancellor's Building)	1	Refreshment Area Breakfast (for delegates staying in Barnes Hall)	https://w3w.co/exit.pouch.composers
		Lunch – Thursday, Friday, Saturday (not packed lunches)	
		Evening Meal – Wednesday, Thursday	
		Exhibitors Reception – Wednesday	
		YP Quiz - Thursday	
Keele Hall		Conference Dinner - Friday	https://w3w.co/rank.year.excuse

Meals & Refreshment Breaks

Breakfast

Breakfast for delegates staying in the Barnes Hall will be served in The Kitchen Table (Map Ref. 1) each morning between 07.00 and 08.45.

Breakfast for delegates staying in the Courtyard by Marriott Hotel will be served in the restaurant within the hotel (within the hotel) each morning between 6.30 am and 09.30 am (Thurs & Fri) and 6.30 am and 10.30 am (Sat).

Refreshments & lunches

During the conference, refreshments will be served at multiple stations within the Chancellor's building Ground floor area.

Delegates attending technical workshops on Thursday & Friday afternoon will have lunch in The Kitchen Table (Map Ref. 1).

Delegates attending site visits and workshops T1/F1 will be provided with a packed lunch. This can be picked up in the foyer of the Chancellor's building (Map Ref. 1).

On the Saturday a packed lunch will be provided for you to either eat in the Chancellor's building (Map ref. 1) or on your onward journey.

Dinners

On Wednesday and Thursday evening dinner will be served in The Kitchen Table (Map Ref. 1). from 18:00 until 20:00.

On Friday the formal conference dinner will commence with a drinks reception in the Chancellor's building (Map ref. 1) at 18:00. The Geoffrey Binnie Lecture will be held at 18:45 in the Westminster Theatre (Map ref 1) followed by the conference dinner at 20:00 in the grounds of Keele Hall (Map ref 12).

Evening Events

The following evening events have been organised for all delegates:

- On **Wednesday night**, delegates are invited to meet in the Chancellor's building 'open space' (Map ref.1) for the **Exhibitor Reception**. This will be a great way to meet all the exhibitors and fellow delegates. Please don't forget to bring your free drink tokens for use at the bar. Two tokens will be given to each delegate at registration.
- On **Thursday night**, the Young Professionals will host the '**BDS YP Night**' between 20:15 and 22:00. Teams will face several quiz questions and a construction activity (Chancellor's building (Map ref. 1). The bar will then be open for networking and much gloating by the winners.
- On Friday night The Geoffrey Binnie Lecture and conference dinner will be held at the Westminster
 Theatre followed by dinner in the grounds of Keele Hall (dress code Smart). The Geoffrey Binnie
 Lecture will be presented by Alan Brown. There will also be a series of awards presented throughout
 the evening.

Exhibition Area

This year we are pleased to welcome the following eighteen exhibitors to the conference:

- AGO Fire & Rescue LTD
- Blackhall Engineering
- CARPI TECH B.V.
- CC Hydrodynamics
- CRM Rainwater Drainage Consultancy Ltd
- Edwards Diving Services Ltd.
- Glenfield Invicta
- Hesselberg Hydro (UK) Ltd
- JN Bentley
- Natural Cement
- Reservoir & Water Services
- Satsense
- Soil Engineering Geoservices Ltd
- Solexperts GmbH
- Stantec
- Stillwater Associates
- Stonbury Limited
- TerraDat UK Ltd

The exhibition space will be in the 'open space' within the Chancellor's building (Map ref. 1) and can be accessed during the exhibitor evening, during refreshment breaks, after lunches and dinners.

On Wednesday night there will be an Exhibitor Reception from 20:00. This social event is for all delegates and will be a great way to meet all the exhibitors and fellow delegates. Please don't forget to bring your free drink tokens for use at the bar. Two tokens will be given to each delegate at registration.

In addition, this year we will also have an area next to the open space for **posters** of papers that are not being presented. Alongside this, there will also be the photos that are included within the **BDS Photo Competition**. These will need to be judged by all delegates and voted for using the App. The winning photo and photographer will be announced at the Conference Dinner on Friday 13th September.

Site Visits & Technical Workshops

Delegate Selection

Details of the site visits and technical workshops that were selected by delegates during the conference booking process are shown under delegates names on the **BDS Conference App**.

Coaches and workshop rooms have been allocated based on the number of delegates that requested each session. The majority of site visits and workshops have no additional space and therefore we would be grateful if you would attend the site visits and workshops that you have chosen.

