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# Actuation and characterisation at the single bond limit

## Fact Sheet

### Project Information

**ACRITAS**

Grant agreement ID: 317348

Project closed

**Start date**

1 October 2012

**End date**

31 March 2017

**Funded under**

Specific programme "People" implementing the Seventh Framework Programme of the European Community for research, technological development and demonstration activities (2007 to 2013)

**Total cost**

€ 3 882 671,84

**EU contribution**

€ 3 882 671,84

**Coordinated by**

THE UNIVERSITY OF NOTTINGHAM

 United Kingdom

This project is featured in...



## Objective

"Scanning probe microscopy (SPM) has now evolved to the point where not only is imaging and manipulation with single atom resolution achievable but the state of the art in the field involves sub-molecular and sub-atomic resolution: individual chemical bonds can be resolved, their properties measured, and their spatial symmetry exploited.

SPM is, however, increasingly a victim of its own success. The wide availability of commercial instruments means that the technique is now very commonly seen as a routine imaging and characterisation tool. This unfortunately engenders a mindset amongst young researchers where they see an SPM as a ""black box"" and typically have a superficial understanding of the operating principles, theoretical principles, and current (or ultimate) limits of the technique. In turn, this ""black box"" mentality has severe implications for the health and competitiveness of the SPM - and, by extension nanoscience and nanotechnology - sectors in the ERA which rely fundamentally on creative innovation.

ACRITAS directly counters this decline in the skills base and creativity of young researchers by providing an exciting and challenging environment for SPM training, spanning the public and private sectors and redefining the state of the art.

A defining aspect of the network is its integration of scanning probe groups whose research is carried out under what might be termed 'extreme' conditions (ultrahigh vacuum, cryogenic temperatures) with teams of scientists who focus on interactions and control in biologically relevant environments. Although both communities use the same types of experimental techniques, there has traditionally been rather little communication between the two, largely because of different disciplinary biases. ACRITAS will act as a new and important bridge between the physical- and life sciences in advanced SPM and will thus be unique in the training it provides in a field which underpins a vast amount of 21st century science"

# Fields of science (EuroSciVoc)

[engineering and technology](#) > [nanotechnology](#)

[natural sciences](#) > [physical sciences](#) > [optics](#) > [microscopy](#)



## Programme(s)

[FP7-PEOPLE - Specific programme "People" implementing the Seventh Framework Programme of the European Community for research, technological development and demonstration activities \(2007 to 2013\)](#)

## Topic(s)

[FP7-PEOPLE-2012-ITN - Marie-Curie Action: "Initial Training Networks"](#)

## Call for proposal

FP7-PEOPLE-2012-ITN

[See other projects for this call](#)

## Funding Scheme

[MC-ITN - Networks for Initial Training\\_\(ITN\)](#)

## Coordinator



**THE UNIVERSITY OF NOTTINGHAM**

EU contribution

**€ 863 280,44**

Total cost

**No data**

Address

**University Park**

**NG7 2RD Nottingham**

 **United Kingdom** 

Region  
**East Midlands (England) > Derbyshire and Nottinghamshire > Nottingham**

Activity type  
**Higher or Secondary Education Establishments**

Links  
[Contact the organisation](#) [Website](#)  
[Participation in EU R&I programmes](#)  
[HORIZON collaboration network](#)

## Participants (11)



### KING'S COLLEGE LONDON

United Kingdom  
EU contribution  
**€ 296 056,64**

Address  
**STRAND**  
**WC2R 2LS London**

Region  
**London > Inner London — West > Westminster**

Activity type  
**Higher or Secondary Education Establishments**

Links  
[Contact the organisation](#) [Website](#)  
[Participation in EU R&I programmes](#)  
[HORIZON collaboration network](#)

Total cost  
**No data**



### THE UNIVERSITY OF SHEFFIELD

United Kingdom  
EU contribution  
**€ 296 056,64**

Address

FIRTH COURT WESTERN BANK  
S10 2TN Sheffield 

Region

Yorkshire and the Humber > South Yorkshire > Sheffield

Activity type

Higher or Secondary Education Establishments

Links

[Contact the organisation](#)  [Website](#)   
[Participation in EU R&I programmes](#)   
[HORIZON collaboration network](#) 

