CURRÍCULUM VÍTAE NORMALIZADO

Alain Ulazia Manterola

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GOBIERNO DE ESPAÑA
MINISTERIO DE CIENCIA E INNOVACIÓN

FECYT FUNDACIÓN ESPAÑOLA PARA LA CIENCIA Y LA TECNOLOGÍA

General quality indicators of scientific research

This section describes briefly the main quality indicators of scientific production (periods of research activity, experience in supervising doctoral theses, total citations, articles in journals of the first quartile, H index...). It also includes other important aspects or peculiarities.

Scopus, H14; ResearcherID, H14
17 articles in Q1 in JCR, 7 in Q2, 7 in Q3, 1 in Q4. In total, 32 articles in JCR, with 40% of the publications as the first author or corresponding author.

Research lines in the theoretical construction of fluid mechanics, wind energy and wave energy:

1) In the theoretical construction of fluid mechanics, he has studied the historical cases of the genesis of the Bernoulli Theorem, the Helmholtz vortices or Reynolds number from the perspective of analogical reasoning.
2) In wind energy, the assimilation of data in the WRF model has been applied to assess the offshore wind potential in Iberia or the Balearic Islands. He has also studied multidimensional validation methods for the identification of defective anemometers and the consequent ruling out of pitch misalignment in turbines. He also has a series of publications on the influence of fluctuations in air density on energy production.
3) He has also studied in several publications the historical evolution of wave energy in the 20th century and its influence on wave converters (Ireland, Chile, Golbo de Bizkaia, etc.) together with the electricity production in the pioneer plant OWC of Mutriku.

In knowledge transfer, highlight the figure of Principal Investigator in the DIANEMOS project with the Maxwind company, and creation of a university spin-off together with former students (ROSEO EOLICA URBANA).

Alain Ulazia Manterola

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ScopusID:	**56524654900**
Date of birth:	**05/08/1977**
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Current professional situation

Employing entity: Universidad del País Vasco **Type of entity:** University
Department: INGENIERIA ENERGETICA, Escuela de Ingeniería de Gipuzkoa -Eibar.
Professional category: Profesor Titular
Start date: 30/11/2021
Type of contract: Civil servant **Dedication regime:** Full time
Primary (UNESCO code): 220404 - Fluid mechanics; 332202 - Power generation; 332205 - Unconventional sources of energy

Education

University education

1st and 2nd cycle studies and pre-Bologna degrees

University degree: Higher degree
Name of qualification: Licenciado en Física
Degree awarding entity: Universidad de La Laguna **Type of entity:** University
Date of qualification: 30/06/2001

Doctorates

Doctorate programme: Doctor en Física
Degree awarding entity: Universidad del País Vasco **Type of entity:** University
Date of degree: 11/04/2013
DEA awarding entity: ILCLI: Institute of Logic, Cognition, Language and Information
Date DEA was awarded: 2009
Thesis title: Analogia fisikarien sormenean: Bernoulliren jariakina eta Pauliren esklusioa
Thesis director: JESUS MARIA LARRAZABAL ANTIA
Obtained qualification: Sobresaliente Cum Lauden

Teaching experience

General teaching experience

1
Name of the course: Offshore wind and wave energy assessment
University degree: MASTER ERASMUS MUNDUS: REM, RENEWABLE ENERGY MARINE
Geographical area: European Union
Frequency of the activity: 3
Start date: 01/09/2018 **End date:** 25/09/2021
Type of hours/ ECTS credits: Credits
Hours/ECTS credits: 1,5
Entity: Universidad del País Vasco **Type of entity:** University
Assessment entity: ERASMUS MUNDUS
Type of entity: University
Mark obtained: 4.5 **Top mark possible:** 5
Subject language: English,Middle (ca.1100-1500)

2
Type of teaching: Official teaching
Name of the course: ENERGIA MARINA
Type of subject: Optional
University degree: GRADO DE INGENIERIA EN ENERGIAS RENOVABLES

Frequency of the activity: 8
Start date: 01/09/2013 **End date:** 01/09/2021
Type of hours/ ECTS credits: Credits
Hours/ECTS credits: 48
Entity: Universidad del País Vasco **Type of entity:** University
Faculty, institute or centre: ESCUELA DE INGENERIA DE GIPUZKOA

