Swydd Ddisgrifiad

Prifysgol Wrecsam
Wrexham University

Cyfadran/Adran	Canolfan Dechnoleg OpTIC Llanelwy
Adran	Grŵp Ymchwil OpTIC
Teitl y Swydd	Cynorthwyydd Ymchwil Ôl-ddoethurol – Technolegau Ffotoneg
Yn atebol i	Uwch Fesuregydd Optegol
Yn gyfrifol am	Amherthnasol
Gradd	Cynorthwyydd Ymchwil 2

Prif Atebolrwydd

Gweledigaeth Prifysgol Wrecsam yw dod yn anhepgor fel partner sylweddol, perthnasol ac arbenigol mewn datblygiad economaidd a chymdeithasol rhanbarthol a chenedlaethol. Er mwyn gwneud hyn mae angen i'r Brifysgol ddarparu addysg uwch ac ymchwil effeithiol o ansawdd dda sy'n berthnasol i'r farchnad, darparu cyflogadwyedd cryf i'w graddedigion a hefyd datblygu ymchwil sy'n arwyddocaol yn rhyngwladol ac yn bodloni targedau cynhyrchu incwm heriol.

Diben Grŵp Ymchwil OpTIC yw cyfuno galluoedd ymchwil Ffotoneg yng Nghymru a darparu arbenigedd, yn benodol o ran datblygu delweddau optegol, dyddodiad deunyddiau a mesur arwynebedd. Mae'r sgiliau hyn i'w cynnig yn draws-sector, gan ddarparu datrysiadau ffotoneg wedi'u llywio gan y diwydiant er mwyn cryfhau treiddiad marchnad Ffotoneg "PLC" Cymru yn fyd-eang.

Drwy adeiladu ar y llwyfan a grëwyd gan y rhaglen CPE, nod Prifysgol Wrecsam yw datblygu presenoldeb Ffotoneg a rennir ar hyd Cymru, a hwyluswyd drwy wella cynnyrch a phrosesau datblygu newydd yn niwydiant Cymru er mwyn creu sylfaen sefydliadol cadarn ar gyfer mewnfuddsoddiad yn y dyfodol i adeiladu economi Cymru.

Mae'r swydd hon yn cael ei sefydlu o fewn y Grŵp Ymchwil Ffoneteg newydd.

Dyma gyfle i'r ymgeisydd llwyddiannus gymryd rhan wrth ddatblygu a sefydlu ein cyfleuster ymchwil newydd a leolir o fewn y Ganolfan Technoleg OpTIC yn Llanelwy, Gogledd Cymru.

Mae'r swydd yn gofyn am berson cryf ei gymhelliad er mwyn arwain ar dasgau ymchwil o fewn y maes Technolegau Ffotoneg; yn benodol ar gyfer y broses o brofi ac asesu cotiau haenau tenau mewn gwactod a/neu ddatblygu profion trothwy difrod laser anwythol a thechnolegau perthnasol.

Bydd deiliad y swydd yn darparu arbenigedd technegol ac ymarferol o ran dylunio a phrosesu cyfarpar Ffotoneg. Bydd y swydd yn canolbwyntio ar sgiliau ymarferol a dylunio yn ymwneud â dylunio a phrofi prosesau a thechnolegau ffotoneg o fewn y tîm ymchwil gan gefnogi i ddatblygu dyluniadau cotiau mewn gwactod, dyddodiad a phrofi.

Bydd deiliad y swydd yn cefnogi'r adran drwy fod yn reolwr prosiect ar gyfer ru prosiectau ymchwil. Bydd yn cynnwys, pan yn briodol, cynllunio a threfnu ymchwil a chyfleusterau, arwain ar gasglu data, dadansoddi, cyflwyno ac adrodd canfyddiadau ymchwil. Byddant yn gwneud penderfyniadau ac yn cefnogi prosiectau ymchwil a datblygu ar gyfer y dyfodol. Bydd y dyletswyddau hyn yn cynnwys arwain ar recriwtio staff.

