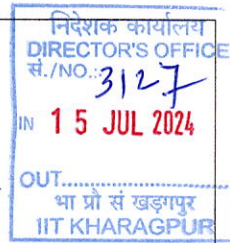




Office of International Relations (IR)
Indian Institute of Technology
Kharagpur – 721 302



REF: 2263/2024/OIR

Dated: 12.07.2024

NOTE

Sub: Approval for the visit of Dr. K.M.R. Hunt from UK at IIT Kharagpur during 28th – 30th August, 2024.

Dr. Kieran Mark Rainwater Hunt from UK is scheduled to visit IIT Kharagpur during 28th – 30th August, 2024 for research meetings and interaction with faculty/students.

The faculty coordinator of his visit is Prof. Pranab Deb of CORAL Department (Flag-i). As per the document submitted it is understood that expenses towards accommodation and food at a suitable Guest house will be supported from the project (Code: IBS) (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 & Passport copy of the visitor

Arun K. Roy 12.07.24
Junior IR- Executive

[Signature]
IR-Executive

[Signature]
Dean, International Relations

15.07.2024.

[Signature]
Director

[Signature]
17/07/2024



INVITATION LETTER

Date: 19.07.2024

To:
Dr. K.M.R. Hunt
Department of Meteorology (Harry Pitt 181)
University of Reading
PO Box 243, Reading RG6 6BB, UK.

Subject: Invitation to visit the Indian Institute of Technology Kharagpur during 28th – 30th August, 2024.

Dear Prof. K. M. R. Hunt,

IIT Kharagpur is pleased to invite you during 28th – 30th August, 2024 for research meetings and interaction with faculty/students.

We have noted your passport details as follows:

Name: Kieran Mark Rainwater Hunt
Nationality: British
Country of present domicile: UK
Passport number: 127391771

Place of Issue of passport: London
Issue date of passport: 22 Oct 2021
Expiry date of passport: 22 Oct 2031
Date of birth: 23 May 1991

We understand that all expenses related to your visit will be arranged by yourself. However, your accommodation at a suitable guest house will be arranged under the auspices of the project 'Sea Ice Energy Balance and Ice-Ocean Process Studies' (code: IBS).

Prof. Pranab Deb (pranab@coral.iitkgp.ac.in) of our Institute will be the coordinator for your visit. We would be delighted if you accept our invitation and provide your travel plans to Prof. Pranab Deb.

I look forward to your positive response. Please feel free to discuss all matters pertaining to your visit with Prof. Pranab Deb.

With warm regards,

Sincerely,

Rabibrata Mukherjee
19.07.2024
Prof. Rabibrata Mukherjee
Dean, International Relations

CC:
(1) Office of Registrar, IIT Kharagpur
(2) Prof. Kinsuk Naskar – HoC-IITKGP
(3) Prof. Pranab Deb, CORAL-IITKGP

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



**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 : | Kieran Mark Rainwater Hunt |
| 2 | Nationality : | British |
| 3 | Date of birth : | 23 May 1991 |
| 4 | Place of birth : | Bristol, United Kingdom |
| 5 | Number, Date & Place of Issue of Passport : | Number:127391771 Issued: 22 Oct 2021 (London) |
| 6 | Visa Number (if available) | NA |
| 7 | Current residential address : | 36 Jersey Drive, Winnersh, Wokingham, UK RG41 5FR |
| 8 | Permanent residential address : | As above |
| 9. | Profession : | Senior research scientist |
| 10. | Place of Employment: | University of Reading |
| 11. | Academic Credentials: | BSc (Oxford), MPhys (Oxford), PhD (Reading) |
| 12. | Purpose of visit: | Research meetings & interaction with faculty/students |
| 13. | Period of visit: | 28 August to 30 August 2024 |
| 14. | Email: | k.m.r.hunt@reading.ac.uk |
| 15. | Day time Phone: | +44 7979 332836 |
| 16. | Address of Indian Embassy where you will be applying for your visa: | online business evisa |
| 17. | Coordinator of your visit at IITKGP/Dept : | Dr Pranab Deb, CORAL |