3 **Type of teaching:** Official teaching
Name of the course: ENERGIA EOLICA
University degree: GRADO DE INGENIERIA EN ENERGIAS RENOVABLES
Frequency of the activity: 10
Start date: 01/09/2012 **End date:** 01/09/2021
Type of hours/ ECTS credits: Credits
Hours/ECTS credits: 90
Entity: Universidad del País Vasco **Type of entity:** University
Faculty, institute or centre: ESCUELA DE INGENERIA DE GIPUZKOA

4 **Type of teaching:** Official teaching
Name of the course: MECANICA DE FLUIDOS
University degree: GRADO DE INGENIERIA EN ENERGIAS RENOVABLES
Frequency of the activity: 10
Start date: 01/09/2011 **End date:** 01/09/2021
Type of hours/ ECTS credits: Credits
Hours/ECTS credits: 45
Entity: Universidad del País Vasco **Type of entity:** University
Faculty, institute or centre: ESCUELA DE INGENERIA DE GIPUZKOA - EIBAR

5 **Type of teaching:** Official teaching
Name of the course: Research Methodologies
Type of programme: Doctorate **Type of teaching:** In person theory
University degree: Research Master in Cognitive Science and Humanities
Geographical area: European Union
Frequency of the activity: 2
Start date: 01/09/2016 **End date:** 01/09/2018
Type of hours/ ECTS credits: Credits
Hours/ECTS credits: 3
Entity: Universidad del País Vasco **Type of entity:** University
Faculty, institute or centre: ILCLI
Subject language: English,Middle (ca.1100-1500)

6 **Type of teaching:** Official teaching
Name of the course: MECANICA DE FLUIDOS
University degree: GRADO EN INGENIERIA MECANICA
Frequency of the activity: 2
Start date: 01/09/2011 **End date:** 01/09/2013
Type of hours/ ECTS credits: Credits
Hours/ECTS credits: 13,5
Entity: Universidad del País Vasco **Type of entity:** University
Faculty, institute or centre: ESCUELA DE INGENIERIA TECNICA DE EIBAR
Subject language: Basque

7 **Type of teaching:** Official teaching
Name of the course: INGENIERIA FLUIDOMECANICA
University degree: INGENIERIA TECNICA MECANICA
Frequency of the activity: 4
Start date: 01/09/2008 **End date:** 01/09/2011
Type of hours/ ECTS credits: Credits
Hours/ECTS credits: 35,6
Entity: Universidad del País Vasco **Type of entity:** University
Faculty, institute or centre: ESCUELA DE INGENIERIA TECNICA DE EIBAR
Subject language: Basque

8 **Type of teaching:** Official teaching
Name of the course: NEUMATICA Y OLEOHIDRAULICA
University degree: INGENIERIA TECNICA MECANICA
Frequency of the activity: 4
Start date: 01/09/2008 **End date:** 01/09/2011
Type of hours/ ECTS credits: Credits
Hours/ECTS credits: 25,6
Entity: Universidad del País Vasco **Type of entity:** University
Faculty, institute or centre: ESCUELA DE INGENIERIA TECNICA DE EIBAR
Subject language: Basque

9 **Type of teaching:** Official teaching
Name of the course: Fundamentos Fisicos de la Ingenieria
University degree: INGENIERIA INDUSTRIAL
Start date: 01/09/2007 **End date:** 01/09/2008
Type of hours/ ECTS credits: Credits
Hours/ECTS credits: 4,5
Entity: Universidad del País Vasco **Type of entity:** University
Faculty, institute or centre: ESCUELA DE INGENIERIA SUPERIOR DE BILBAO
Subject language: Basque

10 **Type of teaching:** Official teaching
Name of the course: Gailu fotonikoetarako sarrera
University degree: INGENIERIA TECNICA DE TELECOMUNICACION
Start date: 01/09/2007 **End date:** 01/09/2008
Type of hours/ ECTS credits: Credits
Hours/ECTS credits: 4,5
Entity: Universidad del País Vasco **Type of entity:** University
Faculty, institute or centre: ESCUELA DE INGENIERIA SUPERIOR DE BILBAO
Subject language: Basque

