



Office of International Relations  
Indian Institute of Technology  
Kharagpur – 721 302



REF: 2348/2024/OIR

Dated: 26.09.2024

NOTE

**Sub: Approval for the visit of Dr. Z. Lin from China & Dr. M. T. Stewart from UK during 19<sup>th</sup> – 24<sup>th</sup> Dec, 2024.**

Dr. Zaibin Lin from China and Dr. Mark Thomas Stewart from the UK are scheduled to visit IIT Kharagpur from 19<sup>th</sup> to 24<sup>th</sup> Dec, 2024, for an academic visit as part of a collaborative project.

The faculty coordinator for their visit is Dr. Swapnadip De Chowdhury from the Department of Ocean Engineering and Naval Architecture (Flag-i). According to the submitted documents, all expenses related to their visit will be covered by the Royal Academy of Engineering, UK. (Flag-ii).

The supporting documents of the visit are enclosed.

This is placed for your kind consideration and approval of the said visit.

- Encl.Flag: (i) Filled-up Ministry Clearance Form  
(ii) Filled-up Issuance of Visa Form  
(iii) CV & Purpose of visit copy of Dr. Zaibin Lin  
(iv) Passport copy

*Arun K. Roy* 26-09-24  
Junior IR- Executive

*[Signature]* 26/09/24  
IR-Executive

*Rabindra Mukherjee*  
26.09.2024  
Dean, International Relations

Director

*Let there be clearance of the Ministry  
first for these guests - before approval  
from the Director.*

*[Signature]*  
26/09/2024



**INVITATION LETTER**

Date: 27.09.2024

To:

Dr. Zaibin Lin

4 Colthill Cres, Milltimber AB13 oEG.

**Subject:** Invitation to visit Indian Institute of Technology Kharagpur during 19<sup>th</sup> -24<sup>th</sup> December, 2024.

Dear Dr. Zaibin Lin,

IIT Kharagpur is pleased to invite you for an academic visit as part of a collaborative project from 19<sup>th</sup> -24<sup>th</sup> December, 2024.

We have noted your passport details as follows:

**Name:** Zaibin Lin

**Nationality:** Chinese

**Country of present domicile:** UK

**Passport number:** EJ6315473

**Place of Issue of passport:** Manchester

**Issue date of passport:** 26. 10. 2022

**Expiry date of passport:** 25. 10. 2032

**Date of birth:** 11<sup>th</sup> April 1989

We understand that all expenses related to your visit will be sponsored by the Royal Academy of Engineering, UK. Dr. Swapnadip De Chowdhury (sdip@naval.iitkgp.ac.in) from the Department of Ocean Engineering and Naval Architecture at our institute will be the coordinator for your visit. We would be delighted if you could accept our invitation and kindly provide your travel plans to Dr. Chowdhury.

I look forward to your positive response. Please feel free to discuss any matters related to your visit with Dr. Chowdhury

With warm regards,

Sincerely,

*Rabibrata Mukherjee*  
27.09.2024  
Dean, International Relations

डॉ. रबिब्रता मुखर्जी  
Dr. Rabibrata Mukherjee  
संस्थाध्यक्ष, अंतर्राष्ट्रीय संबंध  
Dean, International Relation  
भारतीय प्रौद्योगिकी संस्थान खड़गपुर  
Indian Institute of Technology Kharagpur

CC:

- (1) Office of Registrar, IIT Kharagpur
- (2) Prof. Vishwanath Nagarajan, HoD-OENA
- (3) Dr. Swapnadip De Chowdhury, OENA



INVITATION LETTER

Date: 27.09.2024

To:

Dr. Mark Thomas Stewart

12 Wallacebrae Crescent, Danestone,  
Aberdeen, AB22 8YE.

**Subject:** Invitation to visit Indian Institute of Technology Kharagpur during 19<sup>th</sup> -24<sup>th</sup> December, 2024.

Dear Dr. Mark Thomas Stewart,

IIT Kharagpur is pleased to invite you for an academic visit as part of a collaborative project from 19<sup>th</sup> -24<sup>th</sup> December, 2024.

