

ERC CONSOLIDATOR GRANT





FP7 – Monitoring Report 1/4

Data from the 6th FP7 Monitoring Report – Monitoring Report 2012

Period **2007 – 2012** based on CORDA (Common Research Data) warehouse by February 2013

Date of publication: 7 august 2013

Ranking of top 10 **Research Organisations** in **FP7 signed grant agreements** in terms of counts of participations for the period 2007-2012

REC Rank	Overall rank	Organisation	Participations	Country
1	1	CENTRE NATIONAL DE LA RECHERCHE SCIENTIFIQUE	1189	FR
2	2	FRAUNHOFER-GESELLSCHAFT	889	DE
3	4	CONSIGLIO NAZIONALE DELLE RICERCHE	556	IT
4	5	COMMISSARIAT A L'ENERGIE ATOMIQUE ET AUX ENERGIES ALTERNATIVES	550	FR
5	6	MAX PLANCK GESELLSCHAFT ZUR FOERDERUNG DER WISSENSCHAFTEN E.V.	540	DE
6	7	AGENCIA ESTATAL CONSEJO SUPERIOR DE INVESTIGACIONES CIENTIFICAS	528	ES
7	14	TEKNOLOGIAN TUTKIMUSKESKUS VTT	347	FI
8	15	INSTITUT NATIONAL DE LA SANTE ET DE LA RECHERCHE MEDICALE (INSERM)	332	FR
9	16	DEUTSCHES ZENTRUM FUER LUFT - UND RAUMFAHRT EV	327	DE
10	17	NEDERLANDSE ORGANISATIE VOOR TOEGEPAST NATUURWETENSCHAPPELIJK ONDERZOEK - TNO	303	NL



FP7 – Monitoring Report 2/4

Ranking of top 10 **Higer or Secondary Education Organisations (HES)** in FP7 signed grant agreements in terms of counts of participations for the period 2007-2012

HES rank	Overall rank	Organisation	Participations	Country
1	3	THE UNIVERSITY OF CAMBRIDGE	570	UK
2	8	THE UNIVERSITY OF OXFORD	504	UK
3	9	IMPERIAL COLLEGE OF SCIENCE, TECHNOLOGY AND MEDICINE	490	UK
4	10	EIDGENOESSISCHE TECHNISCHE HOCHSCHULE ZURICH	442	CH
5	11	KATHOLIEKE UNIVERSITEIT LEUVEN	433	BE
6	12	UNIVERSITY COLLEGE LONDON	428	UK
7	13	ECOLE POLYTECHNIQUE FEDERALE DE LAUSANNE	413	CH
8	18	DANMARKS TEKNISKE UNIVERSITET	300	DK
9	19	KOBENHAVNS UNIVERSITET	297	DK
10	20	THE UNIVERSITY OF EDINBURGH	296	UK

Overall Rank includes all categories:

- Higer or secondary education (HES)
- Private for profit excluding education (PRC)
- Public body (excluding research and education) (PUB)
- Research organisations (REC)
- Other (OTH)

FP7 – Monitoring Report 3/4

Ranking of the **italian REsearCh organisations** in FP7 signed grant agreements in terms of counts of participations for the period 2007-2012; an update for the number of participations and REC Rank is available thanks to an extraction from E-corda data (25/10/2013)

REC Rank	Overall Rank	Organisation	Partic.	Partic. Updated
3 (update 4)	4	CNR	556	636
18 (update 18)	74	Centro Ricerche FIAT SCPA	149	186
26 (update 24)	107	ENEA	116	142
42 (update 41)	185	APRE	77	90
43 (update 45)	186	INFN	76	83

FP7 – Monitoring Report 4/4

Ranking of the **italian HES** in FP7 signed grant agreements in terms of counts of participations for the period 2007-2012; an update for the number of participations and HES Rank is available thanks to an extraction from the E-corda data (25/10/2013)

HES Rank	Overall Rank	Organisation	Partic.	Partic.Updated
31 (update 34)	48	Alma mater studiorum – Università di Bologna	194	227
40 (update 36)	58	Politecnico di Milano	178	220
46 (update 52)	65	Università degli Studi di Roma la Sapienza	163	188



FP7: IDEAS – ERC

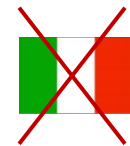
“The European Research Council (ERC) attracted 3.177 proposals, 3.104 of which were included in the selection but only 373 of those were retained for negotiations – representing slightly more than a tenth of the total number of retained proposals in 2012 – with a corresponding success rate of 12%.”

