

# Recent Developments in Large-scale Inference 25 – 26 August 2016

Organiser: Chenlei Leng (Warwick)

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# 1 Administrative Details

## 1.1 Conference Webpages

- [www2.warwick.ac.uk/fac/sci/statistics/crism/workshops/largescaleinference](http://www2.warwick.ac.uk/fac/sci/statistics/crism/workshops/largescaleinference)

## 1.2 Registration and Venue

- **Registration (incl. lunch):** 9:30-10:00am, Thu 25 Aug, Maths & Stats Building, Lobby.
- **Talks:** Maths & Stats Building, [MS.04].
- **Lunch (Thursday):** 12.10-13:30pm, **(Friday):** 12:30-14:00pm, Maths & Stats Building, Lobby.
- **Conference Dinner (Thursday):** 19.00pm, Radcliffe.
- **Conclusion:** 16:10pm, Friday 26 August.

## 1.3 Getting Here

- Information on getting to the University of Warwick from Coventry, as well as from other directions locally and further afield, can be found at <http://www.warwick.ac.uk/about/visiting/>
- See Appendix A & B for further details

## 1.4 Accommodation

- For external delegates the single bedded en-suite accommodation is in the Radcliffe House at the heart of campus and includes; towels, toiletries, tea and coffee making facilities, a hairdryer and a choice of breakfast options in our self-service Rootes Restaurant. Please note accommodation check in time is from 3pm onwards and check out time is before 9.30am. Also included is car parking, Wi-Fi and access to the University of Warwick sports facilities. Contact details of Radcliffe Training and Conference Centre: tel: 024 76474711, email: [radcliffe@warwick.ac.uk](mailto:radcliffe@warwick.ac.uk), fax: 024 7669 4282.
- See Appendix A & B for further details

## 1.5 Internet Access

- **Campus:** Wireless access is most easily available via eduroam — <http://www.eduroam.org/> — which is supported across most of the Warwick campus. Speak to one of the organiser for details of other options.
- **Accommodation:** Wireless access is available, ask for log-in details whenever you check-in to your accommodation. Otherwise, log in as 'Warwick guests?': see <http://www2.warwick.ac.uk/services/its/servicessupport/networkservices/wifi/how/> for more information.

## 1.6 Start.Warwick

- The Start.Warwick app (available for iPads, iPhones and Android devices) provides useful information on travel and an interactive map of the campus amongst other things.

## 1.7 Facilities - See Map

- **Supermarket, Food and Drink Outlets:** <http://www.warwickretail.com>  
– See Appendix C for opening times.
- **Arts Centre:** <http://www.warwickartscentre.co.uk>
- **Sports Centre:** <http://www.warwick.ac.uk/sport/>
- **Health Centre:** <http://www.uwhc.org.uk>
- **Pharmacy:** Students Union Atrium

## 2 Help, Information & Telephone Numbers

### 2.1 Department

- **Address:** Department of Statistics, University of Warwick, Gibbet Hill Road, Coventry, CV4 7AL
- **Telephone:** 02476522177
- **Fax:** 024 7652 4532
- **Webpage:** <http://www.warwick.ac.uk/stats>

### 2.2 Emergency Numbers

- **Emergency:** Internal - 22222; External - 024 7652 2222
- **Security:** Internal - 22083; External - 024 7652 2083
- **Organiser:** Internal - 50779; External - 024 7615 0779 (Chenlei Leng)

### 2.3 Transport

- **Swift Taxis (Coventry):** 024 7676 7676
- **Trinity:** 02476 63 16 31
- **National Rail Enquiries:** 08457 484 950

### 3 Timetable

*All activities will take place in the Mathematics & Statistics Building, with talks in room MS.04, unless otherwise stated.*

#### 3.1 Thursday 25 August

Time	Speaker	Title	Pg
9:30	<b>Registration</b>	-	-
10:00	Guanming Pan	Recent development of the largest eigenvalues of large random matrices	9
10:50	<b>Coffee Break</b>	-	-
11:20	Richard Samworth	High-dimensional changepoint estimation via sparse projection	9
12:10	<b>Lunch</b>	-	-
13:30	Cheng Yong Tang	Precision matrix estimation by inverse principal orthogonal decomposition	10
14:20	Heather Battey	Large covariance and precision matrices: robust estimation and new structured classes	7
15:10	<b>Coffee Break</b>	-	-
15:40	Degui Li	Semiparametric ultra-high dimensional model averaging of nonlinear dynamic time series	8
16:30	Xinghao Qiao	Regularized estimation in high-dimensional functional time series models	9
17:20	<b>Coffee Break</b>	-	-
19:00	<b>Dinner</b>	<b>Radcliffe</b>	-