We have noted your passport details as follows:

**Name:** Mark Thomas Stewart

**Nationality:** British Citizen

**Country of present domicile:** UK

**Passport number:** 551577942

**Place of Issue of passport:** HMPO

**Issue date of passport:** 05. 01. 2018

**Expiry date of passport:** 05. 01. 2028

**Date of birth:** 04<sup>th</sup> November 1987

We understand that all expenses related to your visit will be sponsored by the Royal Academy of Engineering, UK. Dr. Swapnadip De Chowdhury (sdip@naval.iitkgp.ac.in) from the Department of Ocean Engineering and Naval Architecture at our institute will be the coordinator for your visit. We would be delighted if you could accept our invitation and kindly provide your travel plans to Dr. Chowdhury.

I look forward to your positive response. Please feel free to discuss any matters related to your visit with Dr. Chowdhury

With warm regards,

Sincerely,

*Rabibrata Mukherjee*  
27.09.2024  
Dean, International Relations

Dr. Rabibrata Mukherjee  
संस्थाध्यक्ष, अंतर्राष्ट्रीय संबंध  
Dean, International Relation  
भारतीय प्रौद्योगिकी संस्थान खड़गपुर  
Indian Institute of Technology Kharagpur

CC:

- (1) Office of Registrar, IIT Kharagpur
- (2) Prof. Vishwanath Nagarajan, HoD-OENA
- (3) Dr. Swapnadip De Chowdhury, OENA





**Office of International Relations  
Indian Institute of Technology  
Kharagpur-721302**

**FORM FOR MINISTRY CLEARANCE  
GOVERNMENT OF INDIA  
FOR VISIT OF FOREIGN NATIONALS TO  
INDIAN INSTITUTE OF TECHNOLOGY KHARAGPUR, INDIA**

1	Name :	Zaibin Lin
2	Nationality :	China
3	Date of birth :	11/April/1989
4	Place of birth :	Fujian
5	Number, Date & Place of Issue of Passport :	Number: EJ6315473 Date of issue: 26 October 2022 Date of expiry: 25 October 2032 Place of Issue of Passport: Manchester
6	Visa Number (if available)	N/A
7	Current residential address :	4 Colthill Cres, Milltimber AB13 oEG
8	Permanent residential address :	4 Colthill Cres, Milltimber AB13 oEG
9.	Profession :	Lecturer in Mechanical and Civil Engineering
10.	Place of Employment:	University of Aberdeen
11.	Academic Credentials:	PhD in Engineering
12.	Purpose of visit:	Academic visits funded by Royal Academy of Engineering - the Transforming Systems through Partnership 23/25 (India) programme
13.	Period of visit:	19 December 2024 – 24 December 2024
14.	Email:	z.lin@abdn.ac.uk
15.	Day time Phone:	00447831658656
16.	Address of Indian Embassy where you will be applying for your visa:	Manchester
17.	Coordinator of your visit at IITKGP/Dept :	Dr Swapnadip De Chowdhury at the Department of Ocean Engineering and Naval Architecture



**Office of Alumni Affairs & International Relations  
Indian Institute of Technology  
Kharagpur-721302**

**FORM FOR MINISTRY CLEARANCE  
GOVERNMENT OF INDIA  
FOR VISIT OF FOREIGN NATIONALS TO  
INDIAN INSTITUTE OF TECHNOLOGY KHARAGPUR, INDIA**

1	Name :	Mark Stewart
2	Nationality :	British
3	Date of birth :	04 November 1987
4	Place of birth :	Aberdeen, Scotland, UK
5	Number, Date & Place of Issue of Passport :	551577942, 05 January 2018, United Kingdom
6	Visa Number (if available)	-
7	Current residential address :	12 Wallacebrae Crescent, Danestone, Aberdeen, AB22 8YE
8	Permanent residential address :	12 Wallacebrae Crescent, Danestone, Aberdeen, AB22 8YE
9.	Profession :	University Lecturer in Civil Engineering
10.	Place of Employment:	University of Aberdeen
11.	Academic Credentials:	PhD in Engineering
12.	Purpose of visit:	Academic visits funded by Royal Academy of Engineering - the Transforming Systems through Partnership 23/25 (India) programme
13.	Period of visit:	19 December 2024 – 24 December 2024
14.	Email:	<a href="mailto:mstewart@abdn.ac.uk">mstewart@abdn.ac.uk</a>
15.	Day time Phone:	+44 (0)7813599533
16.	Address of Indian Embassy where you will be applying for your visa:	Consulate General of India, 17, Rutland Square, Edinburgh EH 1 2BB
17.	Coordinator of your visit at IITKGP/Dept :	Dr Swapnadip De Chowdhury at the Department of Ocean Engineering and Naval Architecture