11 **Name of the course:** FUNDAMENTOS MATEMATICOS DE LA ARQUITECTURA
University degree: LICENCIATURA EN ARQUITECTURA
Start date: 01/09/2007 **End date:** 01/09/2008
Entity: Universidad del País Vasco **Type of entity:** University
Faculty, institute or centre: ESCUELA DE ARQUITECTURA DE DONOSTIA/SANSEBASTIAN

12 **Type of teaching:** Official teaching
Name of the course: MATEMATICA I, II, II
University degree: INGENIERIA TECNICA DE MINAS

Start date: 01/09/2006 **End date:** 01/09/2007
Type of hours/ ECTS credits: Credits
Hours/ECTS credits: 14,4
Entity: Universidad del País Vasco **Type of entity:** University
Faculty, institute or centre: ESCUELA DE ARQUITECTURA DE DONOSTIA/SANSEBASTIAN
Subject language: Basque

13 **Name of the course:** METODOS NUMERICOS PARA LA ARQUITECTURA
University degree: LICENCIATURA EN ARQUITECTURA
Start date: 01/09/2006 **End date:** 01/09/2007
Entity: Universidad del País Vasco **Type of entity:** University
Faculty, institute or centre: ESCUELA DE ARQUITECTURA DE DONOSTIA/SANSEBASTIAN

Experience supervising doctoral thesis and/or final year projects

1 **Project title:** Novel method of pitch angle misalignment correction based on turbine benchmarking and laser scanner measurement in wind farms.
Type of project: Doctoral thesis
Co-director of thesis: GABRIEL IBARRA BERASTEGI
Entity: Universidad del País Vasco **Type of entity:** University
Student: Dr. Unai Elosegui Insausti
Obtained qualification: SOBRESALIENTE CUM LAUDE
Identify key words: Physics - Optical physics; Engineering
Date of reading: 09/10/2020

2 **Project title:** HF-RADAR ASSIMILATION TO IMPROVE WIND DATA PRODUCTS OVER THE BAY OF BISCAY
Type of project: Minor thesis
Co-director of thesis: Ganix Esnaola Aldanondo
Entity: REM, Renewable Energy Marine: ERASMUS MUNDUS MASTER **Type of entity:** University
Student: Ander Nafarrate
Obtained qualification: SOBRESALIENTE
Identify key words: Physics - Physics of Earth and other planets; Engineering
Date of reading: 2020

Most relevant contributions of your teaching CV

1 **Description:** ACREDITACION TITULAR: VALORACION A (EXCEPCIONAL) EN DOCENCIA
Organising entity: Agencia Nacional de Evaluación de la Calidad y Acreditación **Type of entity:** PUBLICA
End date: 2020

2 **Description:** SECRETARIO ACADEMICO DE INSTITUTO UNIVERSITARIO (ILCLI), 5 años
Identify key words: Physics - Popular physics and society; Physics - Educational physics; Philosophy of science
Organising entity: Universidad del País Vasco **Type of entity:** University
End date: 01/09/2019

3 **Description:** DIVULGACIÓN CIENTÍFICA: Colaborador habitual en la televisión
Organising entity: ETB (Euskal Telebista)
End date: 2019

4 **Description:** Programa Docentiaz 2012-17: 95.48 puntos de 100
Organising entity: Universidad del País Vasco **Type of entity:** University
End date: 2017

5 **Description:** CREACION DE NUEVAS ASIGNATURAS : ENERGIA EOLICA, Grado en I. de Energias Renovables
Organising entity: Universidad del País Vasco **Type of entity:** University
End date: 01/09/2012

6 **Description:** CREACION DE NUEVAS ASIGNATURAS : ENERGIA MARINA, Grado en I. de Energias Renovables
Organising entity: Universidad del País Vasco **Type of entity:** University
End date: 01/09/2012

7 **Description:** CREACION DEL NUEVO LABORATORIO DE MECANICA DE FLUIDOS - Grado en I. de Energias Renovables -
Organising entity: Universidad del País Vasco **Type of entity:** University
End date: 01/09/2012

8 **Description:** MIEMBRO DE LA COMISION DE CREACION DEL GRADO EN I. DE ENERGIAS RENOVABLES
Organising entity: Universidad del País Vasco **Type of entity:** University
End date: 01/09/2012