### 3.2 Friday 26th August

Time	Speaker	Title	Pg
09:30	Chenlei Leng	DECORrelated feature space partitioning for distributed sparse regression	8
10:20	<b>Coffee Break</b>	-	-
10:50	Rajen Shah	Goodness of fit tests for high-dimensional linear models	10
11:40	Binyan Jiang	A direct approach for sparse quadratic discriminant analysis	7
12:30	<b>Lunch</b>	-	-
14:00	Yi Yu	Estimating whole brain dynamics using spectral clustering	11
14:50	Qiwei Yao	Kriging Over Space and Time Based on a Latent Reduced Rank Structure	11
15:40	<b>Coffee Break</b>	-	-
16:10	<b>Finish</b>	-	-

## 4 Talk Abstracts

### **Large covariance and precision matrices: robust estimation and new structured classes**

Heather Battey

*Imperial College London and Princeton University*

Estimation of covariance and inverse covariance matrices is an essential ingredient to virtually every modern statistical procedure. When data are high dimensional and drawn from distributions with heavy tails, the performance of popular matrix estimators is not guaranteed. I will first discuss robust counterparts to these procedures, and how their properties are related to the tail behaviour of the underlying distribution. I will then present new structured model classes for covariance and inverse covariance matrices, discussing the spectral properties of random matrices drawn from this class.

### **A direct approach for sparse quadratic discriminant analysis**

Binyan Jiang

*Hong Kong Polytechnic University*

Quadratic discriminant analysis (QDA) is a standard tool for classification due to its simplicity and flexibility. Because the number of its parameters scales quadratically with the number of the variables, QDA is not practical, however, when the dimensionality is relatively large. To address this, we propose a novel procedure named QUDA for QDA in analyzing high-dimensional data. Formulated in a simple and coherent framework, QUDA aims to directly estimate the key quantities in the Bayes discriminant function including quadratic interactions and a linear index of the variables for classification. Under appropriate sparsity assumptions, we establish consistency results for estimating the interactions and the linear index, and further demonstrate that the misclassification rate of our procedure converges to the optimal Bayes risk, even when the dimensionality is exponentially high with respect to the sample size. An efficient algorithm based on the alternating direction method of multipliers (ADMM) is developed for finding interactions, which is much faster than its competitor in the literature. The promising performance of QUDA is illustrated via extensive simulation studies and the analysis of two datasets.

## DECORrelated feature space partitioning for distributed sparse regression

Chenlei Leng  
*University of Warwick*

Fitting statistical models is computationally challenging when the sample size or the dimension of the dataset is huge. An attractive approach for down-scaling the problem size is to first partition the dataset into subsets and then fit using distributed algorithms. The dataset can be partitioned either horizontally (in the sample space) or vertically (in the feature space). While the majority of the literature focuses on sample space partitioning, feature space partitioning is more effective when  $p \ll n$ . Existing methods for partitioning features, however, are either vulnerable to high correlations or inefficient in reducing the model dimension. In this paper, we solve these problems through a new embarrassingly parallel framework named DECO for distributed variable selection and parameter estimation. In DECO, variables are first partitioned and allocated to  $m$  distributed workers. A decorrelation step is then carried out within each worker and the decorrelated data are fitted via any algorithm designed for high-dimensional problems. We show that by incorporating the decorrelation step, DECO can achieve consistent variable selection and parameter estimation on each subset with (almost) no assumptions. In addition, the convergence rate is nearly minimax optimal for both sparse and weakly sparse models and does NOT depend on the partition number  $m$ . Extensive numerical experiments are provided to illustrate the performance of the new framework.

## Semiparametric ultra-high dimensional model averaging of nonlinear dynamic time series

Degui Li  
*University of York*

We propose two semiparametric model averaging schemes for nonlinear dynamic time series regression models with a very large number of covariates including exogenous regressors and auto-regressive lags, aiming to obtain accurate forecasts of a response variable by making use of a large number of conditioning variables in a nonparametric way. In the first scheme, we introduce a Kernel Sure Independence Screening (KSIS) technique to screen out the regressors whose marginal regression (or auto-regression) functions do not make significant contribution to estimating the joint multivariate regression function; we then propose a semiparametric penalised method of Model Averaging MArginal Regression (MAMAR) for the regressors and auto-regressors that survive the screening procedure, to further select the regressors that have significant effects on estimating the multivariate regression function and predicting the future values of the response variable. In the second scheme, we impose an approximate factor modelling structure on the ultra-high dimensional exogenous regressors and use the principal component analysis to estimate the latent common factors; we then apply the penalised MAMAR method to select the estimated common factors and the lags of the response variable that are significant. In each of the two semiparametric schemes, we construct the optimal combination of the significant marginal regression and auto-regression functions. Under some regularity conditions, we derive some asymptotic properties for these two semiparametric schemes. Numerical studies including both simulation and an empirical application are provided to illustrate the proposed methodology.