Tasgau Allweddol

- Cynnal ymchwil cydweithredol o safon uchel yn ymwneud ag uwch brosesu a nodweddu haenau tenau optegol a dyddodi deunyddiau mewn gwactod. Bydd yr ymchwil yn cynnwys dylunio a datblygu technegau gweithgynhyrchu ynghyd â thechnolegau ffotoneg perthnasol.
- Gweithio gydag elfen o annibyniaeth i gyflawni nodau'r prosiect.
- Datblygu cysylltiadau ymchwil allanol gyda'r diwydiant a thimau ymchwil academaidd eraill.
- Datblygu dealltwriaeth dechnegol a sylfaen sgiliau'r cyfleuster Dyddodi Haenau Tenau mewn perthynas â phrosesu a dilysu cotiau optegol a mesurau a gweithdrefnau profi Trothwy Difrod Laser Anwythol.
- Datblygu deunyddiau yn briodol, a technegau mesur ar gyfer cyfarpar laser a delweddu.
- Cynnal y gwaith ymchwil sylfaenol ar gyfer prosiectau ymchwil cydweithredol a phrosiectau ymchwil â chyllid craidd, gyda phartneriaid diwydiannol ac academaidd. Cynhyrchu allyriadau ymchwil a'u cyfathrebu i gydweithwyr, partneriaid diwydiannol a phartneriaid academaidd. Gall yr allbynnau hyn fod yn addas i'w cyflwyno i'r ymarfer Fframwaith Rhagoriaeth Ymchwil Cenedlaethol (REF), gydag ansawdd o leiaf 3* yn unol â'r diffiniad REF.
- Mynychu cyfarfodydd partneriaid cydweithredol a phrosiect lle bo'n berthnasol, weithiau oddi ar y safle.
- Cynnal yr holl gofnodion ymchwil a thystiolaeth allbwn prosiect, gan weithio gyda'r Swyddfa Ymchwil a'r Archwiliwr Prosiect er mwyn sicrhau cydymffurfiaeth.
- Sicrhau y cyflwynir adroddiadau a thaflenni amser yn brydlon i Reolwr Cyllid Rhaglen Busnes ac Ymchwil y Cyfleuster OpTIC.

- Cyfrannu at y gymuned dechnegol o fewn y Ganolfan OpTIC a Phrifysgol Wrecsam.
- Datblygu ystod o weithgareddau Ffotoneg gyda'r Ganolfan OpTIC, yn unol â gofynion y rhaglen.

Nodweddion Arbennig

Mae'r gallu a pharodrwydd i deithio er mwyn cyfarfod partneriaid academaidd, cyflwyno gwaith academaidd, ac ymweld â phartneriaid prosiect masnachol yn eu cyfleusterau nhw yn allweddol.

Mae Prifysgol Wrecsam yn un o lofnodwyr y Concordat ar gyfer Ymchwilwyr. Mae disgwyl i ddeiliad y swydd lynu wrth ofynion y ddarpariaeth hon.

Dyletswyddau Cyffredinol

Byddwch yn sicrhau bod systemau a gweithdrefnau rheoli priodol ar waith er mwyn bodloni'ch dyletswyddau a'ch cyfrifoldebau iechyd a diogelwch a geir ym mholisi iechyd a diogelwch y Brifysgol. Yn benodol, byddwch yn sicrhau bod asesiadau risg priodol yn cael eu cynnal mewn perthynas â pheryglon sylweddol ac yr ymgymerir ag arolygon diogelwch o leiaf unwaith y flwyddyn ym mhob gweithle dan eich rheolaeth chi.

Cyfrifoldeb y gweithwyr yw ymgorffori Polisi Cyfle Cyfartal y Brifysgol o fewn eu maes cyfrifoldeb eu hunain ac yn eu hymddygiad cyffredinol.

Mae gan yr holl staff gyfrifoldeb i hyrwyddo gofal cwsmer o ansawdd yn eu maes cyfrifoldeb eu hunain.

Rhaid i staff fod yn ymwybodol o ymrwymiad y Brifysgol i Gynaliadwyedd

Rhaid i bob aelod o staff hyrwyddo ymddygiad iach ac iechyd meddwl a llesiant cadarnhaol

Disgwylir i ddeiliaid swydd gydymffurfio â'r broses Adolygu Datblygiad Proffesiynol, gan gymryd rhan wrth osod amcanion er mwyn cynorthwyo gyda'r gwaith o fonitro perfformiad a datblygiad yr unigolyn.

Byddwch yn asesu anghenion hyfforddiant a datblygiad pob aelod o staff dan eich rheolaeth i sicrhau ei fod yn cael ei gefnogi'n ddigonol mewn perthynas â'i gyfrifoldebau yn y gwaith.