9 **Description:** Programa Docentiaz 2007-12: Notable
Organising entity: Universidad del País Vasco **Type of entity:** University
End date: 2012

Scientific and technological experience

Scientific or technological activities

R&D projects funded through competitive calls of public or private entities

1 **Name of the project:** Cambio climático y disponibilidad global y regional de recursos energéticos renovables
Entity where project took place: Ministerio de Ciencia e Innovación **Type of entity:** ministerio
Name principal investigator (PI, Co-PI....): JON SAENZ AGUIRRE; ALAIN ULAZIA MANTEROLA
Nº of researchers: 5
Start-End date: 01/09/2021 - 31/08/2025
Total amount: 72.600 €

2 **Name of the project:** EOLO GIU20/008
Entity where project took place: Universidad del País Vasco **Type of entity:** University
Name principal investigator (PI, Co-PI....): GABRIEL IBARRA BERASTEGI
Nº of researchers: 6
Start-End date: 01/01/2021 - 01/01/2023
Total amount: 18.900 €

3 **Name of the project:** Aplicaciones matemáticas. Energías renovables marinas
Entity where project took place: Gobierno Vasco **Type of entity:** ELKARTEK
City of entity: Basque Country, Spain
Name principal investigator (PI, Co-PI....): Mikel Lezaun
Start-End date: 20/06/2017 - 14/06/2021
Total amount: 85.749,53 €

4 **Name of the project:** EOLO GIU17/02
Entity where project took place: Universidad del País Vasco **Type of entity:** University
Start-End date: 21/12/2017 - 20/12/2020
Total amount: 21.150 €

5 **Name of the project:** DIANEMOS
Entity where project took place: Diputación Foral de Gipuzkoa **Type of entity:** I&D
Name principal investigator (PI, Co-PI....): ALAIN ULAZIA MANTEROLA
Nº of researchers: 3
Start-End date: 04/09/2017 - 31/12/2018
Total amount: 150.000 €

6 **Name of the project:** EOLO GIU14/03
Entity where project took place: Universidad del País Vasco **Type of entity:** University
Name principal investigator (PI, Co-PI....): Gabriel Ibarra Berastegi
Nº of researchers: 5
Start-End date: 22/12/2014 - 21/12/2017
Total amount: 18.600 €

7 **Name of the project:** INVESTIGACIÓN COLABORATIVA EN ENERGÍAS RENOVABLES MARINAS
Entity where project took place: Universidad del País Vasco **Type of entity:** University
Start-End date: 26/02/2016 - 31/03/2017
Total amount: 29.725 €

8 **Name of the project:** INVESTIGACIÓN COLABORATIVA EN ENERGÍAS· RENOVABLES MARINAS
Entity where project took place: Gobierno Vasco **Type of entity:** ELKARTEK
Start-End date: 01/01/2015 - 31/12/2016
Total amount: 62.636 €

R&D non-competitive contracts, agreements or projects with public or private entities

1 **Name of the project:** WORD WIND ENERGY ASSOCIATION REPORT (SPAIN)
Degree of contribution: Scientific coordinator
Nº of researchers: 1
Funding entity or bodies:
WORLD WIND ENERGY ASSOCIATION
City funding entity: BONN, Germany

Start date: 09/04/2018 **Duration:** 1 year
Total amount: 750 €

2 **Name of the project:** ENERGIAS RENOVABLES EN EL BAJO DEBA
Degree of contribution: Researcher
Name principal investigator (PI, Co-PI....): Mirari Antxustegi
Nº of researchers: 6
Funding entity or bodies:
DEBEMEN **Type of entity:** MANCOMUNIDAD DE AYUNTAMIENTOS
City funding entity: EIBAR, Basque Country, Spain

Start date: 01/09/2016 **Duration:** 1 year
Total amount: 3.000 €

Results

Technological results derived from specialized and transfer activities, not included in previous sections

Description: Creación de Spin-Off: ROSEO EOLICA URBANA SL, CIF: B01623834
Name of the principal Investigator (PI): Alain Ulazia Manterola
Degree of contribution: Scientific coordinator
Collaborating entity or bodies:
ROSEO EOLICA URBANA SL, CIF: B01623834 **Type of entity:** Business
City collaborating entity: Bilbao, Basque Country, Spain

