

ECHORD++

European Clearing House for Open Robotics Development Plus Plus

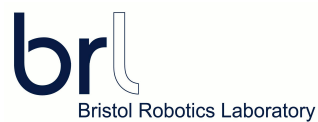


Robotic Innovation Facilities at Bristol, England

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Bristol Robotics Laboratory

- **Around 100 personnel**
 - **One of the largest laboratories of its kind in the Europe**
 - **With a background of around thirty years of robotics research at UWE**
 - **Research themes in many areas**
 - **A facility run jointly by Bristol University and the University of the West of England**
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BRL Current Research Themes

Aerial Robots

Research into intelligent aircraft, including autonomous Micro Air Vehicles, specializing in their guidance and control.

Assisted Living

Research into interactive assistive robots and smart sensor systems to realise person-focussed innovative assistive care solutions for supporting independent living.

Bioenergy & Self Sustainable Systems

Research into overcoming the energy barrier to deployment of autonomous robots in remote areas utilising microbial fuel cells.

Biomimetic and Neuro-robotics

Developing robots that can operate in challenging environments, beyond the limitations of conventional sensory devices.

Medical Robotics

Robotic technology is able to provide precise and accurate sensing and movement capabilities, thus improving patient and surgeon experience.

BRL Current Research Themes

Non-linear Robotics

Would you feel confident of approaching and touching a heavy duty production assembly robot in operation? Possibly not...

Robot Vision

Developing Robots that are able to view, analyse what they see and make decisions in response to instructions by humans.

Safe Human Robot Interaction

Investigating the aspect of physical and behavioural safety, to enable safe Human Robot Interaction, thus ensuring a robot is capable of performing cooperative tasks with humans.

Self-Repairing Robotic Systems

Self-healing cellular architectures for biologically-inspired highly reliable electronic systems. Drawing inspiration from nature in how it deals with complex versus unreliable issues.

Smart Automation

Research into the next generation of advanced robotics engineering systems. Robots that can make human like decisions whilst carrying out manufacturing process.

BRL Current Research Themes

Soft Robotics

Soft robotics seeks to make robots that are soft, flexible and compliant, just like biological organisms.

Swarm Robotics

A combination of environmental, social and internal cues could result at the group level in **components believed to be important in the emergence of self-organised behaviour.**

Unconventional Computation in Robots

Drawing inspiration from nature to address the issues of distributed manipulation in the micro-scale.

Verification and Validation for Safety in Robots

Investigating all aspects of safety for verification and validation purposes and to enable safe Human Robot Interaction in cooperative tasks.

RIF@BRL -Example Capabilities

- **Proof of concept**
 - **Design**
 - **Robot programming**
 - **Embedded systems**
 - **System integration and programming**
-

RIF@BRL Resources

RIF@BRL

- **Equipment (sample)**
 - 3 kg payload IRB 120 ABB industrial robot, mounted in a bespoke safety cage for use with classic industrial research and development.
 - Staubli RX 130 22kg payload 6 axis industrial robot arm with force/torque sensor
 - A Twin arm Baxter robot from Active Robotics
 - Vicon vision system
 - Data acquisition equipment
- **Personnel**
 - Full time engineer
 - Part time administrator and project officer
 - Part time co-ordinator
 - Access to interns and researchers
 - Access to BRL experts

Application Process: Proposal Form

RIF Project Proposal Form

1.1	Registered Name of the Business <i>(not the Trading Name)</i>	
1.2	Full Address	
	Post Code	
	Business Contact name	
	Position	
	Contact Telephone and email	
1.3	Organisation Size	New <input type="checkbox"/> SME <input type="checkbox"/> micro <input type="checkbox"/> large <input type="checkbox"/>
1.3a	Number of Employees	
1.4	Organisation Sector(s) <i>(check all that apply)</i>	<input type="checkbox"/> Mechanical Engineering <input type="checkbox"/> Microelectronics <input type="checkbox"/> Environmental <input type="checkbox"/> Biotech <input type="checkbox"/> Systems Engineering <input type="checkbox"/> other? <input type="checkbox"/> Education <input type="checkbox"/> Medical and Assisted Living <input type="checkbox"/> Agricultural <input type="checkbox"/> Logistics <input type="checkbox"/> Retail
1.5	Please keep me informed of:	<input type="checkbox"/> E++ Project news <input type="checkbox"/> related innovation support news
1.6	Planned start date	
1.6b	Estimated project duration	

