



## E-Ticket Itinerary & Receipt



Your Booking Reference

**3SS9DF**



### Important Information

- This is your E-Ticket Itinerary & Receipt. You must bring it with you to the airport for check-in, and it is recommended you retain a copy for your records.
- Each passenger travelling needs a printed copy of this document for immigration, customs, airport security checks and duty free purchases.
- Please familiarise yourself with the key Conditions of Carriage, Dangerous Goods guide and other information attached.
- For travel to the USA under the Visa Waiver Program you must obtain an electronic authorisation through the [Electronic System for Travel Authorisation website](#) before you board your flight.

### Passenger Ticket Information

Passenger Name	Frequent Flyer No.	Ticket No.	Issued	Ticket Total*
Mr Christopher Earls Brennen	AAHJL7276	081-2411242289	10 Jan 12	1,834.00
Mrs Barbara Ann Brennen	AA2CN7832	081-2411242288	10 Jan 12	1,834.00
Ticket Total for all passengers*				<b>3,668.00</b>

\*Amounts are displayed in US Dollar (USD)

### Your Itinerary

Date	Flight Number	Departing	Arriving	Status	Flight Information
17 Feb 12	QF12	Los Angeles 2220, 10:20PM Terminal B	Sydney 0820, 8:20AM 19 Feb 12 Terminal 1	Economy Confirmed	Est journey Time: 15:00 Non-Stop Aircraft Type: Airbus Industrie A380
19 Feb 12	QF581	Sydney 1010, 10:10AM Terminal 3	Perth 1150, 11:50AM 19 Feb 12 Terminal 2	Economy Confirmed	Est journey Time: 04:40 Non-Stop Aircraft Type: Boeing 747
28 Mar 12	QF5981 Operated By Jetstar	Perth 0035, 0:35AM Terminal 2	Brisbane 0700, 7:00AM 28 Mar 12 Terminal D	Economy Confirmed	Est journey Time: 04:25 Non-Stop Aircraft Type: Airbus Industrie A320
28 Mar 12	QF15	Brisbane 1035, 10:35AM Terminal I	Los Angeles 0640, 6:40AM 28 Mar 12 Terminal B	Economy Confirmed	Est journey Time: 13:05 Non-Stop Aircraft Type: Boeing 747

### Your Receipt Details

Ticket Charges	Charges*	GST*	Total*
Fare	2,312.00		
Fees/Taxes/Charges	1,356.00		
<b>Total Amount Payable*</b>	<b>3,668.00</b>	<b>0.00</b>	<b>3,668.00</b>

### Payment Details

Date	Payment Type	Reference	Amount*
10 Jan 12	Visa	xxxx-xxxx-xxxx-2303	3,668.00
This may appear as multiple transactions on your credit card statement			

### Tax Information

GST does not apply to international travel. No tax invoice will be issued.	<b>Issued by Qantas Airways</b>
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Ireland/Scotland, May/June 2012. C.E.Brennen.

\*\*\*\*\*

May 24 Thurs Amtrak NHV-EWR 4.11pm-6.47pm (NE Reg 137)  
Fly EWR – BFS lv 9.25pm on UA94

May 25 Fri 9am arrive BFS. Rental Car. Hertz F4432750759  
Laurel Villa, Magherafelt (028 7930 1459)

May 26 Sat Morning in Magherafelt  
3pm Wedding at Beechwood. Down Royal House (028 9262 2179)

May 27 Sun Breakfast with Christine. 11.30am Titanic?  
2pm BBQ at Beechwood Fitzwilliam Hotel in Belfast

May 28 Mon PRONI (9am-4.45pm) Elizabeth Davis?  
Fitzwilliam Hotel in Belfast

May 29 Tues Fly BE125 BHD-GLA 7.15-8.00 then BE6822 GLA-SYY 10.50-11.55  
12noon Carhire-Hebrides. Drive to Leverburgh.  
Stones of Callanish, Carloway Broch?  
Carminish B&B (018 59 520400)

May 30 Wed Trip to St.Kilda. SeaHarris Order #746. Carminish B&B

May 31 Thurs Trip to St.Kilda. SeaHarris Order #746 . B&B - Stornoway?

June 1 Fri Drive to Stornoway?  
Fly BE6952 SYY-INV 12.00-12.40 then BE332 INV-BHD 14.25-15.25  
Rental Car at BHD (Hertz F45522283C5)  
Colin's Birthday

June 2 Sat

June 3 Sun

June 4 Mon Fly BFS-EWR. Lv 11.15am on UA95. Arr. EWR 1.50pm  
Either EWR-NHV 4.58pm-7.10pm or connecting PennStation-NHV 3.30-5.06pm



## TRAVELS NOW AND THEN

© Christopher Earls Brennan

### SCOTLAND AND IRELAND 2012

# IRELAND/SCOTLAND 2012

Ireland/Scotland, May/June 2012. C.E.Brennen.

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Tel: 01859 502 007  
Mob: 07760216555

# eTicket Itinerary and Receipt for Confirmation HJJSRP

United Airlines, Inc. [unitedairlines@united.com]

Sent: Wednesday, April 11, 2012 2:46 PM

To: Brennen, Christopher E

**UNITED**



A STAR ALLIANCE MEMBER



Confirmation:

HJJSRP

[Check-In >](#)

Issue Date: April 11, 2012

Traveler	eTicket Number	Frequent Flyer	Seats
BRENNEN/CEMR	0162324140484	UA-DFB8XXXX	22C/25D

## FLIGHT INFORMATION

Day, Date	Flight Class	Departure City and Time	Arrival City and Time	Aircraft	Meal
Thu, 24MAY12	UA94 <sup>1</sup> W	NEWARK, NJ (EWR - LIBERTY) 9:25 PM	BELFAST, NORTHERN IRELAND (BFS) 9:00 AM (25MAY)	757-200	Dinner
Mon, 04JUN12	UA95 <sup>2</sup> W	BELFAST, NORTHERN IRELAND (BFS) 11:15 AM	NEWARK, NJ (EWR - LIBERTY) 1:50 PM	757-200	Lunch

<sup>1</sup> Flight operated by UNITED AIRLINES.

<sup>2</sup> Flight operated by UNITED AIRLINES.

## FARE INFORMATION

Fare Breakdown		Form of Payment:
Airfare:	505.00 USD	VISA
U.S. Customs User Fee:	5.50	Last Four Digits
U.S. Immigration User Fee:	7.00	2303
U.S. APHIS User Fee:	5.00	
U.S. Federal Transportation Tax:	33.40	
September 11th Security Fee:	2.50	
U.K. Air Passenger Duty:	20.70	
U.K. Passenger Service Charge:	20.70	
Fuel Surcharge:	202.00	
U.S. Passenger Facility Charge:	4.50	
Per Person Total:	806.30 USD	
eTicket Total:	806.30 USD	

The airfare you paid on this itinerary totals: 505.00 USD

The taxes, fees, and surcharges paid total: 301.30 USD

Fare Rules: Additional charges may apply for changes in addition to any fare rules listed.

NONREF/0VALUAFTDPT/CHGFEE

Cancel reservations before the scheduled departure time or TICKET HAS NO

## **Re: Reservation**

Laurel Villa Townhouse [info@laurel-villa.com]

**Sent:** Saturday, April 14, 2012 12:18 PM

**To:** Brennen, Christopher E

Hello Christopher,

Thanks for your 2 emails which I received a short time ago within 10 minutes of one another. Good to hear from you. My family moved in here from the Pound Road in late 1961, a couple of years or so after the Forbes left. I remember your mum and dad and of course Paula. My sister and I used to ride up your front avenue and out the back lane onto Station Road. Your mum used to love that.

Anyway, Christopher we definitely have accommodation on Fri. 25 May. The single rate is £60. As regards Saturday 26, we have a Poetry evening taking place here that night and we already have advance bookings for it from the guest poets (Australian and American) etc. There is still a possibility we will have 1 room available for that night, but we may not know until closer to the time.

Let me know what you think.

Eugene Kielt

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**From:** Brennen, Christopher E [mailto:brennen@caltech.edu]

**Sent:** 14 April 2012 18:30

**To:** info@laurel-villa.com

**Subject:** Reservation

I emailed you several days ago but the email may not have been sent.

If possible I would like to reserve a single room for the nights of May 25 and 26. Incidentally, I used to live just a short way down the Castledawson Road - in what is now an old peoples home. In my day your house belonged to a vet named Forbes. I look forward to staying with you.

Chris Brennen



## THE TITANIC EXPERIENCE

[Buy Admission Tickets Here](#)

[HOME](#) > [The Titanic Experience](#) > [Visitor Information](#) >

### Visitor Information

#### TICKETS:

Tickets for Titanic Belfast are based on a timed ticketing with slots available every 20 minutes throughout opening times. Last admission is 1 hour before closing time.

The standard admission charges are as follows:

**Adult** £13.50

**Child** (5-16) £6.75

**Child** (under 5) Free

**Student/Unemployed** £9.50

**OAP (60+)** (m-f) £9.75

**OAP (60+)** (s-s) £11.50

**Family** (2adults + 2 children) £34.00

**School/ Education** group £5

**Group at Door** (15+) £12.75

**[Click here to buy your tickets online for a 5% discount.](#)**

Tickets are also available via telephone on T: +44 2890 766399 or in person at the Belfast Welcome Centre, 47 Donegall Place, Belfast, BT1 5AD.

A £1 transaction fee applies to all card transaction

#### DATES & TIMES OF OPERATION:

April – September

Monday - Saturday: 9am-7pm

Sunday: 10am – 5pm

October – March

10am – 5pm every day

Closed: December 24, 25, 26



#### EXHIBITION:

Nine galleries employing a variety of interactive media including CGI, film, audio, artefacts and full-scale replicas; a high point being a Shipyard Ride through the Titanic under construction.

#### AVERAGE VISIT LENGTH:

2-3 hours





### Titanic Store

Inspired by your trip to Titanic Belfast, you'll find lots of unique mementos of your visit in the gift store, alongside contemporary products from across Northern Ireland.

### Restaurant & Cafe

Choose from a wide range of hearty menu options in our restaurant featuring the very best of local Northern Irish produce or for a lighter bite, relax in our Cafe and enjoy a range of speciality teas, luxury coffees and local delicacies inspired by RMS Titanic.

### Opening Times

Summer: April-September, Monday-Saturday 9am-7pm, Sunday 10am-5pm.  
Winter: October-March, 10am-5pm every day.

### Prices

(Online discount 5%)

Adults:	£13.50
Children (5-16):	£6.75
Family (2A+2C):	£34
Senior Citizen:	£9.75 Mon-Fri
	£11.50 Sat-Sun
Student/ Unemployed:	£9.50
Education:	£5
Group 15+:	£12.75

Tel: +44 (0)28 9076 6399  
Email: [ticketing@titanicbelfast.com](mailto:ticketing@titanicbelfast.com)

### Parking and Transport





There are 500 spaces in the basement car park, plus extensive additional parking throughout Titanic Quarter. For information on bus services please go to [translink.co.uk](http://translink.co.uk) or call 028 9066 6630.

### Taxi Partner

To travel by taxi call our taxi partner Value Cabs on 028 9080 9080.

Titanic Belfast: Queen's Road, Queen's Island, Belfast BT3 9DT, Northern Ireland  
Tel: +44 (0)28 9076 6386  
Email: [welcome@titanicbelfast.com](mailto:welcome@titanicbelfast.com)

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





# TITANIC BELFAST

THE WORLD'S LARGEST TITANIC VISITOR EXPERIENCE

[WWW.TITANICBELFAST.COM](http://WWW.TITANICBELFAST.COM)





1



2



3



4

## Titanic: Built In Belfast

It's 1909. You're hanging off the back of a crowded new electric tram, rattling through Belfast...

You could be on your way to an engineering foundry, the world's biggest rope works, linen mill or tobacco factory; Belfast leads the world in each of those industries and more. But you're heading elsewhere in this bustling city, to join over 15,000 workers flocking through the gates of Harland & Wolff, the world's greatest shipbuilders.

In 1907, Harland & Wolff's charismatic chairman Lord Pirrie revealed his dream; to build the largest and most luxurious ships the world had yet seen for shipping giant White Star Line's trans-Atlantic route.

From dawn to dusk, six days a week,

riveters, carpenters, welders, shipwrights - the cream of Belfast's craftsmen. Defying danger and hardship, they work with a fierce pride and passion to bring Lord Pirrie's dream to fruition.

**The Ship. The Launch. The Opulence.** How can words describe the achievements of these men? Imagine then the sight they beheld as these 'new wonders of the world' took shape before them.

At 175 feet, Titanic will be higher than Nelson's Column. Her 882ft 6ins length is longer than the height of the world's tallest building. Weighing 46,328 tonnes, Titanic will be the largest man-made moveable object the world has yet seen. Following her launch into Belfast Lough on May 31st 1911, the master craftsmen have been busy outfitting

Dock. This floating palace will be the first ship with steam baths, a heated swimming pool, electric escalators and hot and cold water in every cabin. It will also have a state-of-the-art gym, squash courts and a lounge and ballrooms inspired by Versailles.

On April 2nd 1912 over 100,000 people lined Belfast Dock to cheer her off. Their pride still radiates today. "She was alright when she left Belfast!"

**Titanic Fact**

The cost of a first class (parlour suite) ticket was £870 or 4,350 US dollars. That's nearly 70,000 US dollars today!

1 Shipping heritage at Sinclair Seamen's Presbyterian church

2 Titanic memorial, Belfast City Hall

3 The workers leaving HMW shipyard

4 RMS Titanic ship in Belfast harbor



THE *fitzwilliam* HOTEL  
belfast

Mr Christopher Brennan

DEPOSIT RECEIPT # 124198				
07.05.12 @ 18:13				
Date Received	Payment Method / Comments			Amount
07.05.12	Paid By: Deposit Visa			£ 172.00
	Arrival	Departure	Confirmation #	
	27.05.12	29.05.12	9656160	

For any changes or cancellations please contact the Reservations Office

Guest Signature

Cashier No. 120



GREAT VICTORIA STREET BELFAST NORTHERN IRELAND BT2 7BQ  
TELEPHONE + 44 (0)28 9044 2080 FACSIMILE + 44 (0)28 9044 2090  
enq@fitzwilliamhotelbelfast.com www.fitzwilliamhotelbelfast.com

VAT Number 919665383. Company Registration Number NI 062278



## The Fitzwilliam Hotel Belfast for arrival date 27.05.12 Confirmation letter 9656160

enq@fitzwilliamhotelbelfast.com

**Sent:** Monday, May 07, 2012 7:12 AM

**To:** Brennen, Christopher E

**Attachments:** uk\_conf\_email\_bfsfh\_9679545.pdf (38 KB)

Dear Mr Brennen,

Thank you for booking the Fitzwilliam Hotel Belfast for arrival on Sunday 27.05.12.