Total cost

No data



UNIVERSITY COLLEGE DUBLIN, NATIONAL UNIVERSITY OF IRELAND, DUBLIN

 Ireland

EU contribution

€ 476 177,32

Address

BELFIELD  
4 Dublin 

Region

Ireland > Eastern and Midland > Dublin

Activity type

Higher or Secondary Education Establishments

Links

[Contact the organisation](#)  [Website](#)   
[Participation in EU R&I programmes](#)   
[HORIZON collaboration network](#) 

Total cost

No data



JOHANNES GUTENBERG-UNIVERSITAT MAINZ

 Germany

EU contribution

€ 233 068,88

Address

SAARSTRASSE 21

55122 Mainz 

Region

Rheinland-Pfalz > Rheinhessen-Pfalz > Mainz, Kreisfreie Stadt

Activity type

Higher or Secondary Education Establishments

Links

[Contact the organisation](#)  [Website](#) 

[Participation in EU R&I programmes](#) 

[HORIZON collaboration network](#) 

Total cost

No data



## UNIVERSITAET REGENSBURG

 Germany

EU contribution

€ 233 068,88

Address

UNIVERSITATSSTRASSE 31

93053 Regensburg 

Region

Bayern > Oberpfalz > Regensburg, Kreisfreie Stadt

Activity type

Higher or Secondary Education Establishments

Links

[Contact the organisation](#)  [Website](#) 

[Participation in EU R&I programmes](#) 

[HORIZON collaboration network](#) 

Total cost

No data



## EIDGENOESSISCHE TECHNISCHE HOCHSCHULE ZUERICH

 Switzerland

EU contribution

€ 505 923,88

Address

**Raemistrasse 101**

**8092 Zuerich** 

Region

**Schweiz/Suisse/Svizzera > Zürich > Zürich**

Activity type

**Higher or Secondary Education Establishments**

Links

[Contact the organisation](#)  [Website](#) 

[Participation in EU R&I programmes](#) 

[HORIZON collaboration network](#) 

Total cost

**No data**



*MAX-PLANCK-GESELLSCHAFT ZUR FORDERUNG DER WISSENSCHAFTEN EV* 

 Germany

EU contribution

No data

Address

**HOFGARTENSTRASSE 8**

**80539 Munchen** 

Region

**Bayern > Oberbayern > München, Kreisfreie Stadt**

Activity type

**Research Organisations**

Links

[Contact the organisation](#)  [Website](#) 

[Participation in EU R&I programmes](#) 

[HORIZON collaboration network](#) 

Total cost

No data



## UNIVERSIDAD AUTONOMA DE MADRID

 Spain

EU contribution

€ 237 681,62

Address

**CALLE EINSTEIN 3 CIUDAD UNIV CANTOBLANCO RECTORADO**  
**28049 Madrid** 

Region

**Comunidad de Madrid > Comunidad de Madrid > Madrid**

Activity type

**Higher or Secondary Education Establishments**

Links

[Contact the organisation](#)  [Website](#) 

[Participation in EU R&I programmes](#) 

[HORIZON collaboration network](#) 

Total cost

**No data**



## SCIENTA OMICRON GMBH

 Germany

EU contribution

€ 233 068,88

Address

**LIMBURGERSTRASSE 75**  
**65232 Taunusstein** 

Region

**Hessen > Darmstadt > Rheingau-Taunus-Kreis**

Activity type

**Private for-profit entities (excluding Higher or Secondary Education Establishments)**

Links

[Contact the organisation](#)  [Website](#) 

[Participation in EU R&I programmes](#) 

[HORIZON collaboration network](#) 

Total cost

No data

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## IBM RESEARCH GMBH



Switzerland

EU contribution

€ 257 086,94

Address

**SAEUMERSTRASSE 4**

**8803 Rueschlikon**

Region

**Schweiz/Suisse/Svizzera > Zürich > Zürich**

Activity type

**Private for-profit entities (excluding Higher or Secondary Education Establishments)**

Links

[Contact the organisation](#) [Website](#)

[Participation in EU R&I programmes](#)

[HORIZON collaboration network](#)

Total cost

No data

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## UNIVERSITAET GRAZ



Austria

EU contribution

€ 251 201,72

Address

**UNIVERSITATSPLATZ 3**

**8010 Graz**

Region

**Südösterreich > Steiermark > Graz**

Activity type

**Higher or Secondary Education Establishments**

Links

[Contact the organisation](#) [Website](#)

[Participation in EU R&I programmes](#)

Total cost

**No data**

**Last update:** 12 April 2016

**Permalink:** <https://cordis.europa.eu/project/id/317348>

European Union, 2025