Application Process: Proposal Form

1.7	<p>Set out the aim of the proposed project and its purpose, in no more than 25 words starting with the words "To....." <i>(This description will be used on the public website to describe the project)</i></p>
1.8	<p>Outline the organisation's business, clearly stating its revenue generating activities, or funding sources if not yet generating revenues, in no more than 100 words</p>
1.9	<p>Explain the knowledge and capability that the business is seeking to develop, and why it is both innovative and strategically important in no more than 200 words. <i>Include: Knowledge, capability & resources required from RIF / Innovative content of the proposed work / Strategic importance to your business</i></p>

Application Process: Proposal Scoring

SCORING CRITERIA FOR RIF APPLICATIONS										
Client										
Reviewers										
Date										
ALIGNMENT WITH ROBOTICS AND AUTOMATION	VERY LITTLE ALIGNMENT									HIGHLY ALIGNED WITH AUTOMATION AND ROBOTICS
COMMENTS	1	2	3	4	5	6	7	8	9	10
CLARITY AND FOCUS OF PROPOSED WORK	NOT CLEAR AND NO FOCUS									VERY CLEAR AND HIGHLY FOCUSED
COMMENTS	1	2	3	4	5	6	7	8	9	10
EVIDENCE OF COMMITMENT	NO REQUEST FOR STAY OR REGULAR VISIT TO LAB									REQUEST FOR STAY IN THE LAB FOR THE DURATION
COMMENTS	1	2	3	4	5	6	7	8	9	10
POTENTIAL IMPACT	THERE IS NO POTENTIAL FOR IMPACT									A CLEAR IMPACT IS INDICATED
COMMENTS	1	2	3	4	5	6	7	8	9	10
NOVELTY OF PROPOSED WORK	THE WORK HAS NO NOVELTY									THE WORK IS VERY NOVEL
COMMENT	1	2	3	4	5	6	7	8	9	10
SIZE OF ORGANISATION	VERY LARGE ORGANISATION									MICRO OR VERY SMALL
COMMENTS	1	2	3	4	5	6	7	8	9	10
CLARITY OF CONTINUATION STRATEGY	NO EVIDENCE OF POSSIBLE CONTINUATION									THERE IS A CLEAR EVIDENCE OF ROUTE FORWARD
COMMENTS	1	2	3	4	5	6	7	8	9	10
PRESENCE OF AN EXPLOITATION STRATEGY	NO EVIDENCE OF EXPLOITATION OF POTENTIAL OUTCOME									VERY CLEAR ROUTE TO EXPLOITATION
COMMENTS	1	2	3	4	5	6	7	8	9	10

Organisation	Ranking Score
Active Robotics	72
Reach Robotics	71
AAS	70
Agilic	70
Singer Instruments	68
Folium Optics	65
Numatic	65
Bow Software	64
Darchem	62
Trigonom	57
Schumacher Centre Ltd	53

Sample of engagements

HP	AAS
Keller-Phigroup	ABB
Nuclear Decom	Active Robotics
Numatic	Agilic
Omega-NI	Amfax
Oxford Brookes	Astrotrac
Phineas	Bow Software
Praminda-Assisted Living	Darchem
Reach Robotics	Designability
RoboSynthesis	Drisq
Schumacher Centre Ltd	Engineered Arts
Shell	Fans and Blowers
Singer Instruments	Folium Optics
Trigonom	Siniat
Trunki	Universal Balancing

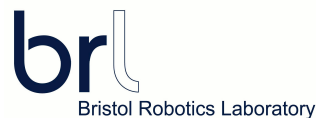
Significant Engagement

Light Engagement

Key Messages

- *RIFs are a novel approach to extending the use of robotics across many areas of activity across Europe offered at no cost to the applicant; an opportunity that should not be missed! Engage today!*

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Thank you

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