Dyletswyddau perthnasol eraill sy'n gymesur â gradd y swydd, a all gael eu neilltuo gan y Rheolwr, mewn cytundeb â deiliad y swydd. Ni ddylid gwrthod cytundeb o'r fath yn afresymol.

Mae'r cyfrifoldebau allweddol sydd wedi'u cynnwys yn y swydd ddisgrifiad hwn yn rhai nodweddiadol, nid ydynt yn gynhwysfawr. Gellir addasu dyletswyddau a chyfrifoldebau mewn trafodaeth â deiliad y swydd.

Disgwylir i'r holl ddeiliaid swydd yn y Gyfarwyddiaeth allu cynnig cymorth ar draws pob maes, y tu hwnt i'w tîm uniongyrchol, ar gais y Cyfarwyddwr ac yn gymesur â'u sgiliau, eu gwybodaeth a'u profiad.

Adolygu

Mae hwn yn ddisgrifiad o'r swydd ar adeg ei chyhoeddi. Arfer y Brifysgol o bryd i'w gilydd yw adolygu a diweddaru swydd ddisgrifiadau er mwyn sicrhau eu bod yn adlewyrchu natur gyfredol y swydd a gofynion y Brifysgol yn gywir ac i ymgorffori unrhyw newidiadau rhesymol pan fo angen, mewn ymgynghoriad â deiliad y swydd.

Manyleb Person

Teitl y Swydd:

Cynorthwyydd Ymchwil Ôl-ddoethurol – Technolegau Ffotoneg

Er mwyn cael eich rhoi ar y rhestr fer rhaid i chi arddangos eich bod yn bodloni'r holl feini prawf hanfodol a hynny o'r meini prawf dymunol ag sy'n bosib. Pan fydd gennym nifer fawr o geisiadau sy'n bodloni'r holl feini prawf hanfodol, byddwn wedyn yn llunio'r rhestr fer gan ddefnyddio'r meini prawf dymunol.

Meini Prawf Dethol					
Priodoleddau		**Eitem**	**Meini Prawf Perthnasol**	**Dull Adnabod**	**Pwysigrwydd**
1	Sgiliau a Gallu	1.1	Gallu trefnu prosiectau rhyngddisgyblaethol	Ff, C	H
		1.2	Gallu amlwg o ran ysgrifennu adroddiadau gwyddonol a thechnegol o safon uchel	Ff, C	H
		1.3	Profiad o ymarfer labordy, trefnu a chynllunio prosiectau	Ff, C	H
		1.4	Gallu defnyddio Microsoft Project	Ff, C	D
		1.5	Sgiliau cyflwyno technegol rhagorol	Ff, C, Rh	H
2	Gwybodaeth Gyffredinol ac Arbenigol	2.1	Gwybodaeth o Dechnoleg Cotio Haenau Tenau mewn Gwactod	Ff, C	H
		2.2	Gwybodaeth o gyfarpar Laserau Pwerus a/neu profion arwyneb	Ff, C	H
		2.3	Meteoroleg opteg dra-chywir	Ff, C	D
		2.4	Profiad Ymarferol o brosesau cotio mewn gwactod	Ff, C	D
		2.5	Modelu cyfrifiadurol a meddalwedd rifiadol (e.e. MATLAB, Python)	Ff, C	D
3	Addysg a Hyfforddiant	3.1	PhD, neu'n gweithio tuag ato mewn pwnc perthnasol	Ff,C,T	H
		3.2	Arbenigedd ffotoneg/opteg dra-chywir, yn ddelfrydol o fewn	Ff, C	H

			dechnoleg laserau pwerus a/neu cotio optegol haenau tenau		
		3.3	Profiad perthnasol o ddefnyddio cyfarpar mewn amgylchedd gweithgynhyrchu masnachol	Ff, C	D
4	Profiad Perthnasol	4.1	Profiad ymchwil a/neu ddiwydiannol o ddefnyddio cyfarpar ffotoneg	Ff, C	H
		4.2	Defnydd ymarferol o offer mesur sy'n berthnasol â ffotoneg e.e. sbectromedr	Ff, C	D
		4.3	Yn gyfarwydd â defnyddio prosesau offer mawr ac offer prosesu ar raddfa ddiwydiannol e.e. ffotoneg, chotiau Laser a/neu ddeunyddiau	Ff, C	H
		4.4	Defnydd o dechnegau dadansoddi data ystadegol a chyflwyno data	Ff, C	H
		4.5	Profiad o weithio mewn labordy Laserau Pwerus gyda chyfarpar optegol a/ney dyddodiad haenau tenau ymarferol	Ff, C	H
		4.6	Profiad o ymchwil cydweithredol	Ff, C	H
		4.7	Cyhoeddiadau mewn cyfnodolion rhyngwladol	Ff, C	D
		4.8	Cyflwyniadau mewn cyfarfodydd rhyngwladol	Ff, C	D
5	Gofynion Arbennig	5.1	Gallu i deithio'n rhyngwladol neu'n genedlaethol er mwyn cefnogi a/neu gyflwyno prosiectau neu waith	Ff, C	H
		5.2	Yn gallu cyfathrebu drwy gyfrwng y Gymraeg	Ff, C	D
Dyddiad Adolygu			Hydref 2023		

