

<b>Job title</b>	Marie Skłodowska-Curie Research Fellow in Digital Manufacturing	<b>Job family and level</b>	Research and Teaching off-scale
<b>School/ Department</b>	Faculty of Engineering – Institute for Advanced Manufacturing	<b>Location</b>	Jubilee Campus, University of Nottingham

## Purpose of role

The purpose of this role is to conduct research in the area of Industry 4.0 and participate in a European network and training programme to support the role holder in becoming a leader in digital manufacturing. The role will be undertaken within the framework of the Marie Skłodowska-Curie “DiManD: Digital Manufacturing and Design” European Training Network (ETN). Specifically, the post focuses on a concept for open Evolvable Assembly Systems and how manufacturing systems can react to changes at the product, process and system level while remaining resilient and productive.

Applicants should prepare their application against the most appropriate person specification below, that is either:

- Person specification – applicants with a manufacturing engineering background
- Person specification – applicants with a computer science background

	<b>Main responsibilities</b> (Primary accountabilities and responsibilities expected to fulfil the role)	<b>% time per year</b>
1	<b>Research</b> <ul style="list-style-type: none"> <li>▪ Undertake internationally-excellent research on a concept for open Evolvable Assembly Systems.</li> <li>▪ Collaborate with other ESRs in the DiManD programme on a collaborative demonstration platform.</li> <li>▪ Deploy research to the collaborative demonstration platform at the University of Nottingham</li> <li>▪ Write up PhD thesis.</li> </ul>	60%
2	<b>Training</b> <ul style="list-style-type: none"> <li>▪ Undertake secondments in up to 4 national and international institutions over the course of the project for additional training and development.</li> <li>▪ Attend DiManD training schools on key digital manufacturing topics.</li> <li>▪ Undertake self-driven training to ensure you are fully equipped to conduct the world-class research expected, including selecting and attending additional training courses.</li> </ul>	25%

3	<p><b>Dissemination</b></p> <ul style="list-style-type: none"> <li>▪ Communicate your research results in high-quality papers submitted to world-leading journals in relevant areas.</li> <li>▪ Travel to conferences around the world to present your research to the international community.</li> <li>▪ Participate in outreach and public engagement activities.</li> </ul>	10%
4	<p><b>Other</b></p> <ul style="list-style-type: none"> <li>▪ Any other duties appropriate to the role</li> </ul>	5%

## Person specification – applicants with a manufacturing engineering background

	<b>Essential</b>	<b>Desirable</b>
<b>Skills</b>	<ul style="list-style-type: none"> <li>▪ Manufacturing Engineering control skills, including at least 1 of the following: <ul style="list-style-type: none"> <li>○ PLC programming.</li> <li>○ Robotic programming.</li> <li>○ Manufacturing automation.</li> </ul> </li> <li>▪ Some programming skills.</li> <li>▪ Excellent communication skills, both oral and written.</li> <li>▪ Excellent interpersonal skills, an ability to work in a team, and to work with people in other institutions and countries.</li> <li>▪ Ability to work without direct supervision, manage own workload and meet deadlines under pressure and manage competing priorities.</li> <li>▪ Attention to detail.</li> </ul>	<ul style="list-style-type: none"> <li>▪ Excellent programming skills.</li> </ul>
<b>Knowledge and experience</b>	<ul style="list-style-type: none"> <li>▪ Demonstrable experience delivering projects in any of the following areas: <ul style="list-style-type: none"> <li>○ Manufacturing systems and control concepts</li> <li>○ Industry 4.0 and digital manufacturing.</li> <li>○ Service-orientated architectures.</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>▪ Experience with any of the following programming systems approaches: <ul style="list-style-type: none"> <li>○ Embedded systems.</li> <li>○ Internet of Things.</li> <li>○ Intelligent agents and multi-agent systems.</li> <li>○ Planning and behaviour synthesis logics for robotics and/or agents.</li> </ul> </li> </ul>

	<ul style="list-style-type: none"> <li>▪ Demonstrable experience successfully delivering projects in a team.</li> </ul>	
<b>Qualifications, certification and training (relevant to role)</b>	<ul style="list-style-type: none"> <li>▪ A bachelors or masters (or equivalent) in Manufacturing Engineering or similar relevant subject.</li> </ul>	<ul style="list-style-type: none"> <li>▪ Qualifications in Computer Science or a similar subject.</li> </ul>
<b>Statutory, legal or special requirements</b>	<ul style="list-style-type: none"> <li>▪ Candidates must meet the Marie Skłodowska-Curie Early Stage Researcher eligibility criteria.  <a href="http://ec.europa.eu/research/mariecurieactions">http://ec.europa.eu/research/mariecurieactions</a>  ESR eligibility criteria includes: <ul style="list-style-type: none"> <li>○ Must be within the first 4 years of their research career.</li> <li>○ Must not already hold a PhD.</li> <li>○ Must not have resided in the UK for more than 12 months in the last 3 years.</li> </ul> </li> <li>▪ Non-native English speakers are required to provide evidence of English language competency before the appointment is made. An IELTS score of 6.5, or equivalent, is the minimum requirement.</li> <li>▪ Ability to live in the UK, and ability to travel to other countries for multiple-month durations for DiManD events and secondments.</li> </ul>	