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

Request for issuance of visa invitation letter to foreign citizens

| Invitee details | |
|--|--|
| Name of the visitor: | Kieran Mark Rainwater Hunt |
| Address and contact details: | Residential Address: 36 Jersey Drive, Winnersh, Wokingham, UK RG41 5FR Phone: +44 7979 332836 Email: k.m.r.hunt@reading.ac.uk |
| Citizenship: | British |
| Date of birth: | 23 May 1991 |
| Organization: | University of Reading |
| Details of visit | |
| Host Dept/School/ Centre/ Office: | CORAL |
| Activity to be undertaken at IITKGP: | Research meetings & student interaction |
| Intended duration of stay at IITKGP : | 28 August to 30 August 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: | Stay and food (project: IBS) |
| Support provided by any other organization incl. personal resources. Please give details and proof: | |
| Invited by | |
| Name, affiliation and signature of host: | Dr. Pranab Deb Assistant Professor, CORAL <i>Pranab Deb</i> 10-07-2024. |
| Recommended by Registrar/ HoD/ HoS/ HoC/ Dean (as appropriate) | |

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

Updated July 10, 2024

Forwarded,
Kimuk Nankar, Head, CORAL
10.07.2024

Kieran M R Hunt
Senior Research Scientist in Tropical and Himalayan Meteorology

Curriculum Vitae
k.m.r.hunt@reading.ac.uk
research.reading.ac.uk/meteorology/people/kieran-hunt/

Employment

University of Reading

Sep 2022 – present

NERC Independent Research Fellow

- Working on the MITRE project, investigating the role of mesoscale convection in driving and sustaining the Indian summer monsoon

European Centre for Medium Range Weather Forecasting

Sep 2020 – Sep 2021

Visiting Scientist

- Led the development of an operational neural network river streamflow forecasting system over the Western United States

University of Reading

Apr 2020 – Sep 2022

Senior Research Scientist (Grade 7)

- Continuation of work on IMPROVE project, see below.

University of Reading

2016 – 2020

Research Scientist (Grade 6)

- Working on the IMPROVE project (Sep 2019 to present), investigating regimes of orographic precipitation over India and their representation in models
- Worked on the BITMAP project (Dec 2016 to Sep 2019), investigating the interaction of the subtropical westerly jet and the orography of northern India and Pakistan

University of Reading

2014 – present

Teaching Assistant

- Undergraduate: Introduction to Physics (2014–2015)
- Undergraduate: Skills for Environmental Science (2021)
- Undergraduate: Instrumentation for Environmental Measurements (2021–)
- Postgraduate: Numerical Modelling of the Atmospheres and Oceans (2015–2016)
- Postgraduate: Introduction to Computing (2014–2019)

Education

University of Reading

2013 – December 2016

Ph.D. Meteorology (supervised by Dr Andrew Turner)

- Thesis: On the behaviour of tropical depressions and their interaction with the Indian monsoon trough region