Site Visits Personal Protective Equipment (PPE)

Those delegates taking part in site visits on Thursday and Friday afternoons will need to pick up a packed lunch in the foyer of the Chancellor's building (Map ref.1) before boarding the coach adjacent to the Chancellor's Building Layby near Car Park 3 (Map ref.CP3)

All delegates will require the following PPE.

Site Visit	Footwear requirement	Hi-Vis Jacket	Hard Hat	Other
Tittesworth Reservoir (Thursday)	Steel Toe Cap Boots	Yes	Yes	Gloves
Forge Mill Reservoir (Thursday)	Walking / Site Boots	No	No	All weather clothing
Macclesfield Reservoir Chain (Friday)	Walking / Site Boots	No	No	All weather clothing
Rudyard Reservoir (Friday)	Walking / Site Boots	No	No	All weather clothing
Supervising Engineer development site visit - Brookley Lake (JCB Factory)- T1 (Thursday)	Walking / Site boots recommended	No	No	All weather clothing
Reservoir surveying methods from simple levelling to point cloud – F1 (Friday)	Walking / Site Boots	No	No	All weather clothing

Conference documentation

The Conference Proceedings

The paper synopses are available on line by following this link: <u>Microsoft Word - Synopses Contents</u> <u>page V4.docx (britishdams.org)</u>

The conference proceedings will be available on the BDS Conference App and the BDS website shortly. Please look out for emails on this.

Detailed conference information

A full copy of the information relating to the conference, site visits, technical workshops and programme can be found on the **BDS Conference App** and the BDS website.

Details of how to access the conference app will be sent to delegates shortly.

Additional Information

In an emergency

Please contact Keele University:

Campus Safety Team- 01782 733999

In case of a fire, evacuation information can be found in your bedroom. Additional information can be found on noticeboards in your hall.

Laundry

There are four laundrettes on campus located at, Barnes, Holly Cross and Oaks, Horwood and Lindsay. Please contact reception for further information

Internet access

Free wireless internet access is available throughout campus and in your campus bedroom. Log on to www.keele.ac.uk/it/wireless/

Fitness & Sports Facilities

All residential guests have use of the campus grounds and complementary use of the fitness centre, based at the Sports Centre (Map ref 3). Other facilities including squash and tennis courts are available to hire. To make use of the fitness centre please call 01782 733368 to arrange an induction if you are not a gym user. Alternatively, if you use a gym you will need to complete a Health Commitment Form. Please note inductions are subject to availability.

Shops and campus facilities

There are a variety of small stores which include a Convenience Store, Newsagent, Post Office and a Pharmacy, that are conveniently located at the centre of the Campus, next to the Students' Union (Map ref 8).

Other local facilities

- Local pub The Sneyd Arms Keele (<u>Restaurant | The Sneyd Arms Keele | Newcastle-under-lyme</u>)
- Keele Golf Centre (http://www.keelegolfrange.co.uk/)
- Apedale Community Country Park (https://www.apedale.co.uk/see-and-do/apedale-country-park/)
- Apedale Heritage Centre (https://www.apedale.co.uk/)

Healthcare

NHS Direct – 111, **Hospital** – Royal Stoke University Hospital, Newcastle Road, Stoke on Trent ST4 6QG (01782 715444)

Well Pharmacy on Campus Monday- Friday 09.00am -17.30pm

Taxis

Roseville Taxis 01782 631234

Lucky Severn Taxis: 01782 412412

City Cabs: 01782 844444

Campus Address & Telephone Numbers

Keele University

Keele

Staffordshire

ST5 5BG Main Telephone: +44 (0)1782 732000 Website: www.keele.ac.uk

Staying for the Weekend?

For further information about the Staffordshire are visit: <u>Enjoy Staffordshire Official Tourist</u> Information For Staffordshire

BDS Conference Main Organising Committee

The British Dam Society are extremely thankful for the incredible efforts of our organising committee to arrange this event and the assistance of the university conference team especially Joanne Coates.