Start date: 15/06/2020

Scientific and technological activities

Scientific production

Publications, scientific and technical documents

1 Aitor Saenz-Aguirre; Jon Saenz; Alain Ulazia; Gabriel Ibarra-Berastegui. Optimal strategies of deployment of far offshore co-located wind-wave energy farms. Energy Conversion and Management. 251, pp. 114914 - 114914. Pergamon, 2022.
Type of production: Scientific paper **Format:** Journal

2 Aitor Saenz-Aguirre; Alain Ulazia; Gabriel Ibarra-Berastegui; Jon Saenz. Extension and improvement of synchronous linear generator based point absorber operation in high wave excitation scenarios. Ocean Engineering. 239, pp. 109844 - 109844. Pergamon, 2021.
Type of production: Scientific paper **Format:** Journal

3 Sheila Carreno-Madinabeitia; Gabriel Ibarra-Berastegi; Jon S{\'a}enz; Alain Ulazia. Long-term changes in offshore wind power density and wind turbine capacity factor in the Iberian Peninsula (1900--2010). Energy. 226, pp. 120364 - 120364. Pergamon, 2021.
Type of production: Scientific paper **Format:** Journal

4 Gabriel Ibarra-Berastegi; Alain Ulazia; Jon S{\'a}enz; Paula Serras; Santos J Gonz{\'a}lez Roj{\'\i}; Ganix Esnaola; Gregorio Iglesias. The power flow and the wave energy flux at an operational wave farm: Findings from Mutriku, Bay of Biscay. Ocean Engineering. 227, pp. 108654 - 108654. Pergamon, 2021.
Type of production: Scientific paper **Format:** Journal

5 Markel Penalba; Alain Ulazia; Jon Saenz; John V Ringwood. Impact of long-term resource variations on wave energy Farms: The Icelandic case. Energy. 192, pp. 116609 - 116609. Pergamon, 2020.
Type of production: Scientific paper **Format:** Journal
Corresponding author: Yes

6 Markel Penalba; Alain Ulazia; Jon Saenz; John V Ringwood. Impact of long-term resource variations on wave energy Farms: The Icelandic case. Energy. 192, pp. 116609 - 116609. Pergamon, 2020.
Type of production: Scientific paper **Format:** Journal
Corresponding author: Yes

7 Alain Ulazia; Ganix Esnaola; Paula Serras; Markel Penalba. On the Impact of Long-Term Wave Trends on the Geometry Optimisation of Oscillating Water Column Wave Energy Converters. Energy. 2020.
Type of production: Scientific paper **Format:** Journal
Corresponding author: Yes

8 Aitor Saenz-Aguirre; Ekaitz Zulueta; Unai Fernandez-Gamiz; Alain Ulazia; Daniel Teso-Fz-Betono. Performance enhancement of the artificial neural network--based reinforcement learning for wind turbine yaw control. Wind Energy. 23 - 3, pp. 676 - 690. 2020.
Type of production: Scientific paper **Format:** Journal

9 Alain Ulazia; Gabriel Ibarra-Berastegi. Problem-Based Learning in University Studies on Renewable Energies: Case of a Laboratory Windpump. Sustainability. 12 - 6, pp. 2495 - 2495. Multidisciplinary Digital Publishing Institute, 2020.
Type of production: Scientific paper **Format:** Journal
Corresponding author: Yes

10 Sheila Carreno-Madinabeitia; Gabriel Ibarra-Berastegi; Jon Saenz; Eduardo Zorita; Alain Ulazia. Sensitivity Studies for a Hybrid Numerical--Statistical Short-Term Wind and Gust Forecast at Three Locations in the Basque Country (Spain). Atmosphere. 11 - 1, pp. 45 - 45. Multidisciplinary Digital Publishing Institute, 2020.
Type of production: Scientific paper **Format:** Journal

11 Jon Saenz; Sheila Carreno-Madinabeitia; Ganix Esnaola; Santos J Gonzalez-Roji; Gabriel Ibarra-Berastegi; Alain Ulazia. The Sailor diagram. An extension of Taylor's diagram to two-dimensional vector data.Geosci. Model Dev.2020.
Type of production: Scientific paper **Format:** Journal