University of Oxford

2012 – 2013

- 25)** Deoras A, **Hunt KMR**, and Turner AG (2021). The simulation of the structure of Indian monsoon low-pressure systems by Subseasonal-to-Seasonal prediction models. *Quart. J. Roy. Met. Soc.* **76**(6), 194-200. doi:10.1002/wea.3997
- 24)** **Hunt KMR**, Turner AG, and Schiemann RK (2021). How interactions between tropical depressions and western disturbances affect heavy precipitation over South Asia. *Mon. Wea. Rev.* **149**(6), 1801-1825. doi:10.1175/MWR-D-20-0373.1
- 23)** **Hunt KMR** and Dimri AP (2021). Synoptic-scale precursors of landslides in the Western Himalaya and Karakoram. *Sci. Tot. Env.* **776** 145895. doi:10.1016/j.scitotenv.2021.145895
- 22)** Deoras A, **Hunt KMR**, and Turner AG (2021). Comparison of the prediction of Indian monsoon low-pressure systems by Subseasonal-to-Seasonal prediction models. *Weather Forecast.* **36**(3), 859-877. doi:10.1175/WAF-D-20-0081.1
- 21)** **Hunt KMR**, Turner AG, Schiemann RKH, Stein THM, and Fletcher JK (2021). Modes of coastal precipitation over southwest India and their relationship to intraseasonal variability. *Quart. J. Roy. Met. Soc.* **147**(734), 181-201. doi:10.1002/qj.3913
- 20)** **Hunt KMR**, Turner AG, and Shaffrey LC (2020). The impacts of climate change on the winter water cycle of the western Himalaya. *Clim. Dyn.* **55**(7), 2287-2307. doi:10.1007/s00382-020-05383-3
- 19)** **Hunt KMR** and Menon A (2020). The 2018 Kerala floods: a climate change perspective. *Clim. Dyn.* **54**(3), 2433-2446. doi:10.1007/s00382-020-05123-7
- 18)** Turner AG, Bhat GS, Martin GM, Parker DJ, Taylor CM, Mitra AK..., **Hunt KMR**, et al. (2019). Interaction of Convective Organisation with Monsoon Precipitation, Atmosphere, Surface and Sea: the 2016 INCOMPASS field campaign in India. *Quart. J. Roy. Met. Soc.* **146**(731), 2828-2852. doi:10.1002/qj.3633
- 17)** Martin GM, Brooks ME, Johnson B, Milton SF, Webster S, Jayakumar A, Mitra AK, Rajan D, and **Hunt KMR** (2019). Forecasting the monsoon on daily to seasonal time-scales in support of a field campaign. *Quart. J. Roy. Met. Soc.* **146**(731), 2906-2927. doi:10.1002/qj.3620
- 16)** **Hunt KMR** and Turner AG (2019). The role of the subtropical jet in deficient winter precipitation across the mid-Holocene Indus Basin. *Geophys. Res. Lett.* **46**(10), 5452-5459. doi:10.1029/2019GL081920
- 15)** Barton E, Taylor CM, Brooke J, Harlow RC, Turner AG, Belusic D, Harris P, Parker DJ, **Hunt KMR**, Boeing S, and Mitra AK (2018). An observational case study of land-atmosphere coupling during monsoon onset in northern India. *Quart. J. Roy. Met. Soc.* **146**(731), 2891-2905. doi:10.1002/qj.3538
- 14)** **Hunt KMR**, Turner AG, and Shaffrey LC (2019). Falling trend of western disturbances in future climate simulations. *J. Clim.* **32**, 5037-5051. doi:10.1175/JCLI-D-18-0601.1
- 13)** **Hunt KMR** and Fletcher JK (2019). The relationship between Indian monsoon rainfall and low-pressure systems. *Clim. Dyn.* **53**(3-4), 1859-1871. doi:10.1007/s00382-019-04744-x
- 12)** **Hunt KMR**, Turner AG, and Shaffrey LC (2019). Representation of western disturbances in CMIP5 models. *J. Clim.* **32**(7), 1997-2011. doi:10.1175/JCLI-D-18-0420.1
- 11)** Fletcher JK, Parker DJ, Turner AG, Menon A, Martin GM, Birch CE, Mitra AK, Mrudula G, **Hunt KMR**, Taylor Cm, Houze RA, Brodzik SR, and Bhat GS (2018). The dynamic and

thermodynamic structure of the monsoon over southern India: New observations from the INCOMPASS IOP. *Quart. J. Roy. Met. Soc.* **146**(731), 2867-2890. doi:10.1002/qj.3439

10) Hunt KMR, Curio J, Turner AG, and Schiemann RKH (2018). Subtropical westerly jet influence on occurrence of western disturbances and Tibetan Plateau vortices. *Geophys. Res. Lett.* **45**(16), 8629-8636. doi:10.1029/2018GL077734

9) Hunt KMR, Turner AG, and Shaffrey LC (2018). Extreme daily rainfall in Pakistan and north India: scale interactions, mechanisms, and precursors. *Mon. Wea. Rev.* **146**(4), 1005-1022. doi:10.1175/MWR-D-17-0258.1

8) Fletcher JK, Parker DJ, **Hunt KMR**, Vishwanathan G, and Mrudula G (2018). The interaction of Indian monsoon depressions with northwesterly midlevel dry intrusions. *Mon. Wea. Rev.* **146**(3) 679-693. doi:10.1175/MWR-D-17-0188.1

7) Hunt KMR, Turner AG, and Shaffrey LC (2018). The evolution, seasonality, and impacts of western disturbances. *Quart. J. Roy. Met. Soc.* **144**(710), 278-290. doi:10.1002/qj.3200

6) Hunt KMR and Turner AG (2017). The effect of soil moisture perturbations on Indian monsoon depressions in a numerical weather prediction model. *J. Clim.* **30**(21), 8811-8823. doi:10.1175/JCLI-D-16-0733.1

5) Hunt KMR and Turner AG (2017). The effect of horizontal resolution on Indian monsoon depressions in the Met Office NWP model. *Quart. J. Roy. Met. Soc.* **143**(705), 1756-1771. doi:10.1002/qj.3030