**Office of Alumni Affairs & International Relations**  
**Indian Institute of Technology**  
**Kharagpur-721302**

**Request for issuance of visa invitation letter to foreign citizens**

Invitee details	
Name of the visitor:	Zaibin Lin
Address and contact details:	4 Colthill Cres, Milltimber AB13 oEG
Citizenship:	China
Date of birth:	11/April/1989
Organization:	University of Aberdeen, the UK
Details of visit	
Host Dept/School/ Centre/ Office:	Dr Swapnadip De Chowdhury at the Department of Ocean Engineering and Naval Architecture
Activity to be undertaken at IITKGP:	Academic visits funded by the Royal Academy of Engineering - the Transforming Systems through Partnership 23/25 (India) programme
Intended duration of stay at IITKGP :	19 December 2024 – 24 December 2024
Support provided by IITKGP (local travel, stay, food, honorarium, any other). Please give details of each type of support with funding source and proof:	Flight will be funded by the Royal Academy of Engineering - the Transforming Systems through Partnership 23/25 (India) programme
Support provided by any other organization incl. personal resources. Please give details and proof:	N/A
Invited by	
Name, affiliation and signature of host:	Dr Swapnadip De Chowdhury at the Department of Ocean Engineering and Naval Architecture
Recommended by Registrar/ HoD/ HoS/ HoC/ Dean (as appropriate)	<i>for [Signature]</i> 24/09/24

Please note: Govt. rules will be followed regarding issuance of visa invitation letters



विभागाध्यक्ष/Head of the Dept.  
महाप्रमुख अधिपति/Principal  
DEPT. OF OCEAN ENGG. AND NAVAL ARCHITECTURE  
भारतीय प्रौद्योगिकी संस्थान खरगपुर - 721302  
INDIAN INSTITUTE OF TECHNOLOGY KHARAGPUR



**Office of Alumni Affairs & International Relations  
Indian Institute of Technology  
Kharagpur-721302**

**Request for issuance of visa invitation letter to foreign citizens**

Invitee details	
<b>Name of the visitor:</b>	Dr Mark Stewart
<b>Address and contact details:</b>	12 Wallacebrae Crescent, Danestone, Aberdeen, AB22 8YE mstewart@abdn.ac.uk +44(0)7813599533
<b>Citizenship:</b>	British
<b>Date of birth:</b>	04 November 1987
<b>Organization:</b>	University of Aberdeen, Scotland, UK
Details of visit	
<b>Host Dept/School/ Centre/ Office:</b>	Dr Swapnadip De Chowdhury at the Department of Ocean Engineering and Naval Architecture
<b>Activity to be undertaken at IITKGP:</b>	Academic visits funded by the Royal Academy of Engineering - the Transforming Systems through Partnership 23/25 (India) programme
<b>Intended duration of stay at IITKGP :</b>	19 December 2024 – 24 December 2024
<b>Support provided by IITKGP (local travel, stay, food, honorarium, any other). Please give details of each type of support with funding source and proof:</b>	Flight will be funded by the Royal Academy of Engineering - the Transforming Systems through Partnership 23/25 (India) programme
<b>Support provided by any other organization incl. personal resources. Please give details and proof:</b>	N/A
Invited by	
<b>Name, affiliation and signature of host:</b>	Dr Swapnadip De Chowdhury at the Department of Ocean Engineering and Naval Architecture ASSISTANT PROFESSOR <i>Swapnadip De Chowdhury</i> 25.09.2024
<b>Recommended by Registrar/ HoD/ HoS/ HoC/ Dean (as appropriate)</b>	<i>N. Chakraborty</i> 25/09/2024

Please note: Govt. rules will be followed regarding issuance of visa invitation letters



Dr. Swapnadip De Chowdhury

Assistant Professor, Department of Ocean Engineering and Naval Architecture

Indian Institute of Technology, Kharagpur, West Bengal 721302,

India

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Date: 24.09.2024

**TO WHOM IT MAY CONCERN**

This is to confirm that Dr. Zaibin Lin who is currently a lecturer in the School of Engineering at the University of Aberdeen in Scotland, UK, will be visiting us as part of collaborative project on 'Vortex Energy Drive for Renewable and Sustainable Energy Harvesting' between IIT Kharagpur, India and the University of Aberdeen, UK. This project is funded by the Royal Academy of Engineering, UK.