We have all the details we need to take excellent care of you in true Fitzwilliam Hotel style.

You will find your confirmation letter attached to this email.

If you have stayed here before, or you have visited our sister hotel in Dublin, you know you are in very good hands.

If this is your first time to stay with us, you are in for a treat: This is a really great hotel, full of little extra touches and topped with excellent service and a wonderful bar and restaurant (where we recommend you eat at least once during your stay).

You could not have chosen a hotel with a better location: We are right in the very centre of Belfast, on the "Golden Mile", close to many places of interest, great shops and a stone's throw from the heart of Belfast's business district. We're also proud to have the glorious Grand Opera House as our next-door neighbour.

Should you require any further assistance before you arrive please do not hesitate to contact me or call our dedicated Reservations Department on +44 (0)28 9044 2080.

Kind regards,  
Collette McElduff  
Reservations Department  
THE fitzWILLIAM HOTEL  
1-3 Great Victoria Street,  
Belfast,  
Northern Ireland. BT2 7BQ  
T: +44 (0)28 9044 2080  
F: +44 (0)28 9044 2090  
E: enq@fitzwilliamhotelbelfast.com  
W: [www.fitzwilliamhotelbelfast.com](http://www.fitzwilliamhotelbelfast.com)





A New Higher Standard Of Bed  
And Breakfast For Lisburn.

- FREE   Wi Fi
- FREE   Use PC and printer
- FREE   Car Parking
- Disabled Bedroom
- CCTV 24 HOURS
- Tea/Coffee in Rooms
- Come See What Lisburn Has To Offer

When would you like to stay?

Check-in Date  
14   April '12

Check-out Date  
15   April '12

[Check availability](#)   Powered by Booking.com

Welcome to Down Royal Bed and Breakfast   LISBURN

Just five minutes drive from the Down Royal Racecourse near Lisburn, Northern Ireland, our B&B offers luxury accommodation for a one-night visit to a week-long break.

The luxury bed and breakfast has ten rooms including seven double beds, two twins and one single and have ensuite bathrooms and luxury showers. You will be spoiled for choice when it comes to local attractions: have a flurry at the world famous Down Royal Racecourse, tee off from some of the best golf courses in the United Kingdom and Ireland, go shopping in nearby Lisburn or Belfast City or enjoy some beautiful scenery and wonderful walks in the Mourne Mountains.

For directions and how to find us visit our 'Find Us' page and go here for latest price information.

We hope you enjoy your stay at our Lisburn guest house and we would love to hear your comments. Read some of our guests' comments so far and contact us to let us know of your experiences.



I have never stayed in such a friendly and happy environment before and would have no hesitation in recommending you  
**Brenda, Surrey**  
[More Guest Comments >>](#)

Down Royal Bed & Breakfast Facilities

- 10 rooms - 7 double, 2 twin, 1 single
- Ensuite with luxury shower
- Free Wireless broadband & PC
- Disabled access
- Spacious parking at side and rear
- Flat panel TV in every room

© Down Royal House B&B  
Tel: 028 9262 2179  
Email: [info@downroyalhouse.com](mailto:info@downroyalhouse.com)



1 2 3 4 5 6 7 8 >

[B&B](#) [Contact Us](#) [Find Us](#) [Attractions](#) [Prices](#) [Terms](#) [Site Map](#)  
Bed and Breakfast - Hotel Lisburn - Guest House Maze, Lisburn, County Down, Northern Ireland  
*Offering 11 reviews of Down Royal House in Lisburn*

Down Royal House

TripAdvisor Traveller Rating:



*Wedding of Karen Mills and Ian Walker*

**Confirmation of your Flybe flight(s)**  
Flybe - Do not reply. [DO\_NOT\_REPLY@bookings.flybe.com]  
Sent: Wednesday, April 11, 2012 3:43 PM  
To: Brennan, Christopher E

 Flybe

**Flight booking: Confirmation**

Your flight booking reference: E863EP

  Print

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**Full Booking Details**

**BOOKING REFERENCE: E863EP**

Date	Flight No	Route	Depart	Arrive	
Tue 29 May 2012	BE125	Belfast City to Glasgow Intl.	07:15	08:00	Operated by Flybe
<u>Economy</u>					
Tue 29 May 2012	BE6822	Glasgow Intl. to Stornoway	10:50	11:55	Operated by Loganair
<u>Economy</u>					
Fri 01 Jun 2012	BE6952	Stornoway to Inverness	12:00	12:40	Operated by Loganair
<u>Economy</u>					

11 BE332 INVERNESS - Belfast City 14.25 - 15.25



<b>Carhire Hebrides Limited</b> Terminal Building Stornoway Airport Stornoway Isle of Lewis HS208N VAT No.: GB 110 3309 79 Tel. No.: 01851706500 Fax. No.: Email: info@carhire-hebrides.co.uk				<b>Rental Agreement</b>  <b>2177</b>																			
Hirer/Account				Vehicle Reg. No. <b>SY12NMX</b>																			
Account No.		Order Ref.		Make <b>CITROEN</b>		Model <b>C1</b>																	
Driving Lic. No. A0587158 Categories B,B1		D.O.B. 03/12/1941 Issued By CALIFORNIA		Test Date 01/06/1969 Expiry 03/12/2015		Group A Charge A Booking Ref #571																	
Hirer's Name/ Contact <b>MR. CHRISTOPHER BRENNEN</b>				Occupation <b>RETIRED</b>																			
Billing/ HO Address <b>348 S ORANGE GROVE  PASADENA CA  CA  CALIFORNIA  CA 91105</b>				<b>HAVE A SAFE JOURNEY</b>  <b>HIRER ACCEPTS FULL LIABILITY  FOR ANY OVERHEAD DAMAGE</b>																			
Licence Address 348 S ORANGE GROVE PASADENA CA CA CALIFORNIA CA 91105		Contact Address 348 S ORANGE GROVE PASADENA CA CA CALIFORNIA CA 91105		Damage Out :		Fuel Out <b>Full</b>																	
Credit Card Details Type: VISA Card No.: Exp. Date: --/-- Card Name:		Memo		Recovery Details Tel.: Mem No.:		Fuel In																	
Additional Drivers Name : Lic. No.: Issued By: Exp. Date: DOB: Cat:				Return Location Site: Carhire Hebrides Stornoway																			
Insurance Details Do you wish the Lessor to insure the vehicle? <b>Yes</b> Have you had any proposals declined, a policy cancelled or renewal refused or been required to pay an increased premium or had special conditions imposed by any motor insurer? <b>No</b> Have you any physical or mental defect or infirmity or suffered from diabetes, fits or any heart complaint? <b>No</b> Do you have any current convictions for any motoring offence (except parking)? <b>No</b> If YES see panel below. <table border="1"> <thead> <tr> <th>Conv.</th> <th>Date</th> <th>Fine</th> <th>Pts</th> </tr> </thead> <tbody> <tr> <td></td> <td></td> <td></td> <td></td> </tr> </tbody> </table> Do you wish to add any motoring accident details that have occurred in the last 3 years? <b>No</b> If YES see panel below. <table border="1"> <thead> <tr> <th>Claim No.</th> <th>Own Damage</th> <th>Third Party</th> <th>Outstanding</th> </tr> </thead> <tbody> <tr> <td></td> <td></td> <td></td> <td></td> </tr> </tbody> </table>				Conv.	Date	Fine	Pts					Claim No.	Own Damage	Third Party	Outstanding					<b>Payments</b> VISA 29/05/2012 £133.20 #3221 Payment			
Conv.	Date	Fine	Pts																				
Claim No.	Own Damage	Third Party	Outstanding																				
Insurance Declaration I the undersigned agree to pay the insurance excess cost of £200.00 in the event of any damage or theft claim on the vehicle, or any third party claim made against our insurance policy. Signature of Hirer : _____ Hirers Insurance Company :- Policy No :- Expiry Date: Signature of Hirer : _____ Unauthorised Drive Declaration Any vehicle hired under this agreement may only be driven by authorised drivers, who have been approved by the lessor. I understand that should I breach these terms an additional rental charge will be levied. (This extra charge will not offer any insurance cover, and the hirer & driver will remain responsible for any losses incurred by the lessor or any third party) Signature of Hirer: _____				<b>Charges</b> <table border="1"> <thead> <tr> <th>Description</th> <th>Total</th> </tr> </thead> <tbody> <tr> <td>Rental (3 x Days @ £32.00)</td> <td>£96.00</td> </tr> <tr> <td>Collision Dam. Wav. (3 x Days @ £5.00)</td> <td>£15.00</td> </tr> <tr> <td><b>Total Charges</b></td> <td><b>£111.00</b></td> </tr> <tr> <td>V.A.T. @ 20 %</td> <td>£22.20</td> </tr> <tr> <td><b>TOTAL</b></td> <td><b>£133.20</b></td> </tr> </tbody> </table> Max 8 charge items shown				Description	Total	Rental (3 x Days @ £32.00)	£96.00	Collision Dam. Wav. (3 x Days @ £5.00)	£15.00	<b>Total Charges</b>	<b>£111.00</b>	V.A.T. @ 20 %	£22.20	<b>TOTAL</b>	<b>£133.20</b>				
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V.A.T. @ 20 %	£22.20																						
<b>TOTAL</b>	<b>£133.20</b>																						
I declare that the information in this proposal is to the best of my knowledge and belief correct and complete in every detail and that no information has been withheld which might influence the acceptance of this proposal which with this declaration shall form the basis of the contract of insurance. Signature _____ Print Name: _____				I understand the Operators Licence requirements and agree that the vehicle is not to be used for commercial purposes for which an Operator's Licence would need to be held. I agree that if the vehicle is detained by the vehicle inspectorate for illegal use that I will be responsible for any charges incurred in restoring the vehicle, and any loss of income incurred by the rental company. Operator's Licence Yes / No Operator's Licence No: _____ Checked: _____																			
Liability Statement I hereby acknowledge that during the currency of the hiring agreement I shall be liable as the owner of the vehicle let to me thereunder in respect of: a.) Any fixed penalty offence or contravention in respect of that vehicle under part III or section 66 of Road Traffic Act 1988 including congestion charging and b.) Any excess parking charge which may be incurred in respect of that vehicle in pursuance of an Order under section 45 and/ or 46 of the Road Regulation Traffic Act 1984 (as amended). c.) Any penalty charge incurred under the Road Traffic Act 2004. I also acknowledge that this liability shall extend to any other vehicle let to me under the same hiring agreement and to any period by which the original period of hiring may be extended. I hereby agree to hire the above vehicle on the terms & conditions set out herein & overleaf and confirm that if payment hereunder is to be made by credit or charge card my signature below shall constitute authority to debit my nominated credit or charge card company with the total due amount plus any administration charges, extensions or additional charges resulting from this rental. Signature Hirer _____ Signature Lessor _____ Date _____																							

29/05/2012 11:53:14

\*\*\*\*\* THIS VEHICLE IS UNLEADED \*\*\*\*\*

v4.11

## **Re: Car Hire Hebrides Enquiry from Website**

Car Hire Hebrides [info@carhire-hebrides.co.uk]

**Sent:** Thursday, April 12, 2012 4:36 AM

**To:** Brennan, Christopher E

Dear Christopher,

Thank you for your rental enquiry, I have a Citroen C1 available for these dates. The cost including VAT would be £115.20.

You also have the option of our Collision Damage Waiver (CDW) which is explained in our terms and conditions. The total cost including CDW and VAT would be £133.20.

If you wish to make the booking I will need a credit card number to secure the booking, however we will not take any payment from your card until the vehicle is collected. Should you wish to proceed then the safest way to give these details is to call our office on 01851 706500.

If you have not looked through our terms and conditions then I attach a link to them.

<http://www.carhire-hebrides.co.uk/terms.html>

If you have any further questions then please get in touch.