12 Kerman L{\'o}pez de Calle; Susana Ferreiro; Constantino Rold{\'a}n-Paraponiaris; Alain Ulazia. A Context-Aware Oil Debris-Based Health Indicator for Wind Turbine Gearbox Condition Monitoring. Energies. 12 - 17, pp. 3373 - 3373. Multidisciplinary Digital Publishing Institute, 2019.
Type of production: Scientific paper **Format:** Journal

13 Oscar Garcia; Alain Ulazia; Mario del Rio; Sheila Carreno-Madinabeitia; Andoni Gonzalez-Arceo. An Energy Potential Estimation Methodology and Novel Prototype Design for Building-Integrated Wind Turbines. Energies. 12 - 10, pp. 2027 - 2027. Multidisciplinary Digital Publishing Institute, 2019.
Type of production: Scientific paper **Format:** Journal
Corresponding author: Yes

14 Paula Serras; Gabriel Ibarra-Berastegi; Jon Saenz; Alain Ulazia. Combining random forests and physics-based models to forecast the electricity generated by ocean waves: A case study of the Mutriku wave farm. Ocean Engineering. 189, pp. 106314 - 106314. Pergamon, 2019.
Type of production: Scientific paper **Format:** Journal

15 Gabriel Ibarra-Berastegi; Alain Ulazia; Jon Saenz; Santos J Gonzalez-Roji. Evaluation of Lebanon's Offshore-Wind-Energy Potential. Journal of Marine Science and Engineering. 7 - 10, pp. 361 - 361. Multidisciplinary Digital Publishing Institute, 2019.
Type of production: Scientific paper **Format:** Journal

16 Alain Ulazia; Jon Saenz; Gabriel Ibarra-Berastegi; Santos J Gonzalez-Roji; Sheila Carreno-Madinabeitia. Global estimations of wind energy potential considering seasonal air density changes. Energy. 187, pp. 115938 - 115938. Pergamon, 2019.
Type of production: Scientific paper **Format:** Journal
Corresponding author: Yes

17 Arkaitz Rabanal; Alain Ulazia; Gabriel Ibarra-Berastegi; Jon S{\'a}enz; Unai Elosegui. MIDAS: A Benchmarking Multi-Criteria Method for the Identification of Defective Anemometers in Wind Farms. Energies. 12 - 1, pp. 28 - 28. Multidisciplinary Digital Publishing Institute, 2019.
Type of production: Scientific paper **Format:** Journal
Corresponding author: Yes

18 Alain Ulazia; Markel Penalba; Gabriel Ibarra-Berastegui; John Ringwood; Jon Saenz. Reduction of the capture width of wave energy converters due to long-term seasonal wave energy trends. Renewable and Sustainable Energy Reviews. 113, pp. 109267 - 109267. Pergamon, 2019.
Type of production: Scientific paper **Format:** Journal

Corresponding author: Yes

19 Alain Ulazia; Gabriel Ibarra-Berastegi; Jon S{\'a}enz; Sheila Carreno-Madinabeitia; Santos J Gonz{\'a}lez-Roj{\'\i}. Seasonal correction of offshore wind energy potential due to air density: Case of the Iberian Peninsula. Sustainability. 11 - 13, pp. 3648 - 3648. Multidisciplinary Digital Publishing Institute, 2019.
Type of production: Scientific paper **Format:** Journal
Corresponding author: Yes

20 Alain Ulazia; Ander Nafarrate; Gabriel Ibarra-Berastegi; Jon S{\'a}enz; Sheila Carreno-Madinabeitia. The Consequences of Air Density Variations over Northeastern Scotland for Offshore Wind Energy Potential. Energies. 12 - 13, pp. 2635 - 2635. Multidisciplinary Digital Publishing Institute, 2019.
Type of production: Scientific paper **Format:** Journal

21 Gabriel Ibarra-Berastegi; Jon Saenz; Alain Ulazia; Paula Serras; Ganix Esnaola; Carlos Garcia-Soto. Electricity production, capacity factor, and plant efficiency index at the Mutriku wave farm (2014--2016). Ocean Engineering. 147, pp. 20 - 29. Pergamon, 2018.
Type of production: Scientific paper **Format:** Journal