## **Recent development of the largest eigenvalues of large random matrices**

Guangming Pan

*Nanyang Technological University*

This talk is about the asymptotic distribution of the largest eigenvalues of large random matrices including sample covariance matrices, sample correlation matrices, F matrices and CCA when the sample size and the dimension are comparable. We will discuss two types asymptotic distributions: Tracy-Widom distribution for the non-spiked eigenvalues and Gaussian distribution for the spiked eigenvalues. If time permits, some applications will be discussed as well.

## **Regularized estimation in high-dimensional functional time series models**

Xinghao Qiao

*London School of Economics*

Modelling multiple functions arises in a broad spectrum of real applications. However, many studies in functional data literature primarily rely on the critical assumption of independent and identically distributed (i.i.d.) samples. In this talk, we focus on two statistical problems in the context of high dimensional functional time series: (a) functional stochastic regression and (b) vector functional autoregressive models. We develop regularization approaches via the group lasso to estimate coefficient functions in (a) and autoregressive coefficient functions in (b). We also introduce a functional stability measure for stationary functional processes that provides insight into the effect of dependence on the accuracy of regularized estimates and derive the non-asymptotic bounds for the estimation errors. Finally, we show the proposed methods significantly outperform their competitors through a series of simulations and some real world datasets.

## **High-dimensional changepoint estimation via sparse projection**

Richard Samworth

*University of Cambridge*

Changepoints are a very common feature of Big Data that arrive in the form of a data stream. In this talk, we study high-dimensional time series in which, at certain time points, the mean structure changes in a sparse subset of the coordinates. The challenge is to borrow strength across the coordinates in order to detect smaller changes than could be observed in any individual component series. We propose a two-stage procedure called 'inspect' for estimation of the changepoints: first, we argue that a good projection direction can be obtained as the leading left singular vector of the matrix that solves a convex optimisation problem derived from the CUSUM transformation of the time series. We then apply an existing univariate changepoint detection algorithm to the projected series. Our theory provides strong guarantees on both the number of estimated changepoints and the rates of convergence of their locations, and our numerical studies validate its highly competitive empirical performance for a wide range of data generating mechanisms.

## **Goodness of fit tests for high-dimensional linear models**

Rajen Shah

*University of Cambridge*

In this talk I will introduce a framework for constructing goodness of fit tests in both low and high-dimensional linear models. The idea involves applying regression methods to the scaled residuals following either an ordinary least squares or Lasso fit to the data, and using some proxy for prediction error as the final test statistic. We call this family Residual Prediction (RP) tests. We show that simulation can be used to obtain the critical values for such tests in the low-dimensional setting, and demonstrate that some form of the parametric bootstrap can do the same when the high-dimensional linear model is under consideration. We show that RP tests can be used to test for significance of groups or individual variables as special cases, and here they compare favourably with state of the art methods, but we also argue that they can be designed to test for as diverse model misspecifications as heteroscedasticity and different types of nonlinearity. This is joint work with Peter Bühlmann.

## **Precision matrix estimation by inverse principal orthogonal decomposition**

Cheng Yong Tang

*Temple University*

We consider a parsimonious approach for modeling a large precision matrix in a factor model setting. The approach is developed by inverting a principal orthogonal decomposition (IPOD) that disentangles the systematic component from the idiosyncratic component in the target dynamic system of interest. In the IPOD approach, the impact due to the systematic component is captured by a low-dimensional factor model. Motivated by practical considerations for parsimonious and interpretable methods, we propose to use a sparse precision matrix to capture the contribution from the idiosyncratic component to the variation in the target dynamic system. Conditioning on the factors, the IPOD approach has an appealing practical interpretation in the conventional graphical models for informatively investigating the associations between the idiosyncratic components. We discover that the large precision matrix depends on the idiosyncratic component only through its sparse precision matrix, and show that IPOD is convenient and feasible for estimating the large precision matrix in which only inverting a low-dimensional matrix is involved. We formally establish the estimation error bounds of the IPOD approach under various losses and that the impact due to the common factors vanishes as the dimensionality of the precision matrix diverges. Extensive numerical examples including real data examples in practical problems demonstrate the merits of the IPOD approach in its performance and interpretability. This is a joint work with Yingying Fan.