Regards,

Donald

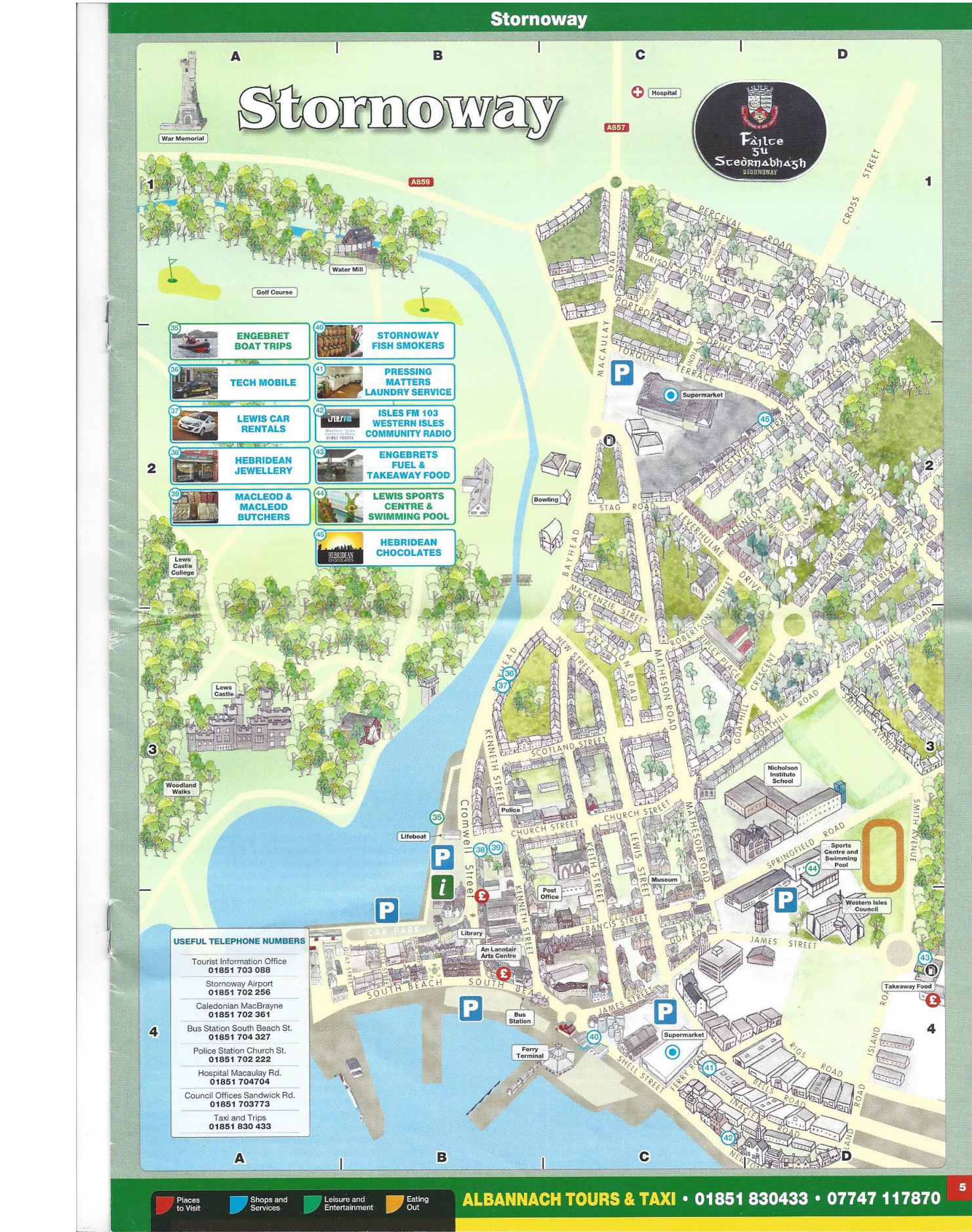
Car Hire Hebrides Ltd  
Stornoway Airport  
Isle of Lewis  
HS2 OBN

Web: [www.carhire-hebrides.co.uk](http://www.carhire-hebrides.co.uk)  
Email: [info@carhire-hebrides.co.uk](mailto:info@carhire-hebrides.co.uk)  
Tel: 01851 706500

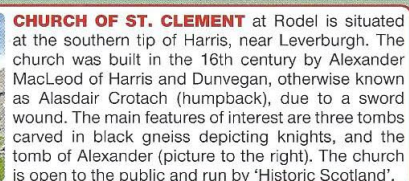
**From:** [Christopher Brennan](#)  
**Sent:** Thursday, April 12, 2012 12:21 PM  
**To:** [info@carhire-hebrides.co.uk](mailto:info@carhire-hebrides.co.uk)  
**Subject:** Car Hire Hebrides Enquiry from Website

<b>Name*:</b>	Christopher Brennan
<b>Email*:</b>	brennen@caltech.edu
<b>Phone*:</b>	16266881381
<b>Subject:</b>	Group A (eg Citroen C1)
<b>Collection Date:</b>	29/05/2012

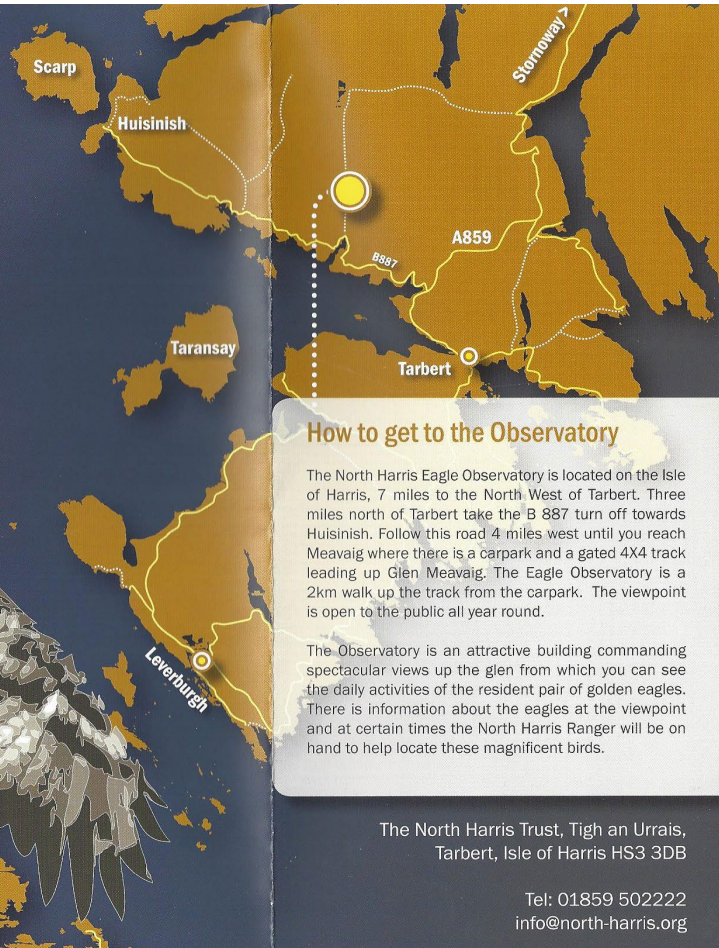













[www.north-harris.org](http://www.north-harris.org)

### How to get to the Observatory

The North Harris Eagle Observatory is located on the Isle of Harris, 7 miles to the North West of Tarbert. Three miles north of Tarbert take the B 887 turn off towards Huisinish. Follow this road 4 miles west until you reach Meavaig where there is a carpark and a gated 4X4 track leading up Glen Meavaig. The Eagle Observatory is a 2km walk up the track from the carpark. The viewpoint is open to the public all year round.

The Observatory is an attractive building commanding spectacular views up the glen from which you can see the daily activities of the resident pair of golden eagles. There is information about the eagles at the viewpoint and at certain times the North Harris Ranger will be on hand to help locate these magnificent birds.

The North Harris Trust, Tigh an Urrais,  
Tarbert, Isle of Harris HS3 3DB

Tel: 01859 502222  
[info@north-harris.org](mailto:info@north-harris.org)



*Stones at Callanish*





*Carloway Broch*



*South Harris coast*



*St. Clements Church, Rodel*

**W: Carminish House Booking Enquiry**

Peter Prince [pv.prince100@gmail.com]

**Sent:** Thursday, April 12, 2012 3:53 AM

**To:** Brennan, Christopher E

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**From:** Peter Prince [mailto:pv.prince100@gmail.com]

**Sent:** 12 April 2012 11:52

**To:** brennan@caltech.edu

**Subject:** Carminish House Booking Enquiry

Dear Christopher

Thank you for your booking enquiry. Your provisional reservation is as follows:

Type of Room	Twin Bedded (Lapwing) for single occupancy
Number of People	1
Number of Nights	2
Date of Arrival	Tuesday 29 <sup>th</sup> May 2012
Date of Departure	Thursday 31 <sup>st</sup> May 2012
Cost	£55.00 per room for single occupancy per night inclusive of breakfast.

A deposit of £30.00 is required to confirm your reservation please. Sorry but we are unable to take credit/debit cards, for overseas visitors, deposits can be made by bank transfer by providing your bank with the following details:

**Bank of Scotland, Glasgow**

**Swift Code :- BOFSGB2S (also known as BIC code)**

**Beneficiary account name : Carminish House** ←

**IBAN number :- GB46 BOFS 8022 6010 0574 61**

Please let us know should you encounter any problem with completing a bank transfer.

An email will be sent to confirm receipt of deposit.

We look forward to welcoming you to Carminish House.

Kind Regards

Pete and Val Prince

Carminish House  
1A Strond  
Leverburgh  
Isle of Harris  
HS5 3UD

Tel +44 (0)1859 520400





## Seumas: Sea Harris Cruise Enquiry

Seumas [seumas@seaharris.co.uk]

Sent: Wednesday, April 11, 2012 2:42 AM

To: Brennan, Christopher E

Hi Christopher

Thank you for your provisional booking for a trip to St.Kilda for the two day window of 30/31 May for 1 adult. The price of a St.Kilda trip is £170 per adult, bookings are held on a provisional basis for up to 10 days, to confirm the reservation a deposit of £70 per adult is required, with the remainder to be paid on the day of the trip.

Please click on the link below, or copy and paste into your browser, to take you to my Realex Secure Payment Site, select the number of adults in your booking and continue with the payment.

[http://www.seaharris.co.uk/payments/index.php?route=product/product&keyword=p&category\\_id=0&product\\_id=54](http://www.seaharris.co.uk/payments/index.php?route=product/product&keyword=p&category_id=0&product_id=54)

For accommodation please visit the 'links' page of my website, Tarbert is the 'capital' of Harris and has more bed spaces and places to eat/drink and is around 35 minutes drive from Leverburgh, which itself has quite a few accommodation providers (try Taylor Hill) and also has the very popular Anchorage Restaurant beside the pier, or Rodel Hotel 3 miles from there, so you wouldn't be stuck for somewhere to eat and would give you a bit more time in bed on the day of the trip.

As mobile reception in areas of Harris can be fickle; please advise me of any contact numbers and your accommodation provider (if and when known) so that I can advise you as far in advance as possible as to which of the two day window will provide the best weather for the trip.

Regards

Seumas Morrison

[www.seaharris.co.uk](http://www.seaharris.co.uk)

On 10/04/2012 20:38, Brennan, Christopher E wrote:

Seumas:

Thank you for your reply. I would like to make a reservation for the day trip to St.Kilda for one adult (myself) for the two-day window 30/31 May. If that is still open, can I pay the deposit by credit card? Please let me know what you need.

Can you also suggest where I might stay on the nights of May 29 and May 30? Any suggestions would be

valuable. I intend to fly to Stornoway on May 29, to rent a car and drive to Leverburgh.

Christopher Brennan





## Enchanted Isle


The MV Enchanted Isle is an Interceptor 42. She was built specifically for transporting up to 12 passengers from the Isle of Harris out to St Kilda.

Her general arrangement has been designed to allow for the maximum seating in the main cabin with new "aircraft style" seating recently fitted which vastly improves passenger comfort. She has full galley and toilet facilities and a large flush aft deck with outside seating, allowing plenty of vantage points for all the passengers.



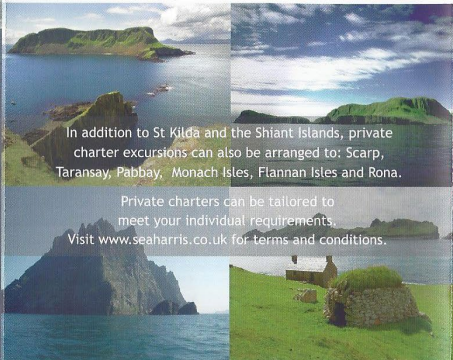
Enchanted Isle has a fast cruising speed of 18 Knots and a top speed of 29 Knots.

The vessel is coded to MCA category 2 and as such, carries a full complement of safety equipment and life-saving appliances.



## SEA HARRIS

### See More, Sea Harris . . .



In addition to St Kilda and the Shiant Islands, private charter excursions can also be arranged to: Scarp, Taransay, Pabbay, Monach Isles, Flannan Isles and Rona.

Private charters can be tailored to meet your individual requirements. Visit [www.seaharris.co.uk](http://www.seaharris.co.uk) for terms and conditions.

## CONTACT

Seumas Morrison

T 01859 502007 M 07760 216 555

E [seumas@seaharris.co.uk](mailto:seumas@seaharris.co.uk)


Sea Harris, East Tarbert, Isle of Harris, HS3 3DB

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[www.seaharris.co.uk](http://www.seaharris.co.uk)

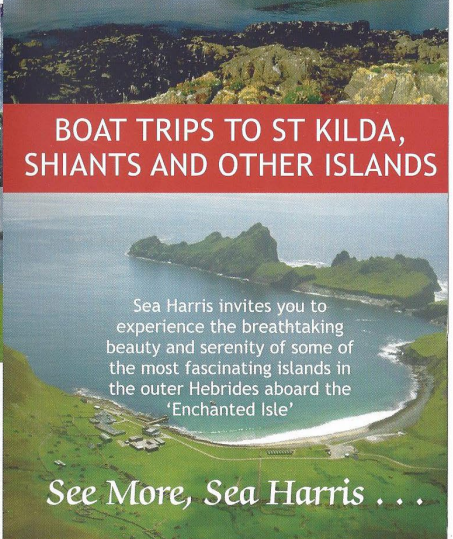
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### You've come this far . . .



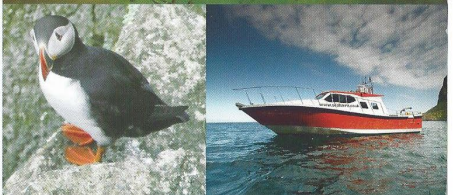
## SEA HARRIS

### BOAT TRIPS TO ST KILDA, SHIANTS AND OTHER ISLANDS



Sea Harris invites you to experience the breathtaking beauty and serenity of some of the most fascinating islands in the outer Hebrides aboard the 'Enchanted Isle'

### See More, Sea Harris . . .





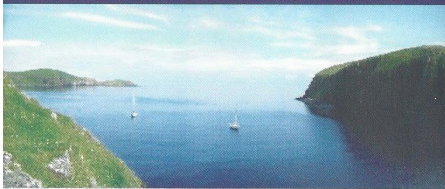
## Sea Harris offers scheduled day excursions to St. Kilda and the Shiant Islands as well as providing private charters to many small islands accessible from the Isle of Harris.


With the St.Kilda excursions departing from Leverburgh in South Harris at 8am and returning at 7.30pm and the Shiants excursions departing from Tarbert in North Harris at 10am and returning at 4pm, our scheduled island visits are accessible to anyone visiting Lewis and Harris during the summer months. Booking is essential.

Parts of these islands are exposed and as a consequence passengers who book an excursion are strongly advised to dress appropriately. Warm, waterproof clothing is essential as is sturdy footwear.