Specific Programme	Grants	Grant Holders	EU contribution (€ Milion)	Average EU contribution per grant (€ Milion)
IDEAS	3.297 (813 divided in the first 10 HIs)	3.776	5.289	1,60

Top ten Host Institutions for number of ERC grants of any type

Host Institution	County	Total Grants
National Centre for Scientific Research (CNRS)	FR	177
University of Cambridge	UK	95
Max Planck Society	DE	92
University of Oxford	UK	89
University College London	UK	69
Swiss Federal Institute of Technology Lausanne	CH	68
Swiss Federal Institute of Technology Zurich (ETH Zurich)	CH	63
Hebrew University of Jerusalem	IL	57
Weizmann Institute	IL	52
Imperial College	UK	51

There are no Italian HIs





Frontier Research Grants

The fundamental activity of the ERC is to provide attractive, long-term funding to support excellent investigators and their research teams to pursue *ground-breaking, high-gain/ high-risk research*.

Research funded by the ERC is expected to lead to *advances at the frontiers of knowledge* and to set a clear and *inspirational target* for frontier research across Europe.



Frontier Research Grants

«... For all ERC Grants, **excellence** is the sole criterion of evaluation. It will be applied to the evaluation of **both** the research and the Principal Investigator(s) in conjunction.»



The subject of the evaluation is the pair **Researcher – Project**

Focus of this presentation: the **Researcher**



PI: Consolidator Grants

ERC WP 2014

ERC Consolidator Grants are designed to support excellent Principal Investigators at the career stage at which they may still be consolidating their own independent research team or programme. Applicant Principal Investigators must demonstrate the ground breaking nature, ambition and feasibility of their scientific proposal.

A competitive Consolidator Grant Principal Investigator must have already shown research independence and evidence of maturity. For example, it is expected that applicant Principal Investigators will have produced **several important publications without the participation of their PhD supervisor**. Applicant Principal Investigators should also be able to demonstrate a promising track record of early achievements appropriate to their research field and career stage, including significant publications (as main author) in major international peer-reviewed multidisciplinary scientific journals, or in the leading international peer-reviewed journals of their respective field. They may also demonstrate a record of invited presentations in well-established international conferences, granted patents, awards, prizes etc

Curriculum Vitae

CV analysis:

- Education: PhD
- Research experiences abroad
- Prizes and Awards
- Funding ID**
- Publications:
 - Without the participation of the PhD Supervisor;
 - Number of publications on Scientific journal with impact factor >8

Data collected for **25 ERC winners** (5 for each call from 2007 to 2012) – **Panel PE2**

The collected data are just examples, they are not a check-list, but a starting point for self-evaluation

**this analysis is still “work in progress”, these data are not easy to find on the web



Education: PhD

ERC winners

The PhD Institution is.....	N° of researchers	
In the country of origin	15/25	(60%)
The same of the Master Degree	5/25*	(20%)
The same of the Post Doc	2/25**	(8%)
Not the same of the Post Doc	19/25	(76%)
Partially the same of the Post Doc	4/25	(16%)

* For 1/25 researcher the information was not available

**A researcher that did not have the PhD in the same Institution of the PhD had the PhD in the same institution of the Master Degree

The career of the 60% of researchers of this study started in the country of origin, and in 20% of the cases the PhD is accomplished in the same institution of the Master Degree.

Just 2 (8%) of the researchers had a post-doc position at the same Institution of the PhD.



PhD: which Institutions 1/2

ERC winners

PhD Host Institutions for the ERC winners selected sample (divided according to the call year): in bold the Extra-EU HIs, in blue the HIs with a HES/REC rank within the first 50.