## Person specification – applicants with a computer science background

	<b>Essential</b>	<b>Desirable</b>
<b>Skills</b>	<ul style="list-style-type: none"> <li>▪ Excellent programming skills.</li> <li>▪ Excellent communication skills, both oral and written.</li> <li>▪ Excellent interpersonal skills, an ability to work in a team, and to work with people in other institutions and countries.</li> <li>▪ Ability to work without direct supervision, manage own workload and meet deadlines under pressure and manage competing priorities.</li> <li>▪ Attention to detail.</li> </ul>	<ul style="list-style-type: none"> <li>▪ Manufacturing control skills, including:               <ul style="list-style-type: none"> <li>○ PLC programming.</li> <li>○ Robotic programming.</li> <li>○ Manufacturing automation.</li> </ul> </li> </ul>
<b>Knowledge and experience</b>	<ul style="list-style-type: none"> <li>▪ Demonstrable experience delivering complex programming projects successfully.</li> <li>▪ Demonstrable experience successfully delivering projects in a team.</li> </ul>	<ul style="list-style-type: none"> <li>▪ Experience with any of the following programming systems approaches:               <ul style="list-style-type: none"> <li>○ Embedded systems.</li> <li>○ Internet of Things.</li> <li>○ Intelligent agents and multi-agent systems.</li> <li>○ Planning and behaviour synthesis logics for robotics and/or agents.</li> </ul> </li> <li>▪ Experience with any of the following engineering concepts:               <ul style="list-style-type: none"> <li>○ Manufacturing systems and control concepts</li> <li>○ Industry 4.0 and digital manufacturing.</li> <li>○ Service-orientated architectures.</li> </ul> </li> </ul>
<b>Qualifications, certification and training (relevant to role)</b>	<ul style="list-style-type: none"> <li>▪ A bachelors or masters (or equivalent) in Computer Science or similar relevant subject.</li> </ul>	<ul style="list-style-type: none"> <li>▪ Qualifications in any of the following:               <ul style="list-style-type: none"> <li>○ Mechanical Engineering.</li> <li>○ Production Engineering.</li> </ul> </li> </ul>
<b>Statutory, legal or special requirements</b>	<ul style="list-style-type: none"> <li>▪ Candidates must meet the Marie Skłodowska-Curie Early Stage Researcher eligibility criteria.</li> </ul>	

<http://ec.europa.eu/research/mariecurieactions>

ESR eligibility criteria includes:

- Must be within the first 4 years of their research career.
- Must not already hold a PhD.
- Must not have resided in the UK for more than 12 months in the last 3 years.
- Non-native English speakers are required to provide evidence of English language competency before the appointment is made. An IELTS score of 6.5, or equivalent, is the minimum requirement.
- Ability to live in the UK, and ability to travel to other countries for multiple-month durations for DiManD events and secondments.



The University of Nottingham is focused on embedding equality, diversity and inclusion in all that we do. As part of this, we welcome a diverse population to join our work force and therefore encourage applicants from all communities, particularly those with protected characteristics under the Equality Act 2010.

## Expectations and behaviours

The University has developed a clear set of core expectations and behaviours that our people should be demonstrating in their work, and as ambassadors of the University's strategy, vision and values. The following are essential to the role:

- Valuing people** Is friendly, engaging and receptive, putting others at ease. Actively listens to others and goes out of way to ensure people feel valued, developed and supported.
- Taking ownership** Is clear on what needs to be done encouraging others to take ownership. Takes action when required, being mindful of important aspects such as Health & Safety, Equality, Diversity & Inclusion, and other considerations.
- Forward thinking** Drives the development, sharing and implementation of new ideas and improvements to support strategic objectives. Engages others in the improvement process.
- Professional pride** Is professional in approach and style, setting an example to others; strives to demonstrate excellence through development of self, others and effective working practices.
- Always inclusive** Builds effective working relationships, recognising and including the contribution of others; promotes inclusion and inclusive practices within own work area.

## Key relationships with others