## **Kriging over space and time based on a latent reduced rank structure**

Qiwei Yao

*London School of Economics*

We propose a new approach to extract nonparametrically covariance structure of a spatio-temporal process in terms of latent common factors. Though it is formally similar to the existing reduced rank approximation methods (Section 7.1.3 of Cressie and Wikle, 2011), the fundamental difference is that the low-dimensional structure is completely unknown in our setting, which is learned from the data collected irregularly over space but regularly in time. We do not impose any stationarity conditions over space either, as the learning is facilitated by the stationarity in time. Krigings over space and time are carried out based on the learned low-dimensional structure. Their performance is further improved by a newly proposed aggregation method via randomly partitioning the observations according to their locations. A low-dimensional correlation structure also makes the kriging methods scalable to the cases when the data are taken over a large number of locations and/or over a long time period. Asymptotic properties of the proposed methods are established. Illustration with both simulated and real data sets is also reported.

## **Estimating whole brain dynamics using spectral clustering**

Yi Yu

*University of Bristol and University of Cambridge*

The estimation of time-varying networks for functional Magnetic Resonance Imaging (fMRI) data sets is of increasing importance and interest. In this work, we formulate the problem in a high-dimensional time series framework and introduce a data-driven method, namely Network Change Points Detection (NCPD), which detects change points in the network structure of a multivariate time series, with each component of the time series represented by a node in the network. NCPD is applied to various simulated data and a resting-state fMRI data set. This new methodology also allows us to identify common functional states within and across subjects. Finally, NCPD promises to offer a deep insight into the large-scale characterisations and dynamics of the brain. This is joint work with Ivor Cribben (Alberta School of Business).

## 5 Participant List

### Speakers

First Name	Surname	Affiliation	Email
Heather	Bathey	Imperial University and Princeton University	h.bathey@imperial.ac.uk
Binyan	Jiang	Hong Kong Polytechnic University	by.jiang@polyu.edu.hk
Chenlei	Leng	University of Warwick	C.Leng@warwick.ac.uk
Degui	Li	University of York	degui.li@york.ac.uk
Guangming	Pan	Nanyang Technological University	gmpan@ntu.edu.sg
Xinghao	Qiao	London School of Economics	x.qiao@lse.ac.uk
Richard	Samworth	University of Cambridge	r.samworth@statslab.cam.ac.uk
Rajen	Shah	University of Cambridge	R.Shah@statslab.cam.ac.uk
Cheng Yong	Tang	Temple University	yongtang@temple.edu
Qiwei	Yao	London School of Economics	q.yao@lse.ac.uk
Yi	Yu	University of Bristol and University of Cambridge	y.yu@statslab.cam.ac.uk

### Participants

First Name	Surname	Affiliation	Email
Rodrigo	Abrunhosa Collazo	University of Warwick	ArtemiouA@cardiff.ac.uk
Andreas	Artemiou	Cardiff University	
Alejandra	Avalos Pacheco	University of Warwick	lamiae.azizi@sydney.edu.au
Lamia	Azizi	University of Sydney	
Sonali	Das	The Council for Scientific and Industrial Research (CSIR)	
Iris	Fermin	Tata Steel	
Habib	Ganjgahi	University of Warwick	
Adam	Johansen	University of Warwick	
Tony	Lawrance	University of Warwick	
Iliana	Peneva	University of Warwick	
Pantelis	Samartsidis	University of Warwick	
Jim	Skinner	University of Warwick	
Sara	Wade	University of Warwick	
Rui	Wang	University of Science and Technology of China	
Mingda	Yuan	University of Warwick	

## B & B Guest Information – Conference Park

### Getting to Campus

- The Conference Park is the name given to the facilities provided by Warwick Conferences on the **Central** University campus, University of Warwick, located on the outskirts of Coventry with good transport links. Download further information from [www.warwickconferences.com](http://www.warwickconferences.com) following the link 'how to find us'.
- Accommodation is student style using either standard or en-suite rooms.
- The postcode for Conference Park is CV4 7AL; this postcode will direct you to Gibbet Hill Road, the main road through the University. Here you will find signs for the main University buildings and Central Campus.
- The main central Bus Station in Coventry is called Pool Meadow. National Express service 11 runs from Pool Meadow to Leamington Spa via the University, the 11U from Pool Meadow to the University and service 12X serves the University from Coventry City Centre (Pool Meadow Bus Station) and Coventry Train Station. You will be required to use the correct change. It is approximately £2:00 for a single journey but please check with the driver.
- Coventry's main (central) station is only four miles from the University. Taxis are available outside the station.
- On campus there are usually taxis available on Health Centre Road, alternatively please contact Conference Park Reception for more information.