Following two key purposes will be served as part of this visit:

1. Contribute in analysis of field data collected to harness electrical power from river stream and develop materials for writing journal papers.
2. Delivering a few lectures as part of a workshop which will be organized to better disseminate the knowledge and lessons learnt as part of this research project.

It is believed this visit will be beneficial to develop and promote a novel renewable energy technology in remote areas where there is a demand for cheap electrical power and thus is a matter of interest for both partnering countries.

Thanking You,

Yours' faithfully,

*Swapnadip De Chowdhury*

Swapnadip De Chowdhury



# Dr Zaibin Lin

250 Fraser Noble Building, Elphinstone Road, Aberdeen, AB24 3UE, the United Kingdom

Tel: +44 (0)7831658656. E-mail: [z.lin@abdn.ac.uk](mailto:z.lin@abdn.ac.uk)

[Google Scholar](#). [Personal Website](#).

## EDUCATION

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### Doctor of Philosophy in Engineering

Jan. 2013 – June 2017

University of Aberdeen, the United Kingdom

*Dissertation title:* "Integrated numerical models for wave-induced seabed response around offshore structures"

This PhD project was funded by Energy Technology Partnership (ETP) and JP Kenny – Wood Group

### Master of Engineering in Harbour, Coastal and Offshore Engineering

Sept. 2010 – Dec. 2012

Hohai University, P.R. China

*Dissertation title:* "Investigating the Optimisation of Berth Length and Mooring Force for Large Oil Tankers: A Physical Experiment"

### Bachelor of Engineering in Harbour, Waterway and Coastal Engineering

Sept. 2006 – June 2010

Hohai University, P.R. China

## RESEARCH EXPERIENCES

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### Lecturer in Mechanical/Civil Engineering

Aug. 2022 – Present

School of Engineering, University of Aberdeen

- Offshore renewable energy – floating offshore wind turbines, tidal turbines, wave energy converters.
- Marine/coastal microplastic pollution prediction, collaborated with the National Oceanography Centre, Liverpool.
- High-fidelity Computational Fluid Dynamics model development and applications, collaborated with the Hartree Centre, the Science and Technology Facilities Council.
- School of Engineering outreach team

### Post-Doctoral Research Associate

July 2018 – July 2022

Department of Computing and Mathematics, Manchester Metropolitan University

- A Zonal CFD Approach for Fully Nonlinear Simulations of Two Vessels in Launch and Recovery Operations ([EP/N008839/1](#)), funded by EPSRC. Collaborators: University of Plymouth and City, University of London. A Finite Volume Method based fully nonlinear potential flow solver has been developed in OpenFOAM, which is being coupled with Navier-Stokes equations to investigate wave-structure interaction.
- Investigating the motion responses of two different Wave Energy Converters in focused waves
- Extreme loading on floating wind turbine under complex environmental conditions ([EP/T004150/1](#)), funded by EPSRC. Collaborators: University of Plymouth; City, University of London; Lancaster University; and STFC Laboratories.

An integrated multi-regions overset mesh solver in OpenFOAM for floating offshore wind turbines has been implemented, where the high-fidelity aerodynamics of fully resolved rotating blades in offshore wind, hydrodynamics of a six-degree-of-freedom floater in waves, and mooring lines systems are numerically predicted.

- Quantitative Assessment Tool for Wind Effect on Wave Overtopping Seawalls ([NE/R009155/1](#))

### Honorary Post-Doctoral Research Assistant

Aug. 2017 – Aug. 2018

School of Engineering, University of Aberdeen

- PI. On the parametric resonance of floating offshore wave energy converters. **Mar. 2023 – July 2023**  
**The Binks Trust Fund** - Academic visit to Shanghai Jiao Tong University hosted by Professor Ye Li. £4,120.
- Named researcher, ARCHER2-eCSE07, Optimising the OpenFOAM overset mesh solver for complex wave structure interaction simulations, £125,937 **Oct. 2022 – Oct.2023**

## RESEARCH INTERESTS

Fluid-Structure-Seabed Interaction, Coastal engineering, Offshore engineering, Renewable energy (wave energy convertor, tidal turbine, and floating wind turbine), Numerical modelling, laboratory experiment.