Children are welcome to travel with Sea Harris, provided they are accompanied by an adult.

Due to the ecological fragility of these islands, there are strictly no pets allowed.



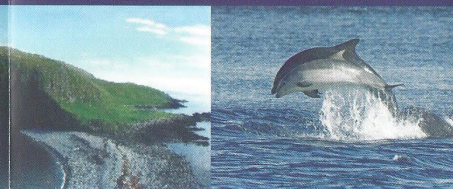



## Sea Harris Wildlife

One of the most fascinating aspects of the islands of the Outer Hebrides is the way in which man and nature continue to co-habit and thrive. An excursion to these captivating and alluring islands presents the perfect opportunity to observe the way in which the beautiful creatures of the sky, the sea and land exist in their natural and undisturbed environment.

For anyone with an interest in nature, ecology and preservation, rare wildlife, and in particular, bird watching, a trip to the islands that Sea Harris specialise in is a must. The opportunity to visit and witness some of these magnificent and rare creatures and other such natural delights is one that cannot be missed, and will not easily be forgotten.

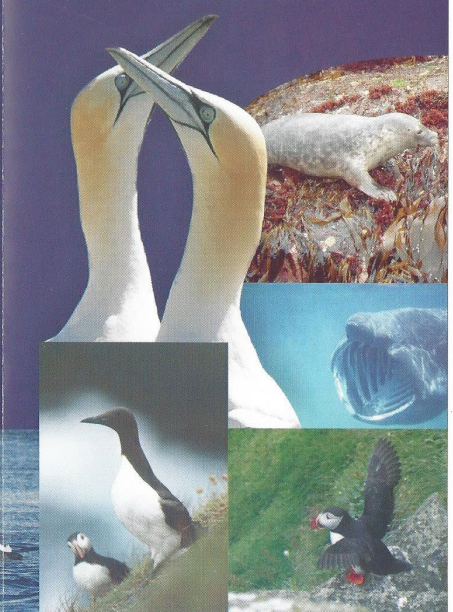
There is a huge and diverse range of wildlife living in and around these coastal waters. A day excursion is the perfect way to combine the relaxing but





exhilarating experience of a boat trip with observing some of the very best that nature has to offer.

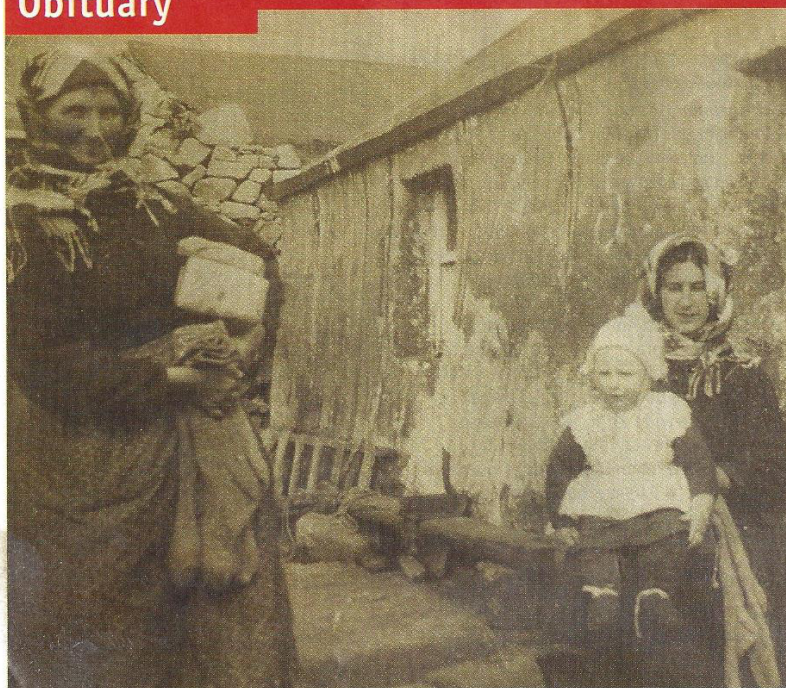
The excursions offered by Sea Harris are a perfect means to watch all this wildlife in action. It will be all around you - all it will take is an eager eye and a second to stop, forget everything else and enjoy something that is really quite magical.











## Norman John Gillies

Norman John Gillies, the last voice of St Kilda, died on September 29th, aged 88

**P**LUMPED on his mother's lap, a woolen cap on his head, he looked as well set up as any child in Britain. It was the other elements in the photograph that cast doubt. The face of his grandmother, Annie Gillies, was tanned dark by sheer exposure to howling winds and seas and, in summer, a pitiless sun untempered by the shade of a single tree. The box she carried was perhaps full of gannets' eggs, and the lumpy sack would hold a dead seabird or two for dinner. Both women wore shawls of hand-woven wool to keep their hair in order. When not burdened with bundles, or babies, both would have been working at a spinning wheel to make yarn for the tweed that they bartered with the laird on the mainland. Within four years, however, the smiling young mother would be dead of appendicitis that was flagged up too late to one of the few boats that passed. And within five years, in 1930, everyone on the island would have decided that life on St Kilda, 130 miles out in the Atlantic off the Scottish coast, was too hard for them.

The St Kilda memories of Norman John Gillies, the baby, were as fragmentary as those of any small child. They became precious because, by his 80s, he was the only person who shared them. The only other surviving St Kildan, of the 36 hardy souls who were at last evacuated by the British

government, was an older relative in a Clydebank nursing home, who no longer spoke of the place. It was left to the energetic, cheerful Mr Gillies to call this archipelago of thousand-foot peaks, cliffs and bird-crammed stacs his "little homeland", and to call Cottage No.10, in the semicircle of 16 tiny houses on the only street on Hirta, the main island, his home. The open turf and rocks clustered under looming Conachair had been his place of joy and play. On his rare visits back he would make for his house as eager as a barefoot boy.

There he remembered his mother cooking scones, oatcakes and puffins over an open fire. Puffins were a staple, though he did not remember exactly how they tasted. He was too young to have been taught to scale the beetling, perilous cliffs to snare them, or to catch the gannets and fulmars on which the islanders also lived. He recalled, though, the huge heap of birds that was brought back and dumped by the jetty, for everything was shared equally. The basic economy of St Kilda, hunting, gathering and sharing, had not changed since the Bronze Age. Nor had its government, which consisted of a morning meeting of the menfolk out of doors to decide what needed to be done. On a photograph from 1927 of a dozen wool-clad, tam o'shantered, roughly bearded men, Mr Gillies

would point out his grandfather and great-grandfather. They might have been snapped in the mid-19th century.

He had been lucky to survive infancy. Many babies died of infantile tetanus, caused by treating the umbilical stump with prized but infected fulmar oil. Lack of medical care, and falling numbers, were two reasons why life on St Kilda became unsustainable. Another was the disruption to work, and general gloom, introduced by the Free Church of Scotland when the island was "converted" from its pagan ways. Much of the Sabbath was spent in the bare, unheated church. Of this Mr Gillies remembered only squirming in the pew and being pulled back by his mother from the aisle. He recalled, too, learning his first hymn from the island's medical officer, Nurse Barclay, as she dressed the burns he had got from red-hot ash from the open peat fire in their house. It was Nurse Barclay, unknown to him, who persuaded the islanders to leave.

### The strangeness of trees

That leaving, on *HMS Harebell* on August 29th, was not especially sad for him. He was more interested in racing round the boat and, when he landed in Morvern in Argyll to find an extraordinary crowd of people, he was more intrigued to see his first tree and ride in his first motor car. The adult St Kildans had great difficulty settling, living apart from each other, and getting used to money; his grandmother Ann, like many of the old folk, still knitted gloves and socks and bartered them for haircuts. But Norman John, like many of the young, thrived in his new setting, did quite well at school, worked for the Forestry Commission, joined the navy in the war, married a girl from Suffolk and, in middle age, settled to a contented English suburban life as the manager of a builder's merchants near Ipswich. The only obvious clue to his different life was his Western Isles accent, ever softer, and the name of his lawned and red-brick house, "St Kilda".

As he grew older, and interest in St Kilda revived, interviewers tried to rifle his memories more and more often. But those, too, were fading. Only three seemed to remain as vivid as the rare, precious photographs. The first was of his mother, wrapped in her shawl, standing on the walled bank outside their house and shouting "Tormod Iain [his Gaelic name], come home to dinner!" The second was of his mother again, her shawl over her head, waving to him from the rowing boat that took her away to hospital in the February of 1930, never to return. And the third was of the old St Kildan women, standing in the stern of the *Harebell*, "waving to the island" as to a living person, as they all left. And so St Kilda, hearth and home, disappeared into the grey Atlantic swell. ■



Out in the bleak North Atlantic, more than "forty miles from sweet bugger all" (viz. the Outer Hebrides of Scotland), there rises from the waves a tiny, cliff-ringed island whose dramatic scenery can only be matched by the remarkable and tragic story of its long-isolated people. That island was called Hirta by its residents though it is labelled on the map by the anglicized name, St.Kilda. Only a mile and a half across, this tiny island is nevertheless much larger than the nearby sea-stacks, some of which tower vertically over 1400 feet above the waves. No-one knows how and when the people got to this remote island in the first place though the archeological evidence indicates that they were there before the birth of Christ. The language they spoke right up until the end was a strange, archaic form of Scotch/Irish gaelic. The Vikings visited, of course, and left their mark as well as some DNA and the names of a few natural features. The island does appear on some ancient maps. But nothing was really documented until Donald Monro, the archdeacon of the western islands of Scotland, visited his islands in 1549 and penned a brief description of each, including a paragraph on Hirta. Monro wrote that the inhabitants were "*simple creatures*" and that their produce was "*corn and girsing, namely for scheip*". He remarked that "*... the seais are stark and verie evill entering in ony of the saids Iles.*" But the first detailed account of the island and its people was written by a doctor by the name of Martin Martin who visited Hirta in 1695 and penned an extensive report entitled "A description of the western islands of Scotland circa 1695" (currently available in paperback from Birlinn Ltd. of Edinburgh).

Remarkably, the people of Hirta, no more than about 180 in number at any time, found a way to survive on this treeless, storm-swept speck of 1700 acres in the north Atlantic. They lived inside a protected, south-facing bay (location 57deg. 48' 47.83" N, 8deg. 34' 6.65" W) surrounded by mountains whose other sides are huge vertical cliffs dropping straight down to the waves. The bay is part of an ancient volcanic crater. Prior to about 1840, the homes they built consisted of a line of stacked-stone houses with peat/thatch roofs, ranged in a circular arc a short distance above the shoreline of the bay. In 1836-38 a kind benefactor provided the means to construct a row of small but roomier cottages along the same crescent that the islanders knew as Main Street. The empty remains of these cottages (some reconstructed for use by the National Trust) as well as a number of the cruder, earlier homes now line Main Street, a somber reminder of the tenuousness of the human experience. The place has the reverence of a graveyard (there is, in fact, a small burying ground in a stone-walled enclosure behind the row of houses) and one feels the same need to tread quietly out of respect for the community that lived and died here. Because of this the nearby military base seems like a gross and thoughtless intrusion. During its lifetime Main Street was the center of St. Kildan life; each morning the menfolk would gather there to decide on the community work to be done that day (some have described this meeting as the St. Kildan "Parliament"). There the birding expeditions to the cliffs and sea stacks would be planned; and there the final exodus was decided upon.



*Village Bay on Hirta*



*Main Street*





*Main Street*



*Cleit on the way to the Gap*

*Main Street Parliament*

*(Photo by G.W.Wilson)*



*Women of Hirta*

*(Photo by G.W.Wilson)*

The St.Kildans were a brave and hardy people with their own culture that included a strong tradition of communal sharing combined with a necessary spirit of collective but calculated risk. That risk included the danger of living off the produce from the cliffs that surrounded them, cliffs that they learned to negotiate at a very young age. When he reached manhood and had found a prospective partner among the few available, a young St. Kildan man was required to prove his courage and his potential as a provider at the so-called "Mistress Stone". This natural feature on the cliffs of the Ruaival peninsula south and west of the village consisted of a dramatic doorway in the rock at the cliff-top with a vertical 400ft drop to the ocean below. In the words of Martin Martin who was challenged to perform this traditional feat of bravado, "... upon the lintel of this door, every bachelor-wooer is by an ancient custom obliged in honour to give a specimen of his affection for the love of his mistress, and it is thus; he is to stand on his left foot, having the one half of his sole over the rock, and then he draws the right foot further out to the left, and in this posture bowing, he puts both his fists further out to the right foot; and then after he has performed this, he has acquired no small reputation, being always after it accounted worthy of the finest mistress in the world ..." No doubt this rite-of-passage steeled the young man for his duties gathering food on the cliffs of Hirta, Stac Lee and Stac-an-Armin.



*Mistress Stone*

*(Photo by Alex Walker)*

A young St.Kildan might also be dared to traverse the dramatic sea-tunnel through the headland on the north side of Hirta. To get to this remarkable natural feature he would have to hike over the 700ft saddle above the village in order to drop into Gleann More, the other main valley on the island. Passing the House of the Amazon, he would have veered to the right in order to access the relatively flat top of the Gob na h-Airde peninsula on the north side of Glen Bay. Proceeding to the cliffs at the very end of this headland he would have noticed a steep path down to his left by which to reach a narrow ledge that leads down to the tunnel entrance and to a sloping rock shelf in the tunnel itself. He might even have been challenged to proceed through the tunnel though the raging seas that dominate the far eastern end may have made the exit impossible.





*Tunnel through Gob na h-Airde on Hirta*



*Western tunnel entrance*

*(Photos by Bob Jones)*

For sustenance the St.Kildans survived by ingenuity and daring. Though they were able with difficulty to grow some potatoes and a few vegetables, to husband a native breed of sheep and to catch a few fish, their primary nutrition came from the huge rookeries of seabirds that populated the island cliffs and nearby sea stacks. They not only gathered the eggs of the gannets and fulmars but also caught and ate the birds themselves. To do so they manufactured ropes and rapelled hundreds of feet down the cliffs of Hirta. Even more spectacularly, they made landing upon and climbed the sea stacks. Of their ropes Martin Martin wrote " ... there are only three on the whole island, each 24 fathoms in length (about 144 ft). They are either knit together and lengthen by tying the one to the other, or used separately as occasion requires; the chief thing upon which the strength of these ropes depends, is cow hides salted, and cut out in one long piece, this they twist round the ordinary rope of hemp, which secures it from being cut by the rocks; they join sometimes at the lower end two ropes, one of which they tie about the middle of one climber, and another about the middle of another, that these may assist one another in case of a fall; but the misfortune is, that sometimes the one happens to pull down the other, and so both fall into the sea; but if they escape (as they do commonly of late) they get an incredible number of eggs and fowls." They climbed barefoot and, in doing so since childhood, developed ankles and feet that were adapted for their tasks.