### Car Parking

Complimentary car parking is available for B&B guests and conference delegates in any of the Central campus non-barriered car parks (shared use). You will receive a car parking permit with your confirmation e-mail. Please print and display this in your vehicle. Accessible parking spaces are available in all car parks. Please inform our Reservations Team if you require an accessible parking space close to your accommodation (blue badge holders only) or have particular car parking requirements (i.e. a minibus or high-sided vehicle).

### Check-in/Check out

Conference Park Reception is located within the Atrium of the Student Union building. Bedroom keys or cards will be available from 15:00 to 22:45 at Conference Park Reception which will provide access to your room and building of residence. If you plan to arrive after 22:45, please contact Conference Park Reception to arrange late key collection at [wcpreception@warwick.ac.uk](mailto:wcpreception@warwick.ac.uk) or on 02476 528910. Rooms need to be vacated by 09:30 on your day of departure. On departure, keys can be left at Conference Park Reception (in the Students Union building), Rootes Restaurant (in Rootes Building) or one of the boxes situated in the entrance halls of each residence. Please inform Conference Park Reception on arrival, of any difficulties you may have in the unlikely event of an evacuation from your accommodation. Our Reception team are available to answer any queries between 07:00 – 23:00. A left luggage store is available in Conference Park Reception.

### Food and Drink

Breakfast is provided in Rootes Restaurant located on the first floor of Rootes Building from 07:30-9:00. Please have with you your conference badge or room key to gain access to the restaurant. Please inform our Reservations Team if you have a specific food allergy or a lifestyle dietary requirement (for example: vegan, vegetarian, halal or Kosher). Bar facilities are located on the first floor of Rootes Building. There are alternative bars in Warwick Arts Centre and Students Union building (check opening times locally). The campus has a range of facilities and dining options. For information and opening times please see the website: <http://www.warwickretail.com>

### Banks and Cashpoints

There are branches of Barclays and Santander in the Student Union Atrium. Both have cash machines and there is another cash point outside Rootes Grocery Store.

Whatever you want, call us to make it possible on 024 7652 3222

Email: [conferences@warwick.ac.uk](mailto:conferences@warwick.ac.uk)

Or for more details go to [www.warwickconferences.com](http://www.warwickconferences.com)

#### **Wi-Fi**

Conference Park delegates and B&B guests can access the “Warwick Guest” Wi-Fi network around campus and within their accommodation. Ask at Conference Reception or any member of the team for assistance if required.

#### **Laundry Facilities**

A launderette is situated between Rootes Building and Rootes residences, opening times are available from Conference Reception for self-service washing and drying. All machines and driers are operated using a card payment system which can be purchased from the launderette at a cost of £10 (£2 for the card and £8 of available spend for use on machines or driers). Washing powder and softener is not provided but can be purchased from Rootes Grocery Store on campus.

#### **Sports Facilities**

Guests have free access to Warwick Sport’s premium leisure facilities on campus. For further information please see the website: [www.warwick.ac.uk/sport](http://www.warwick.ac.uk/sport)

You may also contact the Sport Centre Reception on: **02476 523011** (23011 from any internal phone), or by e-mail at: [warwickSPORT@warwick.ac.uk](mailto:warwickSPORT@warwick.ac.uk)

#### **Mobility Problems**

If you have a particular requirement then please discuss it with our Reservations Team. Some residences have lifts and we have a number of mobility scooters available for guests (pre-booking is required).

#### **Electricity**

Electricity in bedrooms is supplied at 220/240v and 50 cycles AC. Adaptors are available to purchase on campus.

#### **Lost property**

Contact Conference Reception who will be able to assist if you lose any property whilst on campus.

#### **Chaplaincy/Religious Services**

A Chaplaincy is available to all members of the University community and visitors. To gain access to the Chaplaincy, please ask at Conference Reception for details.

#### **First Aid and Pharmacy**

We do not have a resident doctor available, but in the event you require a first-aider, this can be done via our 24 hour Security Team on 02476 522083. There is a pharmacy located in the Students Union Building and Rootes Grocery Store also sells a variety of items. Alternatively there is a Walk-In Medical Centre in Coventry – telephone number: 0300 200 0060, or website: <http://cityofcoventrynhshhealthcarecentre.nhs.uk/>

#### **What is there to do in the local area?**

The largest Arts Centre outside of London, Warwick Arts Centre is also on site. See

<http://www.warwickartscentre.co.uk/>

You will find bikes for hire on site – a great way to see the local area. See the website for more information:

<http://www2.warwick.ac.uk/about/environment/transport/cycling/uni-cycles>

Coventry city centre is only four miles away and the towns of Warwick, Stratford-upon-Avon and Leamington Spa are close by.