## TEACHING AND SUPERVISION EXPERIENCES

### Course Co-ordinator

School of Engineering, University of Aberdeen

Aug. 2022- Present

- EG25H4 - Engineering Analysis and Numerical Methods (2023-2024)
- EG35H6 - Project and Safety Management (2023-2024)
- EG30H2 - Finite Element Method (2022-2023)
- EG501V/3G - Computational Fluid Dynamics (2022-2023, 2023-2024)

### PhD student supervision

2020 – Present

- Serving as the primary supervisor for a PhD student specialising in Mechanical Engineering at the University of Aberdeen.
- Acting as the co-supervisor for two PhD students in the field of Engineering at the University of Aberdeen.
- Mentoring a PhD student at Shandong University with code development using OpenFOAM for modelling wave-structure interaction.
- Guiding a PhD student at the University of Aberdeen on code development in OpenFOAM for applications in Biological Engineering.

### Master student supervision

- School of Control Science and Engineering, Shandong University, P.R. China  
Modelling fluid-structure interaction and code development in OpenFOAM. This leads to two journal articles published (see [J10] and [J17] in the **Journal articles** section)

2018-2021

- Deep Water Engineering Research Centre, Dalian University of Technology, China

2022 - Present

Develop a single-input and a multi-input LSTM neural network to assess the stability and performance of a floating offshore wind turbine in the complex marine environment (see [J5] in the **Journal articles** section).

## HONORS AND AWARDS

- Best Postgraduate Taught Lecturer Award nomination – University of Aberdeen 2024
- Baker Medal, the Institution of Civil Engineers (2022) (see [J16] in **Journal articles** section) 2022
- Notable research impact, 2<sup>nd</sup> ECR and PhD Centre for Advanced Computational Science Conference, Manchester Metropolitan June 2022