4) Willetts PD, Turner AG, Martin GM, Mrudula G, **Hunt KMR**, Parker DJ, Taylor CM, Birch CE, Mitra AK, Heming JT, and Brooks ME (2017). The 2015 Indian summer monsoon onset – phenomena, forecasting and research flight planning. *Weather.* **72**(6) 168-175. doi:10.1002/wea.2819

3) Hunt KMR, Turner AG, and Parker DE (2016). The spatiotemporal structure of precipitation in Indian monsoon depressions. *Quart. J. Roy. Met. Soc.* **142**(701), 3195-3210. doi:10.1002/qj.2901

2) Hunt KMR and Parker DJ (2016). The movement of Indian monsoon depressions by interaction with image vortices near the Himalayan Wall. *Quart. J. Roy. Met. Soc.* **142**(698), 2224-2229. doi:10.1002/qj.2812

1) Hunt KMR, Turner AG, Inness PM, Parker DE, and Levine RC (2016). On the structure and dynamics of Indian monsoon depressions. *Mon. Wea. Rev.* **144**(9), 3391-3416. doi:10.1175/MWR-D-15-0138.1

To
Chairperson, CORAL
IIT Kharagpur

Kimsh Nankar, 10.07.2024

केन्द्रप्रमुख / Head
महासागर, नदी, वायुमंडल एवं भूमि विज्ञान केन्द्र
Centre for Oceans, Rivers, Atmosphere and Land Sciences
एन आई टी खड़गपुर / IIT Kharagpur

Forwarded to
Dean IR for approval
& necessary action please

Subject: Request for recommendation/signature on visa issuance form of Dr. Keiran M. R. Hunt,
University of Reading, UK - proposed visit during 28-08-2024 to 30-08-2024

Dear Sir,

I would like to inform you that Dr. Keiran M. R. Hunt, a research scientist from the University of Reading, UK is visiting CORAL, IIT Kgp during 28th to the 30th of August 2024. The purpose of his visit is to engage in collaborative discussion with my research group and interaction with students/faculty of the centre.

Dr. Hunt does not require any financial assistance for his travel. However, I wish to arrange for his stay at an institute guest house from project (code: IBS).

Sir, I, therefore, request your approval for the visit, and your recommendation/signature on visa issuance form of Dr. Hunt.

A short CV of Dr. Hunt is attached for your perusal.

Thanks and kind regards,

Pranab Deb
10-07-2024

(Dr. Pranab Deb)



डॉ. प्रणब देव
Dr. Pranab Deb
सहायक प्राध्यापक/Assistant Professor
महासागर, नदी, वायुमंडल एवं भूमि विज्ञान केन्द्र
Centre for Oceans, Rivers, Atmosphere and Land Science
भारतीय प्रौद्योगिकी संस्थान खड़गपुर, खड़गपुर - 721302
Indian Institute of Technology Kharagpur, Kharagpur-721302



CETTE PAGE EST RESERVEE AUX OBSERVATIONS OFFICIELLES (11)

• THERE ARE NO OFFICIAL OBSERVATIONS •



Holder's signature/Signature du titulaire (10)

UNITED KINGDOM OF GREAT BRITAIN AND NORTHERN IRELAND

PASSEPORT
PASSEPORT

Type/Type
P

GBR

Passport No./Passeport No.
127391771

Surname/Nom (1)
HUNT

Given names/Prénoms (2)

KIERAN MARK RAINWATER

Nationality/Nationalité (3)

BRITISH CITIZEN
Nationality/Nationalité (3)

Date of birth/Date de naissance (4)

23 MAY / MAY 91

Sex/Sexe (5) Place of birth/Lieu de naissance (6)

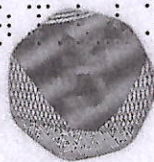
M
BRISTOL

Date of issue/Date de délivrance (7) Authority/Autorité (8)

| Date of Issue | Date of Delivery | Quantity | Unit Price | Total | Remarks |
|---------------|------------------|----------|------------|-------|---------|
| 22 OCT | /OCT | 21 | HMPD | | |

Date of expiry/Date d'expiration (9)

22 OCT /OCT 31



P<GBRHUNT<<KIERAN<MARK<RAINWATER<<<<<<<<
1273917710GBR9105230M3110223<<<<<<<<<<<<<02