*Rapelling for birds at the Gap*

*(From film by Paul Robello & Bobbie Mann)*



*Birding haul*

*(Photo by G.W.Wilson)*



*Birding expedition on Boreray*  
(Photo by Cherry Kearton)



*Birding on Stac an Armin*  
(Photo by G.W. Wilson)

*St. Kildans birding (1908):* [http://www.youtube.com/watch?v=-SDVV4Vz2kI&feature=player\\_detailpage](http://www.youtube.com/watch?v=-SDVV4Vz2kI&feature=player_detailpage)

*St. Kilda with birding (1928):* [http://www.youtube.com/watch?v=W-CpkFgxx2I&feature=player\\_detailpage](http://www.youtube.com/watch?v=W-CpkFgxx2I&feature=player_detailpage)

The St.Kildans used every part of the birds they caught. The birds to be eaten, whether gannets (solan geese), fulmars, puffins or other seabirds, were stored in the "cleits" that are sprinkled all over the landscape of Hirta. Cleits were small stone-walled sheds with turf roofs used for the storage of all of the St.Kildan's goods. They had a single entrance on the uphill side and were well vented through the gaps in the stone walls to keep the stores as dry and cold as possible. The feathers of the birds were used for many purposes, in later years to pay tithes to the nominal landowners, the MacLeod of MacLeod. The oil from the fulmars was prized for its restorative powers and for lamp oil. Fulmars also formed the favorite diet of the St.Kildans though a puffin was regarded as a tasty snack. Shoes, though not regularly worn by the St.Kildans, were sometimes fabricated from the necks of gannets.

It is an easy hike up the valley northeast of the village to a saddle called "The Gap" where the land drops 535ft precipitously down into the sea. This was the most convenient birding location on Hirta and was therefore the site of the ropework demonstrations featured in some of the early film included among the internet sites listed above. However this birding location was much less productive than the group of sea stacks that are visible across the ocean some four miles northeast of the Gap. It is a truly awesome experience to approach these sea stacks by boat. The largest, Boreray (the "Fortified Isle"), is a giant wedge-shaped projection, vertical on three sides and very steep (but grass covered) on the fourth; almost a mile long and half a mile wide, it rises to a ridgetop that towers 1243ft above the ocean, as high as the top of the mast on the Empire State building. Yet the St. Kildans would row their wooden longboat over from Hirta on birding expeditions and land on Boreray. During their visits to Boreray over the years they built a "bothy" or shelter for overnight stays as well as a number of cleits in which to temporarily store their harvest of birds. Even more dramatic are the several vertical columns of bare rock separated from Boreray by just a few hundred yards of often-raging ocean. Stac Lee (the "Grey Stack") is perhaps the most impressive; with a sea-level footprint of just 200yds by 100yds. It rises some 545ft to an awesome summit plastered white by gannets, their nests, their eggs and their guano. Stac-an-Armin (the "Warrior's Stack") is slightly larger, rising to a height of 627ft. As you ride the waves around these awesome rocks, it is almost impossible to visualize how the St.Kildans managed to land on these cliffs from their frail longboats. Yet they not only landed using their home-made ropes but somehow managed to climb both these spectacular monoliths. And they not only climbed them (both the men and the women), but carried barrels of eggs and birds down from the summit for transport back to Hirta. Stac Lee is the most impressive climb (Stac-an-Armin has a less precipitous side) but if you look very closely you can spot a series of narrow diagonal ledges that zigzag up the southwest face and allow ascent to the sloping roof of the stack. And if you look even more closely, near the top on the left side, you should be able to spot the entrance to the bothy.





*Passing Boreray on the way to Hirta*



*Stac Lee and Boreray*



*Stac Lee*



*Stac an Armin*

The St.Kildans would launch expeditions of several days to Boreray, Stac Lee and Stac-an-Armin. Normally the boat and crew would row back to Hirta and return to pick them up several days later. For such trips, the birders built small shelters called "bothies" on each of the rocks. The one on Stac Lee, a small, inclined crack high on the southwestern cliff-face, would only hold a couple of men. The one on Stac-an-Armin was a larger, free-standing structure that would hold about a dozen people crammed together for warmth. Indeed, one of the most remarkable stories of human survival occurred on Stac-and-Armin in 1727 and 1728. On Aug.15, 1727, three men and eight boys were ferried over to Stac-an-Armin for a multiple-day birding expedition. However, while they were there a smallpox epidemic broke out in the village as a result of contaminated clothing brought back from the mainland after a St.Kildan died of the disease there. The village was so decimated that the islanders were unable to man a boat to bring the birders back to Hirta. Somehow the eleven survived on the rock by drinking water from a spring, eating birds and eggs and huddling together in the bothy. Eventually, thanks to the efforts of the local land steward on the island, they were miraculously rescued on May 13, 1728, after a nine month stay on Stac-an-Armin. It says something about how the islanders were viewed by their landlords, that none of the names of the survivors were recorded.





*Bothy on Stac-an-Armin*  
(Photo by Philip Storey)

*Stac-an-Armin from a boat:* [http://www.youtube.com/watch?feature=player\\_detailpage&v=poG89UHkIjU](http://www.youtube.com/watch?feature=player_detailpage&v=poG89UHkIjU)

*Climbing Stac Lee: (1) Ascent:* [http://www.youtube.com/watch?feature=player\\_detailpage&v=Ru0XclkE-vU](http://www.youtube.com/watch?feature=player_detailpage&v=Ru0XclkE-vU)

*Climbing Stac Lee: (2) Descent:* [http://www.youtube.com/watch?feature=player\\_detailpage&v=wsTOjMmrkSQ](http://www.youtube.com/watch?feature=player_detailpage&v=wsTOjMmrkSQ)

Stac-an-Armin is remembered for one other, less fortunate event. In July of 1840, the last great auk (or "garefowl") in the British Isles was caught on Stac-an-Armin by three birders. They tied it up and kept it alive for three days before beating it to death with a stick, because they believed it to be a witch. A few years later, in 1852, the last great auk in the world was killed and the bird became extinct.

For years I had thought to visit this extraordinary place. Finally, on Jun.29, 2012, I caught a plane out of Belfast City Airport and flew by way of Glasgow to Stornoway, the principal airport in the Outer Hebrides. There I collected a little car from the Hebrides Car Rental Company, made my way through the town of Stornoway and out onto the narrow road that runs the length of the connected islands of Lewes and Harris. With most of the day to spare, I detoured to visit the Stones at Calanais, a miniature version of Stonehenge constructed over 4500 years ago, and the Dun Carloway Broch, an Iron Age stone castle with double walls and multiple floors. Whoever occupied these ancient structures they seemed utterly beyond the known compared with the very real individuals who lived on Hirta. Continuing on through the stone and heather landscape I crossed from Lewes into Harris, drove over the narrow isthmus at Tarbert into South Harris and along the narrowing single-lane road to the tiny port of Leverburgh. There I spent the night at a lovely little bed and breakfast called Carminish House run by Pete and Val Prince; near the southern tip of Harris this has the advantage of being within easy walking distance of both the Leverburgh Pier and the pleasant restaurant called the Anchorage. Bright and early the next morning I joined the small group of about 10 booked on the day trip to St.Kilda with Sea Harris and captain Seamus Morrison. To get to St.Kilda and back in one day requires a high-speed boat like Sea Harris's *MV Enchanted Isle*, an Interceptor 42 with a cruising speed of 18 knots and a high speed of 29 knots. A very similar boat operated by a rival company, St.Kilda Cruises, was moored alongside and the two boats travelled together in a sensible and safer cruising arrangement. On that day, June.30, 2012, we were fortunate with the blue-sky weather and lucky with the relatively calm ocean; in these northern latitudes there are many days when the trip cannot be made because of the dangers involved in landing on Hirta.

Thus began a spectacular and beautiful day visit to the storied archipelago of St.Kilda. Five at a time we were ferried from the *MV Enchanted Isle* to the rough village jetty in an inflated Zodiac and then allowed to wander through the village and up the slopes of Hirta. I climbed to the Gap to enjoy the fantastic view over to Boreray and the sea stacks while gannets, fulmars and skuas swirled overhead. Too soon it was time to leave. We were transported back to the boat and, as the crew made preparations for the return to the mainland, I could not help but look back at the remains of the village. My thoughts were of sadness for both the village and the individuals who lived there. I tried to envisage how the last 36 island residents must have felt as they were ferried to the ship on that morning of Friday, Aug.29, 1930.

A number of factors contributed to the demise of the St.Kildan community. Increasingly over the last two hundred years, contact with the larger world brought both problems and opportunities. The younger and more adventurous saw greater opportunity elsewhere and chose to leave, to seek their fortune in the world beyond the island. Eventually, there were too few young, strong arms and too little vital energy to sustain the island community. Moreover, changing economic conditions on the mainland created unsupportable financial pressures on the island and led to untenable living conditions for the villagers. Their culture and tradition had been based on a barter system and a tradition of sharing obligations and resources and the increasing intrusion of



the cash system used in the world beyond further eroded the island economy. The people of St.Kilda were too old and too few in number to adjust to the modern world. Perhaps these commercial realities were inevitable given the huge gulf between the island culture and that of the mainland. But another externally-generated malaise was not unavoidable. In the decade of the 1820s, religious upheavals and zealotry in Scotland led to a dominant over-bearing church that was very destructive to the island community. Rev. John MacDonald arrived in 1822 to minister to the population and preached 13 lengthy sermons during the first 11 days. All the inhabitants were required to attend. Moreover he returned on a regular basis, subjecting the islanders to more of the same. Some years later his successor, Rev. Neil Mackenzie, who arrived on Jul.3, 1830, continued the zealotry. He, at least, is recognized as improving aspects of the islanders living conditions. But the Rev. John Mackay who arrived in 1865 increased the zealotry and gloom. He initiated church practices that were critically detrimental to the island well-being, three-hour-long Sunday sermons at which attendance was obligatory as well as long services on the other days of the week. These impositions made substantial inroads into the time, energy and spirit that the islanders needed for their farming, birding and fishing. They also eliminated the carefree activities that helped strengthen the spirit of the islanders. In short, organized religious zealotry was a cancer that ate away at the St.Kildan community and, along with the changing financial conditions, led to the island's inevitable demise.

But Hirta was still the only home that most of them knew and the only community in which they would ever feel comfortable. Most of them could see that the community conditions had sunk to the point where some radical change was needed. The government was unwilling to provide adequate help so that, in the end, the islanders were persuaded by the resident nurse, Williamina Barclay, that total evacuation was their only option. Of course, this was a fallacy for the government expense that would have allowed these people to remain in their homeland would have been trivial. So the 36 islanders became victims of man's inhumanity to man, victims of an insensitive government resorting to convenience. Very few survived their relocation to the mainland and all suffered unnecessarily.

As the preparations for our departure continued I could not help but reflect on how these 36 souls must have felt as they boarded the ferry boat, the SS Hebrides, that would take them far away to Oban and Glasgow. In the years ahead a few would be allowed to make brief return visits and several were granted their wish to be buried on Hirta. There are moments of grief in all of our lives and in these moments it is hard to grasp the magnitude and direction of changes that are to come upon us. I doubt that the St.Kildans could foresee the consequences of this upheaval in their lives; I had known such moments and had also been unable envisage the future. I could not help but revisit the feeling that day in Village Bay.

[Back to table of contents](#)

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*Last updated 7/30/99.  
Christopher E. Brennan*

China. August 2012. C.E.Brennen.

\*\*\*\*\*

Aug. 17 Fri Fly CA988 leaving LAX 13.20 (seats 45D and 45E) . ...

Aug. 18 Sat ...arr. Beijing 17.00hrs.  
Stay at Wenjin Hotel, Tsinghua University Area

Aug. 19 Sun Visit Summer Palace. Evening IAHR reception  
Stay at Wenjin Hotel, Tsinghua University Area

Aug. 20 Mon Invited Talk IAHR  
Stay at Wenjin Hotel, Tsinghua University Area

Aug. 21 Tues Visit Great Wall Badaling, Tienamin Square, Imperial Palace  
Stay at Wenjin Hotel, Tsinghua University Area

Aug. 22 Wed Stay at Wenjin Hotel, Tsinghua University Area

Aug. 23 Thurs Train lv. Beijing arr. Zhenjiang. Stay at Zhenjiang Mingdu Hotel, Zhenjiang

Aug. 23 Fri Lecture at Jiangsu University. Stay at Zhenjiang Mingdu Hotel, Zhenjiang

Aug. 25 Sat Symposium at Jiangsu University. Visit Zhenjiang Temple. Dinner.  
Stay at Zhenjiang Mingdu Hotel, Zhenjiang

Aug. 26 Sun Fly MU2388 lv. Nanjing 10.40 arr. Xian 12.40  
Stay at Empark Grand Hotel, Xian

Aug. 27 Mon Big Wild Goose Pagoda, Terracota Warriors, Hot Spring Palace.  
Hot Spring Palace Opera. Stay at Empark Grand Hotel, Xian

Aug. 28 Tues Lecture at Xian Technological University. Stay at Empark Grand Hotel, Xian

Aug. 29 Wed Huashan Mountain. Stay at Empark Grand Hotel, Xian

Aug. 30 Thur Visit center of Xian. Stay at Empark Grand Hotel, Xian

Aug. 31 Fri Fly MU2153 Xian 10.05 arr. Shanghai 12.05

Sep. 1 Sat Subway to Nanjing Street and Waterfront, Shanghai.  
Fly UA878 at 20.10 from Shanghai -Arr. LAX at 16.54

TRAVELS NOW AND THEN

© Christopher Earls Brennan

CHINA 2012

CHINA 2012

China. August 2012. C.E.Brennen.  
\*\*\*\*\*

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Trip to China, Aug.17 – Sep.1, 2012

Purpose:

- 1) To give invited lecture at 26<sup>th</sup> IAHR Symposium on Hydraulic Machinery and Systems, Tsinghua University, Beijing, Aug.19-23, 2012
- 2) To give invited lecture at International Forum on Fluid Machinery and Engineering, Aug.24-25, 2012, Jiangsu University, Zhenjiang.
- 3) To attend launch of the Chinese translation of my book at Jiangsu University.
- 4) To give lecture at Xian Technological University, Aug.28, 2012.