2007	2009	2010	2011	2012
Eotvos University	Laboratory Kastler Brossel - University Pierre et Marie Curie	University of Notre Dame Indiana	Faculty of Mathematics and Natural Sciences Groningen	University of Aarhus
Caltech	University of Munich and Max Planck Institute	Università Roma La Sapienza	Uni Pierre & Marie Curie - Kastler- Broessel - ENS	George-August- University Goettingen
Radbou University	University of Zaragoza	University of Heidelberg	Max Plank Institut fur Quantenoptik	University of Maryland - NIST
Università di Trento	Ludwig - Maximilians University of Munich	Ludwing-Maximilians University of Munich	Swiss Federal Institute of Technology	University of Postdam
Vienna University	Institute d'Optique	University of California	Institut d'Astrophysique de Paris	Cambridge University



PhD: which Institutions 2/2

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The PhD Institutions are.....	N° of Institutions 
In countries outside EU	4/25 (16%)
With HES/REC rank within 50	5/21 (24%)

Country	H.I.	HES Rank	REC Rank	Overall Rank	Particip.
England	CAMBRIDGE UNIVERSITY	1	-	3	570
Switzerland	SWISS FEDERAL INSTITUTE OF TECHNOLOGY	4	-	10	442
Germany	MAX PLANCK INSTITUTE (2X)	-	5	6	540
Germany	LUDWIG-MAXIMILIANS UNIVERSITY OF MUNICH (2X)	43	-	62	169
Italy	UNIVERSITA' DI ROMA LA SAPIENZA	46	-	65	163



Research experiences abroad 1/5

How long	Where	Why	Researcher
2001-2003	Desy - Hamburg	Post doc	Katz
2003-2005	Uni Wuppertal	Post doc	
2000	Caltech	To get the degree of Master of Science	Kippenberg
2004-2005	Caltech	Post Doctoral Scholar	
after 2002	Imperial College London	Post doc	Bethlem
between 2002 and 2005	Max Planck	Group leader Fritz-Haber-Institut	
2000 - 2 months	Institute for cosmic ray research of the University of Tokyo	-	Conti
07/1995 – 09/1996	Research assistant USTC	Post doc	Pan
11/1999 – 10/2000	University of Vienna	Post doc Research Associate	
10/2000 – 11/2001	University of Vienna	Co-PI and Senior Researcher	



Research experiences abroad 2/5

How long	Where	Why	Researcher
2001-2002	National University Canberra	Post doc	Treps
2000-2002	NIST - USA	-	Browaeys
1998-1999	MIT	Diploma Thesis	Koehl
2001-2006	ETH Zurich	Post doc	
2007-2013	Cambridge	Reader, Fellow and Senior Lecturer and then Professor	Irastorza
2001-2004	CERN	Research Fellow	
2004-2006	CEA/Saclay [...]	Post Doctoral Researcher Many other experiences	Aspelmeyer



Research experiences abroad 3/5

How long	Where	Why	Researcher
2000 - now	Notre Dame, University of Oxford, Max Plank, Wigner Research Centre Of Budapest, Institute of Photonics Sciences Spain..	PhD and Post doc positions	Geza
1998-1999	Oxford University	Post doc	Giardina
1999-2001	CEA-SACLAY	Post doc	
05-2003 to 12-2005	CERN	CERN fellow + scholarships	Kellerbauer
from 08/2010	Max Plank Center of Attosecond Science	Coordinator	Goulielmakis
mar-10	Pohang Institute of Technology, Korea	Adjunt Prof Physics	
08/2005 - 11/2010	Max plank institute of Q.P.	Team leader/postdoctoral Researcher	
09/2002 - 08/2005	Technical University of Vienna & Physics Department University of Munich	PhD studies	
Abroad from the Bachelor Degree	France	Post doc and then permanent researcher	Grana

Research experiences abroad 4/5



How long	Where	Why	Researcher
1996-2000	Netherlands	PhD	Baltuska
2000-2002	Japan - University of Tokyo	Researcher associate	
2002-2004	Austria - Photonic Institute	Post Doc	
2004-2005	Max Plank Institute of Quantum Optics	Scientist	
2004-2007	University of Vienna	Researcher - Zeilinger	Gigan
2004/2007	EIF at ICFO	Post doc researcher and Marie Curie	Hennrich
2007/now	Innsbruck University	Assistant and then associate professor	
Not specified	CERN	Researcher	Pohl
See as an example of possible italian curriculum			Bertone