Whatever you want, call us to make it possible on 024 7652 3222

Email: [conferences@warwick.ac.uk](mailto:conferences@warwick.ac.uk)

Or for more details go to [www.warwickconferences.com](http://www.warwickconferences.com)

## Delegate Joining Instructions – Conference Park

We are delighted that you will be joining us at the University of Warwick. Please bring these instructions with you as you will find them useful whilst you are on campus.

### Getting to campus and car parking

- The Conference Park is situated on the **Central Campus** of the University of Warwick located on the outskirts of Coventry with good transport links
- Download further information from the website at [www.warwickconferences.com](http://www.warwickconferences.com) following the link 'how to find us'
- A further link can be found for any relevant traffic information at: <http://www.warwickconferences.com/delegates/delegates-conference-park>. The Conference Park is the name given to the facilities provided by Warwick Conferences on the **Central** University campus
- Complimentary car parking is available for conference delegates in any of the **Central** campus non-barriered car parks (shared use)
- Your Event Organiser will send you the link to our car parking permit website where you can register, download and print your permit which is to be displayed in your vehicle
- Accessible parking spaces are available in all car parks
- Please inform your Event Organiser if you require an accessible parking space close to your accommodation (blue badge holders only)

### Conference Reception

- Located within the Atrium of the Student Union building
- Our Reception team are available to answer any queries between 07:00 – 23:00
- A left luggage store is available in Conference Reception

### Wi-Fi access across Central campus

- Conference Park delegates can access the "Warwick Guest" Wi-Fi network around campus and within their accommodation. Ask at Conference Reception or any member of the team for assistance if required

### Food and Drink

- All meals are provided in Rootes Restaurant located on the first floor of Rootes Building for all delegates (unless your programme indicates otherwise)
- The restaurant offers breakfast, lunch and dinner including a range of hot and cold drinks
- Please have with you your conference badge or room key to gain access to the restaurant
- Please inform your Event Organiser if you have a specific food allergy or a lifestyle dietary requirement (for example: vegan, vegetarian, halal or Kosher)
- Bar facilities are located on the first floor of Rootes Building and is the ideal place to network and relax after a day's session. There are alternative bars in Warwick Arts Centre and Students Union building (check opening times locally)

### Shops, Banks and Cafés on Central campus

- The campus has a range of facilities available to all delegates, for information and opening times please see the website: <http://www.warwickretail.com>
- Warwick Arts Centre cinema offers discounted cinema ticket prices, which can be purchased from the box office. Proof of delegate status is required
- There are branches of Barclays and Santander, both have cash machines in the Students Union Atrium (directly next to Rootes Building). There is also a cash machine outside Rootes Grocery Store

Whatever you want, call us to make it possible on 024 7652 3222

Email: [conferences@warwick.ac.uk](mailto:conferences@warwick.ac.uk)

Or for more details go to [www.warwickconferences.com](http://www.warwickconferences.com)

### **Chaplaincy**

- Catholic mass takes place in the Chaplaincy on central campus on Sundays throughout the year at 12:30 and conference visitors are welcome to join the service
- Muslims wishing to pray can request access via Conference Reception for the Islamic Prayer Halls on Central campus

### **Sports facilities**

- Guests have free unlimited access to Warwick Sport's premium leisure facilities on campus
- Opening hours are 07:00 to 21:30 (Monday to Friday) and 08:15 to 19:30 (Saturday and Sunday)
- 25 metre swimming pool and sauna
- State of the art gym
- Running track
- Other sports facilities that can be used but at additional charge are:
  - Tennis Centre with 4 indoor and 4 outdoor courts
  - Climbing Centre with 14m high walls and a bouldering room
  - Sports halls for basketball, 5-a-side football, netball or volleyball
  - Outdoor astro or grass pitches for football, rugby or cricket
- You will be required to show your bedroom key or delegate badge to access the facilities
- Lockers are available and require a £1 coin and towel hire is available at a minimal charge
- To make a booking or for further information - call the Sport Centre Reception on 23011 from any internal phone or 024 76523011 externally; email [warwickssport@warwick.ac.uk](mailto:warwickssport@warwick.ac.uk) website [www.warwick.ac.uk/sport](http://www.warwick.ac.uk/sport)

### **For more information**

You can also refer to our Frequently Asked Questions document (FAQ's) which can be obtained from our website: <http://www.warwickconferences.com/delegates/delegates-conference-park>

Whatever you want, call us to make it possible on 024 7652 3222

Email: [conferences@warwick.ac.uk](mailto:conferences@warwick.ac.uk)

Or for more details go to [www.warwickconferences.com](http://www.warwickconferences.com)

## Frequently Asked Questions Warwick Conferences' Conference Park

### Location and travel

#### Where in Coventry is the University of Warwick?

Just four miles from Coventry City centre, we are sited at the hub of the central motorway network.