22 Alain Ulazia; Enetz Ezenarro. Helmholtz's Vortex Motion: An Embodied View of Mathematics in the Heuristics of Fluid Mechanics. Topoi. pp. 1 - 13. Springer Netherlands, 2018.
Type of production: Scientific paper **Format:** Journal
Corresponding author: Yes

23 Alain Ulazia; Markel Penalba; Arkaitz Rabanal; Gabriel Ibarra-Berastegi; John Ringwood; Jon S{\'a}enz. Historical Evolution of the Wave Resource and Energy Production off the Chilean Coast over the 20th Century. Energies. 11 - 9, pp. 2289 - 2289. Multidisciplinary Digital Publishing Institute, 2018.
Type of production: Scientific paper **Format:** Journal
Corresponding author: Yes

24 Alain Ulazia; Markel Penalba; Gabriel Ibarra-Berastegi; Jon Saenz; John Ringwood. Historical wave energy trends in the Bay of Biscay. UHINAK 2018.pp. 44 - 44. 2018.
Type of production: Scientific paper **Format:** Journal
Corresponding author: Yes

25 Unai Elosegui; Igor Egana; Alain Ulazia; Gabriel Ibarra-Berastegi. Pitch angle misalignment correction based on benchmarking and laser scanner measurement in wind farms. Energies. 11 - 12, pp. 3357 - 3357. Multidisciplinary Digital Publishing Institute, 2018.
Type of production: Scientific paper **Format:** Journal
Corresponding author: Yes

26 Markel Penalba; Alain Ulazia; Gabriel Ibarra-Berastegui; John Ringwood; Jon Saenz. Wave energy resource variation off the west coast of Ireland and its impact on realistic wave energy converters' power absorption. Applied Energy. 224, pp. 205 - 219. Elsevier, 2018.
Type of production: Scientific paper **Format:** Journal

27 Unai Elosegui; Alain Ulazia. Novel on-field method for pitch error correction in wind turbines. Energy Procedia. 142, pp. 9 - 16. Elsevier, 2017.
Type of production: Scientific paper **Format:** Journal

28 Alain Ulazia; Jon Saenz; Gabriel Ibarra-Berastegui; Santos J Gonzalez-Roji; Sheila Carreno-Madinabeitia. Using 3DVAR data assimilation to measure offshore wind energy potential at different turbine heights in the West Mediterranean. Applied Energy. 208, pp. 1232 - 1245. Elsevier, 2017.
Type of production: Scientific paper **Format:** Journal

Corresponding author: Yes

29 Alain Ulazia; Markel Penalba; Gabriel Ibarra-Berastegui; John Ringwood; Jon Saenz. Wave energy trends over the Bay of Biscay and the consequences for wave energy converters. Energy. 141, pp. 624 - 634. Pergamon, 2017.
Type of production: Scientific paper **Format:** Journal
Corresponding author: Yes

30 Alain Ulazia Manterola. Energetikaren historia, oinarriak eta ondorioak zibilizazioentzat. Gogoa. 14, 2016.
Type of production: Scientific paper **Format:** Journal
Corresponding author: Yes

31 Alain Ulazia. Multiple roles for analogies in the genesis of fluid mechanics: How analogies can cooperate with other heuristic strategies. Foundations of Science. 21 - 4, pp. 543 - 565. Springer Netherlands, 2016.
Type of production: Scientific paper **Format:** Journal
Corresponding author: Yes

32 Alain Ulazia; Jon Saenz; Gabriel Ibarra-Berastegui. Sensitivity to the use of 3DVAR data assimilation in a mesoscale model for estimating offshore wind energy potential. A case study of the Iberian northern coastline. Applied Energy. 180, pp. 617 - 627. Elsevier, 2016.
Type of production: Scientific paper **Format:** Journal
Corresponding author: Yes

33 Alain Ulazia. The cognitive nexus between Bohr's analogy for the atom and Pauli's exclusion schema. Endeavour. 40 - 1, pp. 56 - 64. Elsevier Current Trends, 2016.
Type of production: Scientific paper **Format:** Journal
Corresponding author: Yes