Allwedd	**Dull Adnabod**	**Ff**	Ffurflen Gais
		C	Cyfweliad
		P	Prawf
		T	Copi o Dystysgrifau
		Rh	Rhoi Cyflwyniad
		G	Asesiad Grŵp
	Pwysigrwydd	**H**	Hanfodol
		D	Dymunol

Job Description

Prifysgol Wrecsam
Wrexham University

Faculty/Department	OpTIC Technology Center St Asaph
Section	OpTIC Research Group
Job Title	Post-Doctoral Researcher – Photonics Technologies
Reports to	Senior Optical Metrologist
Responsible for	N/A
Grade	Research Assistant 2

Principal Accountabilities

Wrexham University's vision is to become indispensable as a significant, relevant and expert partner in regional and national economic and social development. In order to do this, the University needs to deliver effective, high-quality higher education and research which is market relevant, delivering strong employability for its graduates whilst also developing internationally significant research and realising challenging income generation targets.

OpTIC Research Group's aim is to unify the Photonics research capability within Wales and to deliver expertise, specifically in the development of optical imaging, materials deposition and surface measurements. These skills are to be offered cross-sector, providing industry-driven photonics solutions to strengthen the penetration by Wales "PLC" of the worldwide Photonics market.

By building on the platform created by the CPE program WU aims to develop a shared pan-Wales Photonics presence, facilitated by the improvement of new product and process development for Welsh industry and to create a solid organisational foundation for future inward investment in the Welsh economy.

This post is being established within the newly developed OpTIC Photonics Research Group.

This is an opportunity for the successful candidate to be involved in developing and establishing the newly established research facility based within the OpTIC Technology Centre, St Asaph, North Wales.

This post requires a highly motivated person to lead on research tasks within the area of Photonics Technologies; specifically the test and evaluation of vacuum thin film coatings and/or laser induced damage threshold (LIDT) test development and related technologies.

The post holder will provide technical and practical expertise in the design and processing of relevant Photonics applications. This appointment is focused on practical and design skills for the development and testing of photonics-based processes and technologies within the research team and supporting the development of vacuum coatings design, deposition and testing.

The post holder will support the department by project managing their research projects. This will include, where appropriate, undertaking research and facilities planning and scheduling, leading data collection, analysis, presentation and reporting of research findings. They will engage in decision-making and support future development and research projects. These duties will include the leading of recruitment of staff.

Key Tasks

- Perform high quality collaborative research in the advanced processing and characterisation of optical thin films and materials vacuum deposition. The reseach will include both the design and the development of manufacturing techniques, along with relevant photonics technologies.
- Work with a degree of independence to achieve the project targets.
- Develop external research links with industry and other academic research teams.
- Develop the technical understanding and skill base of the Thin Film Deposition facility with respect to the processing and verification of optical coatings and Laser Induced Damage Threshold measurements and test proceedures.
- Develop materials suitability and measurement techniques for laser and imaging applications.
- Carry out the underpinning research for collaborative and core funded research projects with industrial and academic partners. Produce and communicate research outputs to colleagues, industrial and academic partners. These outputs may be suitable for submission to the national Research Excellence Framework (REF) exercise, with a quality of at least 3* as per the REF definition.
- Attend collaborative and project partner meetings where applicable, sometimes off-site.
- Maintain all research records and project output evidence, working with the Research Office and Project Investigator to ensure compliance.

- Ensure that reports and timesheets are submitted in time to the OpTIC Facility Business and Research Program Finance Manager.
- Contribute to the technical community within the OpTIC Centre and Wrexham University.
- Develop the range of photonics- based activities with the OpTIC Centre in line with programme requirements.