Travel expenses:

- 1) Most of the expenses for the second part of the trip were covered by Zhenjiang University. The following expenses were not covered and are being submitted for reimbursement:
  - a) Hotel expenses in Beijing (see attached hotel bill – exchange rate \$1=6.46 RMB):  
Room charge: 888x5 = 4440 RMB  
Per diem 5 days at ?? \$ per day = ?? \$\$
- b) Cost of Visa: \$280.00 plus \$21.73 for passport photos = \$301.73

Itinerary in China

pzy@ujs.edu.cn  
**Sent:** Monday, July 16, 2012 8:27 AM  
**To:** Brennan, Christopher E  
**Attachments:** ChinaITINERARY.pdf (45 KB) ; ChinaITINERARY.doc (132 KB)

Dear Professor Brennan,

I am glad to inform you that we have bought the international airline tickets for you and your wife as follows,

1	CA988	Los Angeles	17-Aug	13:20	→	Beijing	18-Aug	17:00
2	UA878	Shanghai	1-Sep	20:10	→	Los Angeles		16:54

Attached to this email is the itinerary. If it is convenient, you can confirm the reservations in the United States.

I have also reserved the domestic tickets in China.

I shall pick you up at the Beijing airport on time and we are looking forward to your visit.

I have emailed Professor Shengcai Li and he replied to me that he will visit Jiangsu University during the two days.

Sincerely yours,  
Pan Zhongyong  
Research Center of Fluid Machinery Engineering and Technology,  
Jiangsu University  
301 Xuefu Road, Zhenjiang, Jiangsu, 212013  
86-511-88780281 (tel)  
86-13815179257 (cell)  
pzy@ujs.edu.cn  
潘中永  
江苏大学流体机械工程技术研究中心  
江苏省镇江市学府路301号, 212013

===== 下面是回复邮件 =====

发件人: Brennan, Christopher E  
收件人: pzy@ujs.edu.cn  
抄 送:  
主 题: RE: the airline and the schedule, Jiangsu China  
时 间: 2012-06-28 24:51

Dear Pan Zhongyong:



ITINERARY

AIRLINE PNR:MHJMWK  
NAME:BRENNEN/CHRISTOPHER EARLS  
ID NUMBER:PP210305015  
  
ISSUING AIRLINE:AIR CHINA  
  
ISSUING AGENT:CHINA COMFORT WUXI TRAVEL  
SERVICE CO.LTD.  
AGENCY ADDRESS:xxxx  
TEL:

IE PNR:S9M27  
ETKT NBR:999-2207907483  
CONJ NBR:  
  
DATE OF ISSUE:16JUL12  
  
IATA CODE:08301812  
  
FAX:

ORIGIN/DES	FLIGHT CLASS	DATE	TIME	ARRTIME	NVA/NVB	STATUS	ALLOW	TERMINAL	
								Takeoff	Arrival
LAX--LOS ANGELES INTL	CA988	K	17AUG	1320	1700+1	17AUG217AUG2	OK	2PC	T2 T3
PEK--BEIJING									

RESTRICTIONS:NONEND/PENALTY APPLY

NOTICE:

- 1. Please arrive at the airport before the check-in time specified by the airline. During check-in, please produce your valid ID card used when you purchase the ticket.
- 2. Dial the service hotline 95583 (24-hour service) or log onto the official website [www.airchina.com.cn](http://www.airchina.com.cn) to find out more about the check-in time regulations and other information.
- 3. To find out more about the regulations of other airlines, please refer to the relevant airlines or agents for more information.



ITINERARY

AIRLINE PNR:HD6DQ3  
NAME:BRENNEN/CHRISTOPHEREARLS  
ID NUMBER:  
  
ISSUING AIRLINE:UNITED AIRLINE  
  
ISSUING AGENT:CHINA COMFORT WUXI TRAVEL  
SERVICE CO.LTD.  
AGENCY ADDRESS:xxxx  
TEL:

1E PNR:HGDWFJ  
ETKT NBR:016-2207907479  
CONJ NBR:  
  
DATE OF ISSUE:16JUL12  
  
IATA CODE:08301812  
  
FAX:

ORIGIN/DES	FLIGHT CLASS	DATE	TIME	ARRTIME	NVA/NVB	STATUS	ALLOW	TERMINAL
								Takeoff Arrival
PVG--PUDONG,SHANGHAI LAX--LOS ANGELES INTL	UA878 Q	01SEP	2010		01SEP201SEP2	OK	IPC	

FARE CALCULATION:  
RESTRICTIONS:NONREF/OVALUEAFTDPT/CHGFEE  
NOTICE:  
• THE CONDITIONS OF THE CARRIER MUST BE READ BEFORE TRAVELING.  
• Baggage Policy refer to [www.transacro.us/en/info-and-services/baggage](http://www.transacro.us/en/info-and-services/baggage)



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### United Confirmation Number **HD6DQ3**

All customers are required to hold a valid passport or resident card to enter or transit through the United States. Many customers are also required to hold a valid visa. More information may be found in [International Travel Document Requirements](#).

Visa Waiver Program (VWP) nationals must obtain an [ESTA](#) in lieu of a U.S. visa, and comply with all other [VWP](#) rules.

**This reservation has been ticketed and confirmed.**

#### Flight Details

#### Sat., Sep. 1, 2012 | Shanghai, People's Republic of China (PVG - Pu Dong) to Los Angeles, CA (LAX)

Depart: <b>8:10 p.m.</b> Sat., Sep. 1, 2012 Shanghai, People's Republic of China (PVG - Pu Dong)	Arrive: <b>4:54 p.m.</b> Sat., Sep. 1, 2012 Los Angeles, CA (LAX)	Travel Time: <b>11 hr 44 mn</b>	Award Miles/ Premier Qualifying <sup>†</sup> : <b>6,485 / 100%</b>	Flight: <b>UA878</b> Aircraft: <b>Boeing 777-200</b> Fare Class: <b>United Economy (Q)</b> Meal: <b>Dinner</b> <b>No Special Meal Offered.</b>
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**MileagePlus Members:** Upon completion of this itinerary, you will earn up to **6,485 award miles.\***

### Upgrade to United BusinessFirst


- United BusinessFirst offers wider seats with extra legroom.
- Complimentary beer, wine and spirits served with upgraded meals and snacks when offered.
- At least two standard-sized checked bags up to 70 lbs. with all fees waived.

被授权单位邀请函

Invitation Letter of Duly Authorized Unit

编号/ No. : 1622-1205-0339

此函仅限申请人前往中华人民共和国驻 \_\_\_\_\_ 大使馆（总领馆/领事馆/处）  
或中华人民共和国外交部驻 \_\_\_\_\_ 特别行政区特派员公署申请签证时使用。  
Please apply forthwith for visa at the Embassy (Consulate General /Consulate/Office) of the P. R. China  
in \_\_\_\_\_ USA \_\_\_\_\_ or the Commissioner's Office of the Foreign Ministry of the P. R. China  
in \_\_\_\_\_ SAR with this letter.

被授权单位名称 清华大学					
Name of Duly Authorized Unit					
被邀请人情况					
Information of the Invited					
	外文姓名 Full Name	性别 Sex	出生日期 Date of Birth	国籍 Nationality	护照号码 Passport No.
1	Christopher Earls Brennan	男	1941.12.3	美国	210305015
2	Barbara Ann Brennan	女	1941.2.27	美国	466531985
3					
4					
5					
申请签证有效期 3 个月 Validity of Visa Intended to Apply			拟入境次数 1 Number of Entries	最长停留天数 18 Longest Stay	
拟入境日期 2012.8.15 Date of First Entry			访问地点 北京 Places to Visit	事由 学术访问 Purpose of Visit	
联系人 王珍时 Contact Person			被授权单位盖章及负责人签署 Seal and Signature  2012 年 5 月 6 日 Year Month Day		
电话 010-62783574 Tel.					
传真 010-62783574 Fax					
邮箱 zswang@tsinghua.edu.cn E-mail					

注：本函限五人使用。不足五人的空白部分，请对角划一斜线。超过五人另行出函。

Notes: This letter is for 5 people at most. Please cross a diagonal in the blank space if there are less than 5 people. For more than 5 people, please issue another one.



### INFORMATION REQUIRED FOR INVITATION LETTER

Thank you for your interest in attending 26th IAHR Symposium on Hydraulic Machinery and Systems. To expedite the preparation of an invitation letter for the purposes of applying for a visa, please complete this form and email it to [iahr2012@tsinghua.edu.cn](mailto:iahr2012@tsinghua.edu.cn).

[illegible]**Aug. 17 Fri**

Fly CA988 leaving LAX 13.20 (seats 45D and 45E) . . .

**Aug. 18 Sat**

...arr. Beijing 17.00hrs.

## Stay at Wenjin Hotel, Tsinghua University Area

**Aug. 19 Sun**

Visit Summer Palace. Evening IAHR reception

## Stay at Wenjin Hotel, Tsinghua University Area

Programme

26<sup>th</sup> IAHR Symposium on Hydraulic Machinery and Systems

Tsinghua University, Beijing, China

August 19 – 23, 2012

( New Version )

26<sup>th</sup> IAHR Symposium on Hydraulic Machinery and Systems Schedule at a Glance – Beijing, China

Sun, Aug. 19	Mon, Aug. 20	Tue, Aug. 21	Wed, Aug. 22	Thu, Aug. 23
Registration 8:00-20:00 Department of Hydraulic Engineering ( 4 <sup>th</sup> floor )	Opening Ceremony 8:30-10:00 Invited Lectures 10:00-12:30 Central Main Building	Sessions 8:00-10:00 Coffee Break 10:00-10:20 Sessions 10:20-12:00 Department of Hydraulic Engineering	Sessions 8:00-10:00 Coffee Break 10:00-10:20 Sessions 10:20-12:20 Department of Hydraulic Engineering	Sessions 8:00-10:00 Coffee Break 10:00-10:20 Sessions 10:20-12:20 Department of Hydraulic Engineering
	Luncheon Academy of Arts and Design	Luncheon Department of Hydraulic Engineering	Luncheon Department of Hydraulic Engineering	Luncheon Department of Hydraulic Engineering
	Invited Lectures 13:30-15:30 Coffee Break 15:30-16:00 Invited Lectures	Sessions 14:00-16:00 Coffee Break 16:00-16:20 Sessions	Sessions 13:30-15:30 Coffee Break 15:30-15:50 Sessions	Organizer Speeches Introduction of 27 <sup>th</sup> IAHR Closing Ceremony
	16:00-18:00 Central Main Building	16:20-18:00 Department of Hydraulic Engineering	15:50-17:30 Department of Hydraulic Engineering	14:00-16:30 Central Main Building
Dinner 17:00-19:00 The Guanchou Dining Hall	Reception Party 18:30-21:30 Academy of Arts and Design	Dinner 18:15-20:00 The Guanchou Dining Hall	Banquet 19:00-21:30 Fragrant Hill Hotel	Dinner 17:00-19:00 The Guanchou Dining Hall



Monday, August 20, 2012  
Central Main Building

Opening Ceremony8:30-9:30, Aug. 20Chair: ZW Wang			
Take Photos9:30-10:00, Aug. 20			
Invited Lectures10:00-12:30, Aug. 20 Chair: FAvellan, S H Liu			
Paper number	Authors	Paper title	Time
	S Riedelbauch	Investigations on the dynamics of a large pump-storage plant	10:00-10:30
IAHRXXVI-IL01	C E Brennen	A review of the dynamics of cavitating pumps	10:30-11:00
IAHRXXVI-IL08	Y Tsujimoto	Effects of acoustic characteristics of exit pipe on phase resonance in a centrifugal compressor	11:00-11:30
IAHRXXVI-IL06	KY Kim	Hydrodynamic performance enhancement of a mixed-flow pump	11:30-12:00
	S C Li	The three gorges turbines: Does the guide plate guide the water?	12:00-12:30
Luncheon			
			12:30-13:30
Invited Lectures13:30-15:30, Aug. 20Chair: MNishi, FJ Wang			
	S Brodersen	The role of pumping systems in the fields of energy recovery and renewable energy	13:30-14:00
	E Egusquiza	Dynamic response of submerged trash-racks: attachment and added mass effects	14:00-14:30
	B Karney	Coping with complexity in hydropower design and operation: present success is constructed on past failures	14:30-15:00
IAHRXXVI-IL05	G Bois	A review of some complex flow behaviour and related models in different types of turbo-machines	15:00-15:30
Coffee Break			
			15:30-16:00
Invited Lectures16:00-18:00, Aug. 20Chair: A Lipej, YH Lee			
	R Susan-Resiga	Draft tube hydrodynamics: A challenge from modern hydraulic turbines	16:00-16:30
	S Q Yuan	Research on theories and key energy-saving technologies of centrifugal pumps	16:30-17:00
	X Q Luo	Optimization design and application of hydraulic turbines	17:00-17:20
	D Q Qin	Status and development tendency of hydraulic machine research in Harbin electric machinery company	17:20-17:40
	Q H Shi	Development of several large hydraulic turbines	17:40-18:00
Reception PartyTime: 18:30, Aug. 20			
Location: Academy of Arts and DesignCompere: Q H Shi, S H Liu			
			18:30-21:30

## Beijing, the Capital of China



Beijing has served as the capital of China for more than 800 years. The city has many places of historic interest and scenic beauty, including the Forbidden City - the largest and best-preserved ancient architectural complex in the world; the Temple of Heaven - where Ming and Qing emperors performed solemn rituals for bountiful harvests; the Summer Palace - the emperors' magnificent garden retreat; the Ming Tombs - the stately and majestic mausoleums of 13 Ming Dynasty emperors; and the world-renowned and genuinely inspiring Badaling section of the Great Wall.