Research experiences abroad 5/5

How long	Where	Why	Researcher
1994	CERN	Summer school	Fynbo
1997	Birmingham	-	
1997	CSIC, Madrid	-	
2003-2004	Barkley	Post doc	Kling
2004-2006	AMOLF Amsterdam	Post doc Marie Curie Fellow	
2009-2013	Kansas state university	Assistant professor	
2011-2012	King Saud University, Saudi Arabia	Visiting professor	
2011-2013	Postech University - pohang	-	
2001-2005	USA - university of Maryland - NIST	Doctoral student	Pupillo
2005-2011	Academy of science - Austria	Senior Scientist	
2001-2002	Imperial College	Feodor Lynene Fellow	Eisert
2002-2003	Caltech	Visitng Scholar	
2002-2005	Postdam University	Junior Professor	
2005-2008	Imperial College	Lecturer	
-	-	-	Conlon

In cases where there are few experiences abroad, this is offset by the mobility within the country of origin or by a huge participation in international events.

The information in the tables were taken from on-line curricula: the dates are specifiedi n years while on the curricula



2007 – StG – PE2 ERC winners

Please consider that for the calls considered here, Starting and Consolidator were not separated categories

Researcher	Country	H. I.	Publ. without the PhD Superv./Publ. tot
Katz Sándor	Hungary	EOTVOS LORAND TUDOMANYEGYETEM	3/36
Kippenberg Tobias August	Switzerland	ECOLE POLYTECHNIQUE FEDERALE DE LAUSANNE	11/34
Bethlem Hendrick Lucas	Netherlands	STICHTING VU-VUMC	1/21
Livia Conti	Italy	INFN	16/30
Pan Jian-Wei	Germany	RUPRECHT-KARLS-UNIVERSITAET HEIDELBERG	69/97

For this call, on average the percentage of publications without the PhD Supervisor is **34,0%**



2009 – StG – PE2 ERC winners

Researcher	Country	H.I.	Publ. without the PhD Superv./Publ. Tot
Treps Nicolas	France	UNIVERSITE PIERRE ET MARIE CURIE - PARIS 6	13/57
Browaeys Antoine	France	CNRS	17/25
Koehl Michael Karl	England	THE CHANCELLOR UNIVERSITY OF CAMBRIDGE	26/32
Irastorza Igor Garcia	Spain	UNIVERSIDAD DE ZARAGOZA	21/68
Aspelmeyer Markus	Austria	UNIVERSITAET WIEN	38/42

For this call, on average the percentage of publications without the PhD Supervisor is **58,7%**



2010 – StG – PE2 ERC winners

Name	Country	H.I.	Publ. without the PhD Superv./Publ. tot
Toth Geza	Spain	Universidad del Pais Vasco	36/47
Giadrina Irene Rosaria	Italy	CNR	24/43
Kellerbauer Alban	Germany	Max Planck Gesellschaft zur Foerderung der Wissenschaften	27/82
Goulielmakis Eleftherios	Germany	Max Planck Gesellschaft zur Foerderung der Wissenschaften	10/32
Grana Mariana	France	CEA	34/36

For this call, on average the percentage of publications without the PhD Supervisor is **58,2%**



2011 – StG – PE2 ERC winners

Name	Country	H. I.	Publ. without the PhD Superv./Publ. tot
Baltuska Andrius	Austria	Technische Universitaet Wien	64/74
Gigan Sylvain Hervé	France	CNRS	17/26
Henrich Markus T.	Austria	Universitaet Innsbruck	21/29
Pohl Randolf	Germany	Max Planck Gesellschaft zur Foerderung der Wissenschaften	40/40
Bertone Gianfranco	Netherlands	Universiteit Van Amsterdam	38/46

For this call, on average the percentage of publications without the PhD Supervisor is **81,4%**



2012 – StG – PE2 ERC winners

Name	Country	H. I.	Publ. without the PhD Superv./Publ. tot
Fynbo Hans Otto Uldall	Denmark	Aarhus Universitet	60/123
Kling Matthias F.	Germany	Ludwig-Maximilians-Universitaet Muenchen	71/73
Pupillo Guido	France	Centre International de Recherche aux Frontieres...	33/41
Eisert Jens	Germany	Freie Universitaet Berlin	111/115
Conlon Joseph	England	The Chancellor, masters and scholars of the University of Oxford	16/31