#### What is the Conference Park?

This is the name given to the facilities provided by Warwick Conferences on the main University campus. The building used for dining and bars is Rootes Building and Conferences Reception is within the Students Union Building.

A link can be found for all relevant traffic information at: <http://www.warwickconferences.com/delegates/delegates-conference-park>

Once you arrive on campus please look out for the blue Warwick Conferences signage to direct you to the car parks and conference venues.

#### Where is the nearest Mainline Rail Station?

Coventry Intercity station is only four miles from the University. A taxi would cost approximately £11.00 from Coventry station to the University campus. Birmingham International Railway Station is also close to campus and a taxi from this location would cost approximately £27.00.

#### Is there a taxi rank on campus?

Taxis are available on Health Centre Road opposite Warwick Arts Centre at most times of the day. Alternatively you can contact Conference Reception for more information and relevant phone numbers.

#### Can I travel by bus from Coventry Railway Station or Bus Station?

The Number 12 bus runs from Coventry Bus Station via Coventry Train Station to the University

#### Is car parking free or do you have to pay?

The Conference Park offers limited complimentary parking in specified car parks. You will need to validate your parking token at Conference Reception. Your Event Organiser will be able to advise you further.

#### If I have a minibus or high sided vehicle – where can these be parked?

Minibuses and high sided vehicles can park on the ground floor (outside section) of Car Park 15. It would be advisable to let your Event Organiser know of your requirement for specific car parking, as most of the University car parks are multi storey.

### Accommodation

#### What time can I collect my bedroom key?

Check in for the Conference Park is from 15:00 onwards. Keys are collected from Conference Reception, unless you have been notified of a different location by your Event Organiser.

#### What will happen if I arrive after 22.45 and Conference Reception is closed?

Conference Reception is open until 23:00. If you are planning to arrive later than 22.45, please call in advance on 02476 528910 to arrange key collection from an alternative location. Once Reception is closed there is clear signage on the main door explaining the process for late arrivals.

#### Will we stay in halls of residence?

All Conference Park accommodation is student style either a standard or en-suite room. Your Event Organiser will be able to advise you on which type of accommodation you have been allocated.

**Do any of the residences have lifts?**

Some residences do. If you have a particular requirement then please discuss with your Event Organiser.

**What time do I need to check out of my room?**

Check out time is 09:30 and all luggage and belongings should be removed at that time.

**What electrical supply is available in the bedrooms?**

Electricity is supplied at 220/240v and 50 cycles AC. Most foreign appliances will require an adaptor or transformer. Adaptors are available to buy at Costcutter supermarket.

**Are there any laundry facilities on campus?**

The launderette is situated between Rootes Building and Rootes residences, opening times are available from Conference Reception for self-service washing and drying. There are also laundry facilities available in some of the residences. All machines require the correct change and you will need to provide your own washing powder and fabric softener.

**Will I have access to a kitchen within my accommodation block?**

Each delegate will have access to a kitchen although this may not be directly adjacent to their bedrooms. Please note these areas will not contain any cooking equipment or utensils.

**Facilities on campus****What Leisure facilities are there and do delegates have access?**

Delegates may use some of the University's Leisure facilities free of charge providing they take along their bedroom key or delegate name badge as a means of identification. Other facilities are available for a nominal charge and may need to be booked in advance. The towel from your bedroom can be taken to the Sports Centre, alternatively you can hire an additional towel at the Sports Centre for £1.75. Please see <http://www2.warwick.ac.uk/services/sportscentre> for further details.

**What religious services are available on campus?**

The Chaplaincy is a vibrant space for all members of the University community and visitors. To gain access to the Chaplaincy, please ask at Conference Reception for details.

**Are there any cash machines or banks on campus?**

There are branches of Barclays and Santander, both have cash machines in the Students Union Building (directly next to Rootes Building).

**Where can I access my emails?**

Conference Park delegates can access the wifi network around campus and within their accommodation block, please ask at Conference Reception or any member of the team for the details of how to connect. A limited number of computers are available for delegate use in the Conference Reception.