(<http://www.easytourchina.com/beijing/beijing-attractions.htm>)

### Post Symposium Tours

**1. Xi'an tour (4 days):** Xi'an is one of China's eight ancient national capitals and the home of the famous Terracotta Army. Xi'an is situated in the center of the Weihe Plain, bounded by the Weihe River in the north and the Qin Mountain Range in the south. Xi'an's main tourist attractions include: The Terracotta Warriors and Horses, The Ancient City Wall, Big Wild Goose Pagoda, Small Wild Goose Pagoda, Huaqing Hot Springs, Hanyang Museum, The Forest of Steles, The Great Mosque, Qianling Mausoleum and Famen Temple.

**2. Hangzhou tour (4 days):** Hangzhou is a bustling resort with many historical heritage sites as well as impressive natural beauty. The West Lake, with its extraordinary scenery and temples of historical, justifies the city's legendary status as "paradise on earth".

**3. Chongqing and Yangze tour (4 days):** Visit Goose Neck Park, Ciqikou Old Town, Light Rail Transit Experience, Chongqing Eling Park Three Gorges Museum. Board the ship and depart Chongqing in the evening. Shore excursion to Fengdu Ghost City, Shore excursion to Shennong Stream, and Three Gorges Dam, the largest water conservancy project.

(<http://www.easytourchina.com/>)

### Topics

The main theme of this symposium is the up-to-date technologies concerning hydraulic machinery and related systems, which will contribute to enhance the sustainable development of water resources and hydropower generation. The topics to be covered by this symposium include R&D, Numerical and Experimental studies, Design, Operation, Monitoring, etc. as shown below:

- 1. Hydraulic turbines and pumps**
  - Design and optimization of hydraulic machines
  - Unsteady flow phenomena in hydraulic machines
  - Erosion and cavitating flows
  - Environmental consideration in turbine design and operation
  - Marine propeller systems
- 2. Sustainable hydropower**
  - Vibration in power plants and pumping stations
  - Monitoring, diagnosis, optimization and maintenance systems
  - Variable speed machines
  - Small hydropower
  - Ocean power utilization
- 3. Hydraulic systems**
  - Dynamic behaviour of hydraulic systems
  - Valves and gates
  - Water supply systems
  - Sanitation, urban drainage, irrigation
  - Free surface flows
- 4. Advances in computational and experimental techniques**
  - Models, algorithms and code development in hydrodynamics
  - Simulation and analysis of cavitating and multi-phase flows
  - Flow stability and control
  - Advanced instrumentation
  - Efficiency and vibration measurement and analysis
- 5. Innovative technology**
  - New materials and processes
  - Hydraulic components for various industries
  - Bearing design, optimization and monitoring
  - Fluid transport in extreme conditions

### Call for Papers

Papers dealing with any topic included in the above list are invited to the symposium. The abstracts in 400-500 words highlighting the main contributions should be submitted. Deadlines are:

- 1) 15<sup>th</sup> Nov. 2011 - Abstract
- 2) 15<sup>th</sup> Jan. 2012 - Acceptance of Abstract
- 3) 1<sup>st</sup> May 2012 - Paper Manuscript
- 4) 1<sup>st</sup> June 2012 - Notification of Paper Acceptance
- 5) 1<sup>st</sup> July 2012 - Final paper

The proceedings will be distributed during the symposium. Template for the final paper will be forwarded later on.



First Announcement  
and Call for Papers

**Tsinghua University, Beijing, China**  
**August 19 – 23, 2012**

Qinghua Garden, 100084 Beijing, China



## 26<sup>th</sup> IAHR Symposium on Hydraulic Machinery and Systems



### Symposium Schedule

19 <sup>th</sup> August (Sunday), 2012
Registration: Meeting of Executive committees
20 <sup>th</sup> August (Monday), 2012
Opening ceremony, Invited lectures, Reception party
21 <sup>st</sup> August (Tuesday), 2012
Invited lectures, Technical sessions, Entertainment
22 <sup>nd</sup> August (Wednesday), 2012
Technical sessions, Banquet
23 <sup>rd</sup> August (Thursday), 2012
Technical sessions, Closing ceremony

<http://www.26iahr.org>  
[www.iahr.net](http://www.iahr.net)

S. Li @ wazurick.ac.uk

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Xiaowu LIU (Registration), liuxiaowu@tsinghua.edu.cn  
Baoshan ZHANG (Finance), zhangbaoshan@tsinghua.edu.cn

### Contact:

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Beijing 100084, China  
E-mail: iahr2012@tsinghua.edu.cn  
Phone: +86-10-62773947, +86-10-62794735  
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### REGISTRATION FEE:

	EARLY BIRD	REGULAR	LATE
Registration Type:	Before June 15, 2012	June 16, 2012 to August 12, 2012	August 13, 2012 to August 23, 2012
Participant	600 USD	700 USD	750 USD
Student Participant	300 USD	350 USD	375 USD
Accompanying Person	300 USD	350 USD	400 USD

\*Additional paper fee is 150 USD per paper.



**Organization**  
Tsinghua University, Beijing China

### Promotion

International Association for Hydro-  
Environment Engineering and Research

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Kazuhito TANAKA, Kyushu Institute of Technology, Japan  
Yoshihito TSUJIMOTO, Osaka University, Japan

**Aug. 20 Mon**

Invited Talk IAHR

Stay at Wenjin Hotel, Tsinghua University Area

**Aug. 21 Tues**

Visit Great Wall Badaling, Tienamin Square, Imperial Palace

Stay at Wenjin Hotel, Tsinghua University Area





*Great Wall of China, Badaling.*

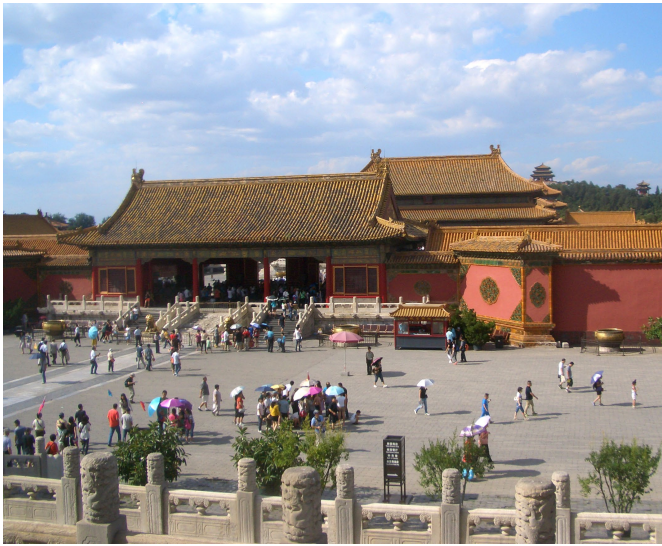


*Summer Palace, Beijing.*



*Tienamin Square and Imperial Palace, Beijing.*





*Left: Imperial Palace. Right=Lecture in Beijing.*

**Aug. 22 Wed**

Stay at Wenjin Hotel, Tsinghua University Area

**Aug. 23 Thurs**

Train lv. Beijing arr. Zhenjiang.

Stay at Zhenjiang Mingdu Hotel, Zhenjiang



**International Forum on Fluid Machinery and Engineering**

(August 24 –25, 2012, Jiangsu University, Zhenjiang, China)

Aug. 24, 2012	
9:00-14:00	Registration (Zhenjiang Mingdu Hotel)
14:30-14:45	Opening Ceremony (No. 1 Lecture Hall, Conference Center, Jiangsu University)
14:45-15:15	Launching Ceremony of the Chinese Translation of <i>Hydrodynamics of Pumps</i> (No. 1 Lecture Hall, Conference Center, Jiangsu University)
15:15-15:45	Photographing and coffee break
15:45-16:25	Invited lecture 1: <i>Cavitation instabilities in pumps</i> Professor Christopher Earls Brennen, California Institute of Technology, USA
16:25-17:05	Invited lecture 2: <i>Contra-rotating axial flow pump design and measurements of internal flow</i> Professor Akinori Furukawa, Oita National College of Technology, Japan
17:05-17:45	Invited lecture 3: <i>The ever changing and challenging world of draft tube dynamics</i> Professor Bryan Karney, University of Toronto, Canada
18:00-20:00	Banquet (Zhenjiang Mingdu Hotel)

**International Forum on Fluid Machinery and Engineering**

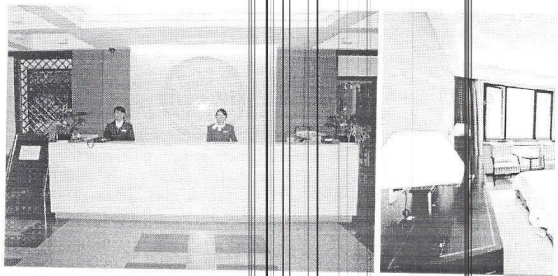
(August 24 –25, 2012, Jiangsu University, Zhenjiang, China)

Aug. 24, 2012	
9:00-14:00	Registration (Zhenjiang Mingdu Hotel)
14:30-15:00	Opening (No. 1 Lecture Hall, Conference Center, Jiangsu University)
15:00-15:40	Photographing and coffee break
15:40-16:20	Invited lecture Professor Christopher Earls Brennen, California Institute of Technology, USA
16:20-17:00	Invited lecture Professor Akinori Furukawa, Oita National College of Technology, Japan
17:00-17:40	Invited lecture Professor Bryan Karney, University of Toronto, Canada
18:00-20:00	Banquet (Zhenjiang Mingdu Hotel)



You can reserve Jinchunyuan Guest House's rooms online or down RESERVATION FORM, and reserve your rooms accordingly.

2. Jiasuo Guest House



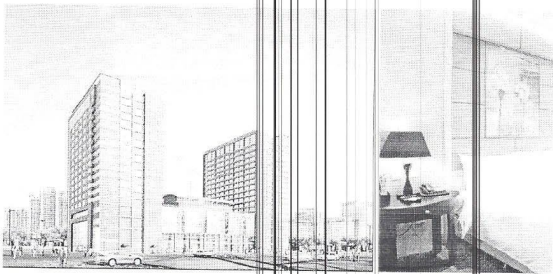
Agreement Price: **Standard Twin-100USD**

Address: Tsinghua University, Haidian District Beijing, 100084, China

You can reserve Jiasuo Guest House's rooms online or down RESERVATION FORM, and reserve your rooms accordingly.

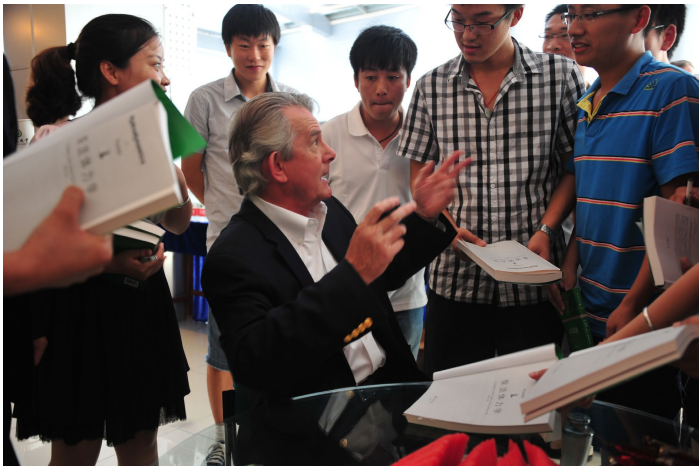
3. Wenjin Hotel

Wenjin Hotel is located in TusPark which is known as "China's Silic Zhongguancun District, Beijing. The hotel borders Tsinghua Unive University in the west, and very close to the Headquarters of Micro is close to the Summer Palace, also the Garden of Perfection and Bi



Address: South Gate of Tsinghua University, Haidian District Beijing.

**Aug. 23 Fri**  
Lecture at Jiangsu University.  
Stay at Zhenjiang Mingdu Hotel, Zhenjiang



Lecture and book-signing, Jiangsu University.



**Aug. 25 Sat**  
Symposium at Jiangsu University.  
Visit Zhenjiang Temple. Dinner.  
Stay at Zhenjiang Mingdu Hotel, Zhenjiang



*Group photo, Jiangsu University.*



*Left: Dinner with President. Right: Zhenjiang Temple.*



*Zhenjiang Temple figures.*





*Old port, Zhenjiang.*

**Aug. 26 Sun**

Fly MU2388 lv. Nanjing 10.40 arr. Xian 12.40  
Stay at Empark Grand Hotel, Xian

**Aug. 27 Mon**

Big Wild Goose Pagoda, Terracota Warriors, Hot Spring Palace.  
Hot Spring Palace Opera.  
Stay at Empark Grand Hotel, Xian



*Big Wild Goose pagoda, Xian.*



*Terracota Warriors, Xian.*



*Terracota Warriors, Xian.*



*Finder of Terracota Warriors and location of find.*





*Hot Spring Palace, Xian.*

**Aug. 28 Tues**  
Lecture at Xian Technological University.  
Stay at Empark Grand Hotel, Xian

**Aug. 29 Wed**  
Huashan Mountain.  
Stay at Empark Grand Hotel, Xian



*Huashan Mountain.*



*Huashan Mountain.*



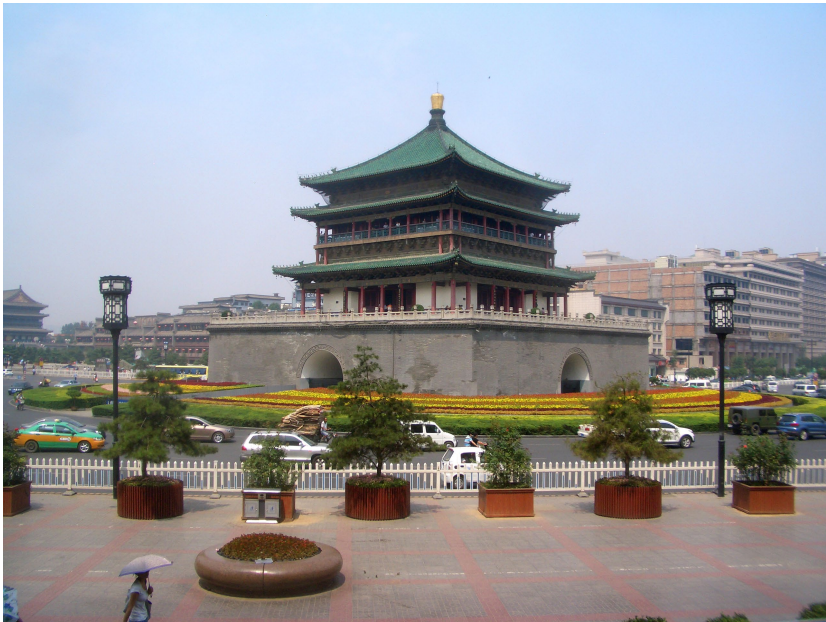


*Huashan Mountain.*



*Huashan Mountain.*

**Aug. 30 Thur**  
Visit center of Xian.  
Stay at Empark Grand Hotel, Xian



*Temple in Xian center.*

**Aug. 31 Fri**  
Fly MU2153 Xian 10.05 arr. Shanghai 12.05



**Sep. 1 Sat**

Subway to Nanjing Street and Waterfront, Shanghai.