Rachel Davies - BDS Chair

Darren Shaw - Vice Chair & Conference Committee Chair

Andrew Thompson – Technical Papers & Presentations

Andrew Pepper - Technical Papers

John Foster - Workshops

Drummond Modley - Workshops

Matt Coombs & Stephen Lockett - Exhibitors

Chris Smith - Site Visits

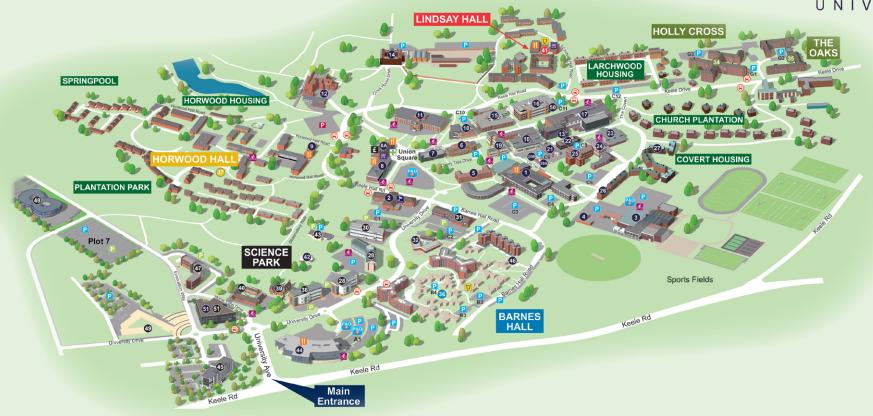
Rhys Coombs – Website / Conference App

Gerallt Richards- Competitions

Rachael Lavery - YP Events

Keele Campus Map





Key

24hr Security
Bicycle Racks
Bus Stop
Bank
Catering Facilities
Halls Bar
Halls Bar
Pharmacy
Pharmacy
Pay and Display Car Park
PApproved University Permit Car Park
Car Park
Car Park
Event Permit Car Park

y Index

David Weatherhall	44
Dorothy Hodgkin	18
Health Centre	33
Hornbeam	19
Huxley	16
Islamic Centre	46
Jack Ashley	22
Keele Business School (KBS)	6
Keele Hall	12
Lennard-Jones Laboratories	O
Library & IT Services	0
Mackay	25
Media	23
Nursery	32
Observatory (Space)	42

Science Learning Centre	. 3
Shops, Bank, Post Office,	_
Pharmacy, Campus Shop	.8A
Sports Centre	.3
Students' Union	.8
Sustainability Hub, Home Farm	.40
Tawney	.6
The Covert 41	.26
Newsome	26
The Covert 59	. 27
The Covert 60	. 27
KPA Club House	.9
Walter Moberly	.6
William Emes	.4
William Smith	.15

Science Park	
Alliance Medical	.43
Home Farm - Sustainability Hub	.40
IC1 (Innovation Centre 1)	. 30
IC2 (Innovation Centre 2)	29
MEDIC3 (Innovation Centre 3)	28
MEDIC4 (Innovation Centre 4)	.33
IC5 (Innovation Centre 5)	•
IC6/Keele Business School (KBS)/	
Smart Innovation Hub (SIH)	.60
Nova Centre	.39
Stephenson (Cobra)	. 3
Caudwell International Children's	_
Centre (CICC)	.43
Marriot Hotel	. 45
Vet School (under construction)	.49

Student Residence

Barnes Hall	36
Holly Cross	34
Horwood Hall	
Lindsay Hall	41
The Oaks	

Other Residential

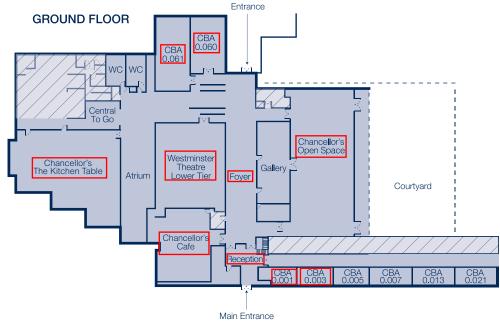
Church Plantation Horwood Housing Plantation Park Springpool The Covert Housing Larchwood Housing

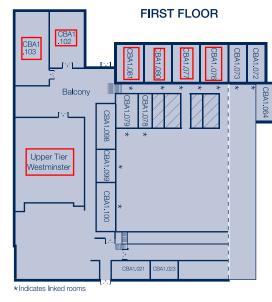
Chancellor's

room facilities

- Flipchart
- · LCD projector
- · Laptop/ PC
- · Video/ DVD

Additional audio visual equipment is available on request.









Keele Hall, Keele,

Staffordshire ST5 5BG T: +44 (0) 1782 732020

keele-conference.com

E: conferences@keele.ac.uk