**If I am having mobility problems is there anything you can do to help?**

Mobility scooters are available for conference delegates; please ask at Reception for more information.

**What should I do if I am not feeling well?**

Please contact Conference Reception on 02476 522280, who will ensure a message is given to your Event Organiser. We do not have a resident doctor available for conference delegates, but in the event you require medical attention, this can be done via our 24 hour Security Team on 02476 522083. Alternatively there is a Walk In Medical Centre in Coventry - [click here for more details](#).

### **Is there anywhere on campus I can buy toiletries or get pharmacist advice?**

There is a pharmacy located in the Students Union Building and Costcutter supermarket also sells a variety of items. These buildings are located next to Rootes Building.

### **Food and drink on campus**

#### **I have a particular special dietary need – can you manage this?**

The Conference Park Team can manage all special dietary needs if they are aware of the requirement in advance. Please ensure you communicate this to your Event Organiser before arriving at Warwick. Once on campus, please ask any of the team in the restaurant for more information or guidance.

#### **Where can I purchase alcohol on campus?**

There are three licensed buildings where you can purchase alcohol for consumption within or outside of that building. These are:

- Rootes Building
- Warwick Arts Centre
- Students Union Building
- Costcutter is also a licensed retail shop, however alcohol purchased from Costcutter cannot be consumed in any of the above licensed areas.

### **Local Area**

#### **What is there to do in the local area?**

There is a wide range of social and sports facilities available on campus, including woodland walks, a sports hall, swimming pool and squash courts. The largest Arts Centre outside of London - Warwick Arts Centre is also onsite where you can watch the latest cinema releases and/or performances. Coventry city centre is only three miles away and the towns of Warwick, Stratford Upon Avon and Leamington are close by.

#### **Where are the nearest shops to campus?**

There are a number of retail shops on campus including Costcutter supermarket, Pharmacy, Bookshop and Hairdressers, for any other requirements there is:

- Cannon Park Shopping Centre is within ten minutes walk and has a large supermarket and several smaller retail shops
- Central Six Retail Park is a ten minute car journey (next to Coventry Railway Station) and has a large chemist and some good sized high street stores

### **Other useful information**

#### **What signage should I look out for on campus?**

University Signage – these are positioned around campus highlighting all Academic Buildings and social spaces – they are white rectangular blocks

Warwick Conferences / Conference Park signage – these are blue swing signs used to highlight car parking spaces and spaces used for conferences. Look out for the conference logo.

#### **Are there any other useful items I could bring with me?**

- An umbrella – as you will be required to walk between some buildings
- Any sports equipment that you may require during your stay
- Additional towels for use in the Sports Centre
- Suitable clothing and footwear
- Phone charger

# Opening times

Summer vacation: Saturday 28 June – Saturday 28 September 2014

## Café Library

Monday – Friday 8am – 4pm\*

Saturday – Sunday 10am – 4pm

\* The extension will be open 8am – 6pm

## Café Humanities

Monday – Friday 8.30am – 3pm

## Le Gusta

Monday – Friday 12pm – 10pm\*\*

Saturday – Sunday 5pm – 9pm

## University House restaurant

Monday – Friday 8am – 2.30pm

## University House atrium coffee bar

Monday – Friday 8am – 6pm

## Fusion

Monday – Saturday 12pm – 3pm

## Costa

Monday – Friday 8am – 5pm

Saturday – Sunday 9am – 4pm

## The Bookshop

Monday – Friday 9am – 5.30pm

## Warwick Business School

Monday – Friday 8.30am – 3pm

## “Belle” on the piazza

Lunch and Evening

(see local advertising and twitter)

## Library Coffee Bar

Monday – Friday 8.30am – 4pm

## Café Social (closed August)

Monday – Friday 9.00am – 2.00pm

## Café Gibbet Hill

Monday – Friday 8am – 4.30pm

## Café Bar

Monday – Saturday 8am – 9pm

Sunday 3pm – 8.30pm

## Theatre Bar

Dependent upon performances

## The Bar (serving bar food)

Monday – Sunday 12 noon – 11pm

## Costcutter

Monday – Friday 8am – 8pm

Saturday 9am – 8pm

Sunday 11am – 5pm

## Café Westwood

Monday – Friday 8am – 3pm

## H-van (behind WMG building)

Monday – Friday 9am – 3pm

\*\* Last food orders 9pm. Please note that in exceptional circumstances management reserve the right to change opening times without prior notice.



[www.warwickretail.com](http://www.warwickretail.com)



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