34 Gabriel Ibarra-Berastegi; Jon S{\'a}enz; Ganix Esnaola; Agustin Ezcurra; Alain Ulazia; Naiara Rojo; Gorka Gallastegui. Wave energy forecasting at three coastal buoys in the bay of Biscay. IEEE Journal of Oceanic Engineering. 41 - 4, pp. 923 - 929. IEEE, 2016.
Type of production: Scientific paper **Format:** Journal

35 Alain Ulazia; Gabriel Ibarra Berastegi. Itsas Energia irakasten Rrekin. Ekaia: Euskal Herriko Unibertsitateko zientzi eta teknologi aldizkaria. 28, pp. 27 - 37. Servicio de Publicaciones, 2015.
Type of production: Scientific paper **Format:** Journal
Corresponding author: Yes

36 Alain Ulazia Manterola. La analogia provocativa como estrategia pedagogica: el caso hist{\'o}rico de la mec{\'a}nica de fluidos. Enseñanza de las ciencias: revista de investigaci{\'o}n y experiencias did{\'a}cticas. 33 - 3, pp. 159 - 174. 2015.
Type of production: Scientific paper **Format:** Journal
Corresponding author: Yes

37 Gabriel Ibarra-Berastegi; Jon Saenz; Ganix Esnaola; Agustin Ezcurra; Alain Ulazia. Short-term forecasting of the wave energy flux: Analogues, random forests, and physics-based models. Ocean Engineering. 104, pp. 530 - 539. Elsevier, 2015.
Type of production: Scientific paper **Format:** Journal

38 Gabriel Ibarra Berastegi; Jon Saenz; Ganix Esnaola; Agustin Ezcurra; Alain Ulazia; Naiara Rojo; Gorka Gallastegui. Wave energy flux vectorial prediction at three coastal buoys in Spain. Instrumentation viewpoint. 18, pp. 58 - 58. SARTI, 2015.
Type of production: Scientific paper **Format:** Journal

39 A Ulazia. Activation of the Eddy Mental Schema, Multiple Analogies and Their Heuristic Cooperation in the Historical Development of Fluid Dynamics. Building Theories. Heuristics and Hypotheses in Sciences. pp. 145 - 166. Springer, Cham, 2018.
Type of production: Book chapter **Format:** Book
Corresponding author: Yes

40 Alain Ulazia; Christian Arriola. Denmark-Germany-The Netherlands-Spain-United Kingdom. World Wind Energy Association. 2018.
Type of production: Scientific-technical report **Format:** Scientific and technical document or report
Corresponding author: Yes

Other achievements

Stays in public or private R&D centres

1 **Entity:** Maynooth University **Type of entity:** University Centres and Structures and Associated Bodies
Faculty, institute or centre: Centre for Ocean Energy Research
City of entity: Maynooth, Ireland
Start date: 01/06/2017 **Duration:** 1 month
Goals of the stay: Post-doctoral
Provable tasks: Wave energy

2 **Entity:** Maynooth University **Type of entity:** University Centres and Structures and Associated Bodies
Faculty, institute or centre: Centre for Ocean Energy Research
City of entity: Maynooth, Ireland
Start date: 01/05/2016 **Duration:** 2 months
Goals of the stay: Post-doctoral
Provable tasks: Wave energy

Prizes, mentions and distinctions

1 **Description:** First EDP RENEWABLE AWARDS 2017
Awarding entity: EDP **Type of entity:** Business
City awarding entity: Madrid, Spain
Conferral date: 20/09/2017
Recognition linked: Premio al mejor director de proyecto

2 **Description:** PREMIO FELIX SOPELANA, Titulo: Energia Hidraulikoa Lea Artibain
Awarding entity: Colegia de Ingenieros de Gipuzkoa **Type of entity:** Associations and Groups
City awarding entity: Donostia, Basque Country, Spain
Conferral date: 20/06/2016
Recognition linked: Premio al mejor director de proyecto

3 **Description:** PREMIO FELIX SOPELANA, Titulo: SOLAR GLIDER.
Awarding entity: Colegio de Ingenieros de Gipuzkoa
City awarding entity: Donostia, Basque Country, Spain

Conferral date: 20/06/2015
Recognition linked: Premio al mejor director de proyecto