Special Features

The ability and willingness to travel to meet with academic partners, present academic work and visit commercial project partners at their facilities is a requirement.

Wrexham University is a signatory to the Concordat for Researchers. The post holder is expected to adhere to the requirements of this provision.

General Duties

You will ensure that appropriate management systems and procedures are in place to meet your health and safety duties and responsibilities contained within the University's health and safety policy. In particular you will ensure that appropriate risk assessments are carried out in respect of significant hazards and that safety inspections are undertaken on at least an annual cycle in each workplace under your control.

It is the responsibility of employees to apply the University's Equal Opportunities Policy in their own area of responsibility and in their general conduct.

All staff have a responsibility for promoting high levels of customer care within their own areas of responsibility.

Staff must be aware of the University's commitment to Sustainability.

All staff must promote healthy behaviour and positive mental health and wellbeing

Post holders are expected to co-operate with the Professional Development Review (PDR) process, engaging in the setting of objectives in order to assist in the monitoring of performance and the development of the individual.

You will assess the training and development needs of each member of staff under your control to ensure they are adequately supported in relation to their work responsibilities.

Such other relevant duties commensurate with the grade of the post as may be assigned by the Manager in agreement with the post holder. Such agreement should not be unreasonably withheld.

The key responsibilities contained in this job description are indicative not exhaustive. Duties and responsibilities may be altered in discussion with the post holder.

All post-holders within the Directorate are expected to be able to provide support across all areas, beyond their immediate team, as requested by the Director and commensurate with their skills,

knowledge and experience.

Review

This is a description of the job at the time of issue. It is the University's practice periodically to review and update job descriptions to ensure that they accurately reflect the current nature of the job and requirements of the University and to incorporate reasonable changes where required, in consultation with the job holder.

Person Specification

Job Title: Post Doctoral Research Assistant – Photonics Technologies

In order to be shortlisted you must demonstrate that you meet all the essential criteria and as many of the desirable criteria as possible. Where we have a large number of applications that meet all of the essential criteria, we will then use the desirable criteria to produce the shortlist.

Selection Criteria					
Attributes		**Item**	**Relevant Criteria**	**Identification Method**	**Rank**
1	Skills & Abilities	1.1	Organisation of interdisciplinary projects	A,I	E
		1.2	Proven high standard of scientific and technical report writing	A,I	E
		1.3	Laboratory practice, scheduling and project planning experience	A,I	E
		1.4	Use of Microsoft Project	A,I	D
		1.5	Excellent Technical Presentation skills	A,I,P	E
2	General & Specialist Knowledge	2.1	Knowledge of Thin film Vacuum Coating Technology	A,I	E
		2.2	Knowledge of High Power Laser applications and or surface testing	A,I	E
		2.3	Precision Optics metrology	A,I	D
		2.4	Practical Experience of vacuum coating processes	A,I	D
		2.5	Computational Modelling and numerical software (e.g. MATLAB, Python).	A,I	D
3	Education & Training	3.1	PhD or working towards in a related subject	A,I,C	E
		3.2	Photonics/precision optics specialism, preferably with High Power Laser technology and/or thin film optical coatings	A,I	E
		3.3	Relevant applications experience in a commercial manufacturing environment	A,I	D

4	Relevant Experience	4.1	Research and/or industrial experience of photonics applications	A,I	E
		4.2	Practical use of photonics related measurement equipment e.g. spectrometer	A,I	D
		4.3	Familiarity with use of industrial scale process plant and equipment for e.g. photonics, Lasers coatings and/or materials	A,I	E
		4.4	Use of statistical data analysis techniques and data presentation	A,I	E
		4.5	High Power Laser laboratory experience with optical applications and/or practical thin film deposition	A,I	E
		4.6	Collaborative research experience	A,I	E
		4.7	Publication in international journals	A,I	D
		4.8	Presentations at international meetings	A,I	D
5	Special Requirements	5.1	The ability to travel overseas or nationally to support and/or deliver the projects and work undertaken	A,I	E
		5.2	Ability to communicate through the medium of Welsh	A,I	D
Date of Revision			October 2023		

Key	**Identification Method**	**A**	Application Form
		I	Interview
		T	Test
		C	Copy of Certificates
		P	Presentation
		G	Group Assessment
	Rank	**E**	Essential
		D	Desirable