For this call, on average the percentage of publications without the PhD Supervisor is **74,9 %**



Publications without the PhD Supervisor: a comparison

N° of publ. without PhD Supervisor	N° of Researchers
0	0/25
1 to 20	9/25
> 20	15/25
All	1/25

Some remarks:

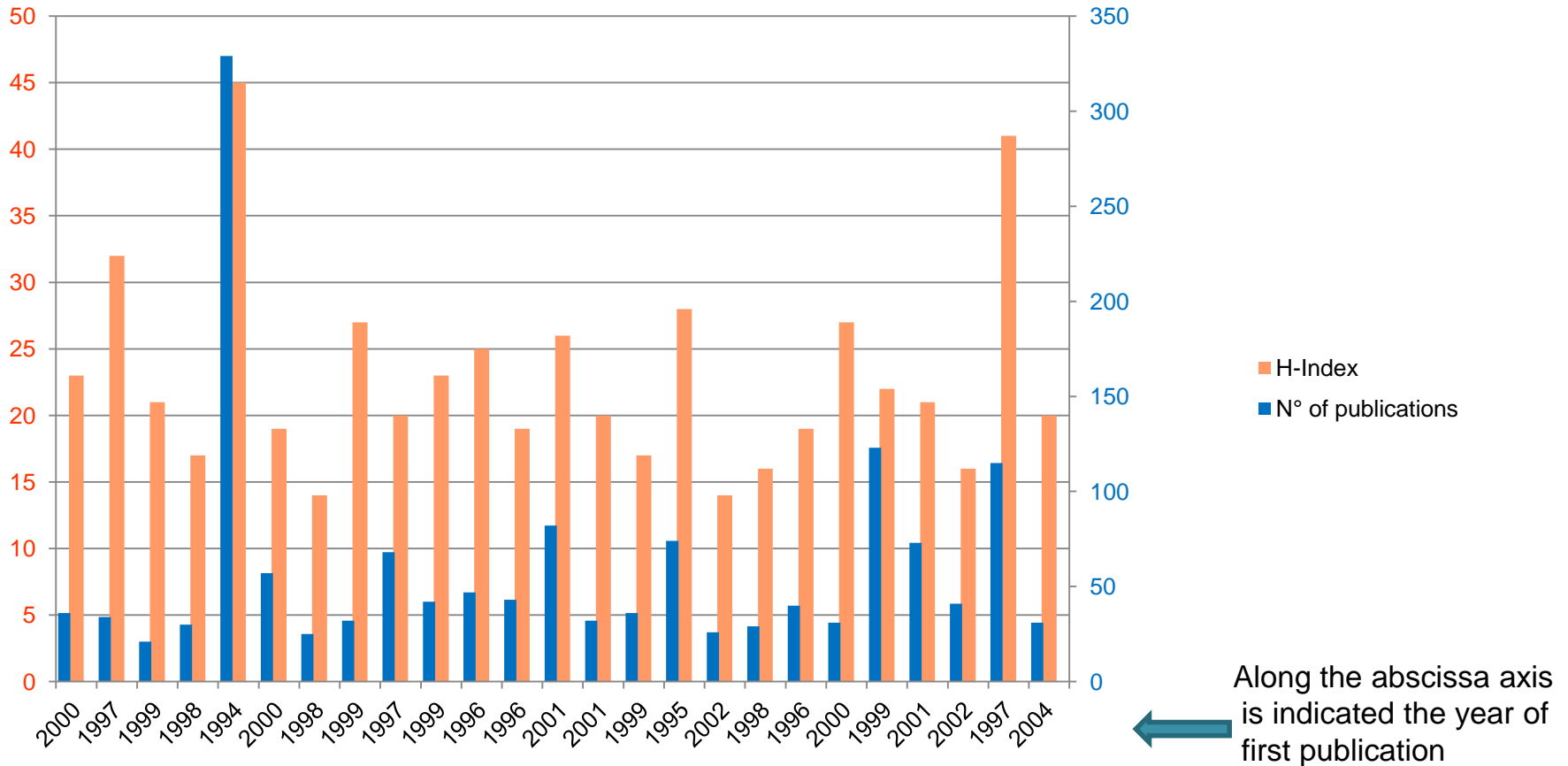
- No researchers with **zero publications** without the PhD Supervisor
- One researcher with all publications (40) without the PhD supervisor
- Half of researchers have **more than 20 publications** without their PhD supervisor