Fly UA878 at 20.10 from Shanghai -Arr. LAX at 16.54



*Shanghai waterfront.*

[\*Back to table of contents\*](#)

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*Last updated 7/30/99.*

*Christopher E. Brennen*

# 被授权单位邀请函

Invitation Letter of Duly Authorized Unit

编号/ No. : 1622-1205-0339

此函仅限申请人前往中华人民共和国驻 \_\_\_\_\_ 美国 \_\_\_\_\_ 大使馆（总领馆/领事馆/处）  
或中华人民共和国外交部驻 \_\_\_\_\_ 特别行政区特派员公署申请签证时使用。  
Please apply forthwith for visa at the Embassy (Consulate General /Consulate/Office) of the P. R. China  
in \_\_\_\_\_ USA \_\_\_\_\_ or the Commissioner's Office of the Foreign Ministry of the P. R. China  
in \_\_\_\_\_ SAR with this letter.

被授权单位名称 清华大学

Name of Duly Authorized Unit

## 被邀请人情况

Information of the Invited

	外文姓名 Full Name	性别 Sex	出生日期 Date of Birth	国籍 Nationality	护照号码 Passport No.
1	Christopher Earls Brennen	男	1941.12.3	美国	210305015
2	Barbara Ann Brennen	女	1941.2.27	美国	466531985
3					
4					
5					

申请签证有效期 3 个月 Validity of Visa Intended to Apply	拟入境次数 1 Number of Entries	最长停留天数 18 Longest Stay
拟入境日期 2012.8.15 Date of First Entry	访问地点 北京 Places to Visit	事由 学术访问 Purpose of Visit
联系人 王珍时 Contact Person	被授权单位盖章及负责人签署 Seal and Signature 	
电话 010-62783574 Tel.		
传真 010-62783574 Fax		
邮箱 zswang@tsinghua.edu.cn E-mail		
		2012 年 5 月 6 日 Year Month Day

注：本函限五人使用。不足五人的空白部分，请对角划一斜线。超过五人另行出函。

Notes: This letter is for 5 people at most. Please cross a diagonal in the blank space if there are less than 5 people. For more than 5 people, please issue another one.



# 26<sup>th</sup> IAHR Symposium on Hydraulic Machinery and Systems

**August 19 – 23, 2012, Beijing, China**

## Session: Invited lectures

	Room xxx Monday, Aug. 20, 2012 chair
<b>9:00-10:00</b>	Opening ceremony(take photos)
<b>10:00-10:30</b>	Invited lecture: <b>Development and application of numerical methods for the further development of Hydro Turbines- Possibilities and limits</b> <b>R. Schilling</b> , Tech. Univ. Munich, Germany
<b>10:30-11:00</b>	Invited lecture: <b>Effects of Acoustic Characteristics of Exit Pipe on Phase Resonance in a Centrifugal Compressor</b> <b>Y. Tsujimoto</b> , Osaka University, Japan
<b>11:00-11:30</b>	Invited lecture: <b>Cavitation Instabilities in Pumps</b> <b>C. E. Brennen</b> , California Institute of Technology, USA
<b>11:30-12:00</b>	Invited lectur: <b>Hydrodynamic Performance Enhancement of a Mixed Flow Pump</b> <b>K.-Y. Kim</b> , Inha Univ., Korea
<b>12:00-12:30</b>	Invited lecture: <b>Pump</b> (to be confirmed) <b>S. Q. Yuan</b> , Jiangsu University, China
<b>12:30-13:30</b>	<b>Luncheon</b>
<b>13:30-14:00</b>	Invited lecture: (to be confirmed) <b>E. Egusquiza</b> , Politech. Univ. of Catalunya, Spain
<b>14:00-14:30</b>	Invited lecture: <b>The Use of X-Ray Imaging for Quantitative Measurements in Multiphase Flow</b> <b>S. L. Ceccio</b> , University of Michigan, USA
<b>14:30-15:00</b>	Invited lecture: <b>Coping with complexity in hydropower design and operation: present success is constructed on past failures</b> <b>B. Karney</b> , University of Toronto, Canada
<b>15:00-15:30</b>	Invited lecture: <b>Some aspects of complex flow behaviour in different types of turbomachines</b> <b>G. Bois</b> , ENSAM, France
<b>15:30-16:00</b>	<b>Coffee break</b>
<b>16:00-16:30</b>	Invited lecture: <b>Draft Tube Hydrodynamics: A Challenge from Modern Hydraulic Turbines</b> <b>R. Susan-Resiga</b> , Politech. Univ. of Timisoara, Romania
<b>16:30-17:00</b>	Invited lecture: <b>Investigations on the Dynamics of a Large Pump-Storage Plant</b> <b>S. Riedelbauch</b> , University of Stuttgart, Germany
<b>17:00-17:20</b>	Invited lecture: <b>Hydraulic Turbine</b> <b>X. Q. Luo</b> , Xi'an University of Technology, China
<b>17:20-17:40</b>	Invited lecture: <b>Hydraulic Turbine</b> <b>D. Q. Qin</b> , Harbin Electric Machinery Co. Ltd., China
<b>17:40-18:00</b>	Invited lecture: <b>Hydraulic Turbine</b>

	<b>Q. H. Shi</b> , Dongfang Electric Co. Ltd., China
<b>18:00</b>	Reception Party

*Note: Program is subject to change.*

## 26<sup>th</sup> IAHR Symposium on Hydraulic Machinery and Systems

**August 19 – 23, 2012, Beijing, China**

**Forum: Hydraulic Turbines and Pump Turbines 8:00:12:20**

	Room xxx	<b>Tuesday, Aug. 21, 2012</b>	chair
8:00-8:30	Invited lecture: <b>Recent Korean Technology Development of Micro Turbines in Hydro and Marine Renewable Energy</b> <b>Y.-H. LEE</b> , Korea Maritime University, Korea		
8:30-9:00	Invited lecture: <b>An outlook on the draft-tube-surge study</b> (IAHRXXVI-020) <b>M. Nishi</b> , Tsinghua University, China		
9:00-9:30	Invited lecture: <b>Research on Darrieus-type hydraulic turbine for extra-low-head hydropower utilization</b> <b>A. Furukawa</b> , Kyushu University, Japan		
9:30-9:50	<b>Multiobjective optimal design of runner blade using efficiency and draft tube pulsation criteria</b> (IAHRXXVI-193) I.M. Pilev, A.A. Sotnikov, V.E., Rigin, A.V.Semenova, S.G. Cherny, D.V. Chirkov, D.V. Bannikov, V.A. Skorospelov, Sylovie Machiny, Russian		
9:50-10:20			
10:20-10:40	<b>Simulation of water column separation in Francis pump-turbine draft tube</b> (IAHRXXVI-144) C. Nicolet, S. Alligne, A. Bergant, F. Avellan, EPFL-LMH, Switzerland		
10:40-11:00	<b>Turbine design for safe operation</b> (IAHRXXVI-227 ) H. Brekke, Norwegian. University of Science and Technology, Norway		
11:00-11:20	<b>Experimental study of the pressure fluctuations on propeller turbine runner blades during transient operation</b> (IAHRXXVI-183) R. Fraser, S. Houde, G. D. Ciocan, C.Deschênes, Université Laval, Canada		
11:20-11:40	<b>The pump storage situation in Germany</b> (IAHRXXVI-175) A. Ruprecht, N. Bauer, S. Riedelbauch, University of Stuttgart, Germany		
11:40-12:00	<b>Efficient runner safety assessment during early design phase and root cause analysis</b> (IAHRXXVI-025) Q. W. Liang, S.Lais, C. Gentner, O. Braun, Andritz		

**Forum: Pumps**

	Room xxx	<b>Tuesday, Aug. 21, 2012</b>	chair
8:00-8:30	Invited lecture: <b>The role of pumping systems in the fields of energy</b>		



	<b>recovery and renewable energy</b> S. Brodersen, Europump President, KSB AG, Germany
8:30-9:00	Invited lecture:(to be confirmed) Q. P. Li, China National Offshore Oil Corp., China
9:00-9:20	<b>On the rapidity of a pump start-up</b> (IAHRXXVI-170) A. Dazin, G. Caignaert, G. Dauphin-Tanguy, ENSAM, France
9:20-9:40	<b>Application of ant colony algorithm for optimal operation of single pump unit in pumping stations</b> (IAHRXXVI-057) Yao Yuan, Chao Liu, Yangzhou University, China
9:40-10:00	<b>Kinematic and Dynamic Characteristics of Swirling flow in 3D Tanks</b> (IAHRXXVI-122) C.-H. Wu, B.-F. Chen, T.-K. Hung, National Sun Yat-sen University, Kaohsiung, Taiwan, University of Pittsburgh, USA
10:00-10:20	
10:20-10:40	<b>Cavitation improvement of double suction centrifugal pump HPP Fuhren</b> (IAHRXXVI-275) A. Skerlavaj, M.Titzschkau, R.Pavlin, F. Vehar, P. Mežnar, A.Lipej, Turboinštitut d.d., Slovenia
10:40-11:00	<b>Experimental study on centrifugal pumps energy labeling in Iran</b> (IAHRXXVI-036) S.Derakhshan, E. Abdollahnejad, Iran University of Science and Technology, Iran
11:00-11:20	<b>Application of PIV for the flow field measurement in a mixed-flow pump</b> (IAHRXXVI-389) Y. Inoue, T.Nagahara, Hitachi, Japan
11:20-11:40	<b>Bearing with magnetic fluid and hydrophobic surface of the lining</b> (IAHRXXVI-377) F. Simona, P. Frantisek, M. Eduard, Brno University of Tech, Czech
11:40-12:00	<b>Numerical and Experimental Investigations on Cavitation Erosion</b> (IAHRXXVI-196) L. Krumenacker, R. F. Patella, A. Archer, Grenoble Institute of Technology, France
12:00-12:20	<b>Physical Model Studies of Water Column Separation</b> (IAHRXXVI-360) E. Rodal, R. Autrique, L. Carmona, A. Sanchez, Mexico (查单位)

#### Forum: Dynamics of Hydraulic Machinery

	Room xxx Tuesday, Aug. 21, 2012 chair
8:00-8:30	Invited lecture: <b>Cavitation research from an international perspective</b> Roger Arndt, University of Minnesota, USA
8:30-9:00	Invited lecture: <b>The fluid-structure interaction response and stability of hydrofoils</b> Julei Young, Princeton University, USA
9:00-9:20	<b>FSI analysis of Francis runner design exposed to sediment erosion</b>

	M. Eltvik, B. S. Thapa, O. G. Dahlhaug, Norwegian. University of Science and Technology, Norway
9:20-9:40	<b>A numerical study of the flow in the U9 Kaplan turbine model</b> (HRXXVI-106) O.Petit, H.Nilsson, Chalmers University of Technology, Sweden
9:40-10:00	<b>Application of J-Groove on the Suppression of Draft Surge in a Draft Tube</b> (IAHRXXVI-316) S.-W. Son, Q. S. Wei, Y.-D. Choi, J. Kurokawa, B. S. Zhu, Mokpo National University, Tsinghua University
10:00-10:20	
10:20-10:40	<b>The Numerical Simulation of the Delayed Load Rejection of a Pump-turbine Powerplant</b> , (IAHRXXVI-258) Y.J Fang, J. Koutnik, Voith Hydro
10:40-11:00	<b>ALSTOM experience in transient phenomena for PSP Machines</b> (IAHRXXVI-267) H. Marin, P. Leroy, J.-B. Houdeline, M. Couston, Alstom
11:00-11:20	<b>Investigation of Flow Pattern Downstream of Spiral Grooved Runner Cone in Pump-Turbine</b> (IAHRXXVI-390) T. Sano, Mitsubishi Heavy Industry
11:20-11:40	<b>Prediction for Sand Erosion in Runner Back Space of Francis Turbine</b> (IAHRXXVI-405) S. Nomoto, K. Tani, K. Hashimoto, Hitachi-Mitsubishi Hydro & Tokyo Electric Power
11:40-12:00	<b>Determination of parameters hydrokinetic ducted turbine based on flow calculations RANS and VLM methods</b> (IAHRXXVI-352) A. Góralczyk, A. Adamkowski, Polish Academy of Sciences, Poland
12:00-12:20	<b>Study on Three-Dimensional Hydraulic Transients of Hydraulic Power Stations</b> (IAHRXXVI-173) H.L. Bi, Z.W. Wang, L. J. Zhou, L. Meng, Tsinghua Univ., China Agriculture University

**Session: Invited lectures**

	Room xxx Thursday, Aug. 23, 2012 chair
<b>14:00-14:30</b>	<b>Tsinghua University</b>
<b>14:30-15:00</b>	<b>Zhefu Hydro Company</b>
<b>15:00-15:30</b>	<b>Voith, Germany</b>
<b>15:30-16:00</b>	Other sponsor
<b>16:00-16:30</b>	Other sponsor
<b>16:30-17:30</b>	<b>Closing ceremony</b>