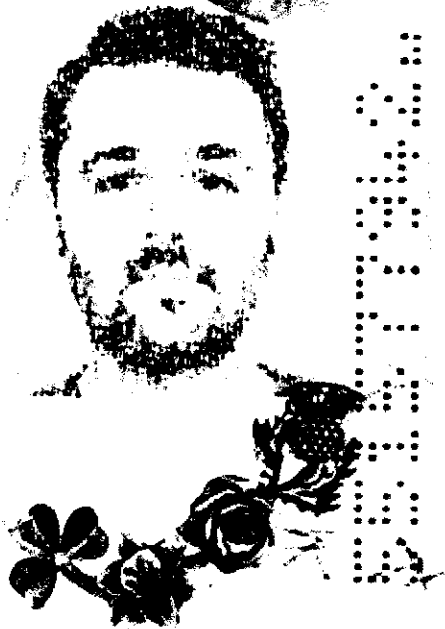
- [J10] Wang, K., Ma, X., Bai, W., Lin, Z. and Li, Y., 2021. Numerical simulation of water entry of a symmetric/asymmetric wedge into waves using OpenFOAM. *Ocean Engineering*, 227, p.108923.
- [J11] Lin, Z., Qian, L., Bai, W. and Ma, Z., 2021. Simulation of Steep Focused Wave Impact on a Fixed Cylinder Using Fully Nonlinear Potential Flow and Navier-Stokes Solvers. *International Journal of Offshore and Polar Engineering*, 31(01), pp.78-86.
- [J12] Sriram, V., Agarwal, S., Yan, S., Xie, Z., Saincher, S., Schlurmann, T., Ma, Q., Stoesser, T., Zhuang, Y., Han, B., Zhao, W., ... Lin, Z., ... 2021. A Comparative Study on the Nonlinear Interaction Between a Focusing Wave and Cylinder Using State-of-the-art Solvers: Part A. *International Journal of Offshore and Polar Engineering*, 31(01), pp.1-10.
- [J13] Lin, Z., Chen, H., Qian, L., Ma, Z., Causon, D., Mingham, C., 2021. Simulating focused wave impacts on point absorber wave energy converters. *Proceedings of the Institution of Civil Engineers - Engineering and Computational Mechanics*, 174(1), pp.19-31.
- [J14] Lin, Z., Qian, L., Bai, W., Ma, Z., Chen, H., Zhou, J.-G., Gu, H., 2021. A Finite Volume Based fully nonlinear potential flow model for water wave problems. *Applied Ocean Research*. 106, p.102445.
- [J15] Lin, Z., Pokrajac, D., Guo, Y., Liao, C., Tang, T., 2020. Near-trapping effect of wave-cylinders interaction on pore water pressure and liquefaction around a cylinder array. *Ocean Engineering*, 218, p.108047.
- [J16] Ransley, E., Brown, S., Hann, M., Greaves, D., Windt, C., Ringwood, J., Davidson, J., Schmitt, P., Yan, Y., Wang, J., Wang, J., Ma, Q., Xie, Z., Giorgi, G., Hughes, J., Williams, A., Masters, I., Lin, Z., Chen, H., Qian, L., Ma, Z., Chen, Q., Ding, H., Zang, J., Van Rij, J., Yu, Y.-H., Li, Z., Bouscasse, B., Ducrozet, G., Bingham, H., 2020. Focused wave interactions with floating structures: A blind comparative study. *Proceedings of the Institution of Civil Engineers - Engineering and Computational Mechanics*, pp.1-34.
- [J17] Yan, M., Ma, X., Bai, W., Lin, Z., Li, Y., 2020. Numerical simulation of wave interaction with payloads of different postures using OpenFOAM. *Journal of Marine Science and Engineering*, 8(6), p.433.
- [J18] Chen, H., Lin, Z., Qian, L., Ma, Z., Bai, W., 2020. CFD Simulation of Wave Energy Converters in Focused Wave Groups Using Overset Mesh, *International Journal of Offshore and Polar Engineering*, 30, no. 01 (2020): 70-77.
- [J19] Ransley, E., Yan, S., Brown, S., Hann, M., Graham, D., Windt, C., Schmitt, P., Davidson, J., Ringwood, J., Musiedlak, P.H., Wang, J., Wang, J., Ma, Q., Xie, Z., Zhang, N., Zheng, X., Giorgi, G., Chen, H., Lin, Z., Qian, L., Ma, Z., Bai, W., Chen, Q., Zang, J., Ding, H., Cheng, L., Zheng, J., Gu, H., Gong, X., Liu, Z., Zhuang, Y., Wan, D., Bingham, H., Greaves, D., 2020. A blind comparative study of focused wave interactions with floating structures (CCP-WSI Blind Test Series 3). *International Journal of Offshore and Polar Engineering*, 30:1–10.
- [J20] Chen, H., Qian, L., Bai, W., Ma, Z., Lin, Z., Xue, M., 2019. Oblique focused wave group generation and interaction with a fixed FPSO-shaped body: 3D CFD simulations and comparison with experiments. *Ocean Engineering*, 192, 106524.
- [J21] Liao, C., Jeng, D.-S., Lin Z., Guo Y, 2018. Wave (Current)-Induced Pore Pressure in Offshore Deposits: A Coupled Finite Element Model. *Journal of Marine Science and Engineering*, 6(3): 83
- [J22] \*Lin, Z., Pokrajac, D., Guo, Y., Jeng, D.-S., Tang, T., Rey, N., Zheng, J., Zhang, J., 2017. Investigation of nonlinear wave-induced seabed response around mono-pile foundation. *Coastal Engineering*, 121, pp.197-211.
- [J23] \*Lin, Z., Guo, Y., Jeng, D.-S., Liao, C., Rey, N., 2016. An integrated numerical model for wave–soil–pipeline interactions. *Coastal Engineering*, 108, pp.25-35.
- [J24] Liao, C., Lin Z., Guo Y, Jeng, D.-S., 2015. Coupling model for waves propagating over a porous seabed. *Theoretical and Applied Mechanics Letters*, 5(2):85.
- \* [J22] and [J23] are among the Most Cited Coastal Engineering Articles since 2016.**

**1891598717**

POCHNLIN<<ZAIBIN<<<<<<<<<<<<<<<<<<<<<<<<<<<<  
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•THERE ARE NO OFFICIAL OBSERVATIONS•



**HOLDER'S SIGNATURE/SIGNATURE DU TITULAIRE**

**UNITED KINGDOM OF GREAT BRITAIN AND NORTHERN IRELAND**



PASSPORT  
... ..

2

**GER**

551577942

STEWART

**MARK THOMAS**

BRITISH CITIZEN

04 NOV /NOV 87

ABERDEEN

05 JAN 78 HMPD

05 JAN / JAN 28

SEE PAGE ABOVE

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