Considering all the calls investigated, on average the publications without the PhD Supervisor are **61,4%**



Publications: more details*

*Bibliometric data source: Web of KnowledgeSM – Thomson Reuters



Note: the median of the number of publications is 40; the median of H-indexes is 21

Note: only 3/25 researchers have an H-Index higher than 30. For the other researchers the H-Index value is between 14 and 27.



Publications on Scientific Journals with high IF

N° of publications of the sample: **1497**

N° of Publications in Scientific Journals **with IF > 8***: **69/1497 (4,6 %)**

N° of researchers with at least 1 publication **with IF > 8**: **18/25 (72%)**

Journal	IF 2012	N° of publ.
Review of Modern Physics	43,933	1
Nature	36,28	37
Science	31,201	15
Nature Photonics	29,278	3
Physics Reports Review Section of Physics Letters	20,394	1
Nature Physics	18,967	12

* At the year of the participation of the researcher to the call

Some examples: Prizes/Awards

- Ignaz L. Lieben Award from the Austrian Academy of Sciences;
- European Young Investigator award;
- European Contest for Young Scientist;
- ANR Chair d'Excellence

An INFN example: Livia Conti

- SIGRAV prize of the Italian society of General relativity and Gravitation
- Honorable mention of the gravity research foundation

ERC CoG: first call in numbers

Applications received	Evaluated	Funded	Success rate
3673	3604	311	8,6%

Country Host Institution	Number of CoG
UK	61
Germany	43
France	42
Netherlands	29
Switzerland	23
Spain	20
Italy	20
Israel	17
Belgium	16

ERC CoG – PE

Number of grants for the CoG PE panel (first ten positions). Half of the grants to Italy are assigned within the PE panel.

Country Host Institution	Number of CoG
UK	27/61
Germany	25/43
France	18/42
Netherlands	11/29
Italy	10/20
Spain	8/20
Switzerland	7/23
Belgium	7/16
Israel	6/17
Austria	4/6

Working Tools



- **The ERC Work Programme**

Why is it useful?

Here you will find “what the ERC wants”, also in form of questions about important key-points such as impact, novelty, ground-breaking nature...to be addressed in the proposal

- **The ERC Guide for Applicants**

Why is it useful?

Here you will find many practical information, such as the documentation requested, how to fill the forms, the Panels and sub-Panels list, and more

- **The ERC web site: www.erc.europa.eu**

Why is it useful?

What kind of ‘language’ should I use for the abstract?

What kind of projects have been funded within a certain Panel? Is this the right panel for my proposal?

ERC website: funded projects*

PE2

- *Ab initio approach to nuclear structure and reactions (++) (ANSR) / Christian Erik Forssén (ERC-2009-StG);*
- *Advanced techniques to Search for Physics Beyond the Standard Model (BSMWLHCB)/ Tim Gershon (ERC-2009-StG);*
- *All-solid-state quantum electrodynamics in photonics crystals (ALLQUANTUM) / Peter Lodahl (ERC-2010-StG);*
- *Challenging General Relativity (CGR2011TPS) / Thomas Sotiriou*

PE9

- *A First Principles Approach to Accretion Discs (1ST-PRINCIPLES-DISCS) / Martin Elias Pessah;*
- *Analysis of the Dark Universe through Lensing Tomography (ADULT) / Hendrik Hoekstra;*
- *Computer Aided Modeling for Astrophysical Plasmas (CAMAP) / Miguel-angel Aloy-Toras*

<http://erc.europa.eu/erc-funded-projects>

ERC – Horizon 2020 – warning



ERC WP 2014: participation restriction

«A PI whose proposal was evaluated as category **C** in the StG, CoG or AdvG calls for proposals under work programme 2014 may not submit a proposal to the StG, CoG or AdvG calls for proposals made under Work Programme 2015 and 2016.»

Grazie per l'attenzione.....

.....e buon lavoro!