



INFORMAL GROUP OF R&D LIAISON OFFICES (IGLO)

PARTNER SEARCH FORM

AREA OF INTEREST:

DATE OF PUBLICATION OF THIS FORM: SEPTEMBER 23, 2011

ANSWERS EXPECTED BEFORE: ASAP

GENERAL INFORMATION	
NAME OF ORGANISATION*: ENEA, Italian National Agency for New Technologies, Energy and Sustainable Economic Development	
TYPE OF ORGANISATION*:	
<input checked="" type="checkbox"/> Public body (Research organisation/university/lab) <input type="checkbox"/> SME/ SME association <input type="checkbox"/> Other private actor <input type="checkbox"/> Not for profit organization <input type="checkbox"/> Regional body/agency <input type="checkbox"/> Other (specify)	
CONTACT PERSON	
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E-MAIL*	Francesca.pacchierotti@enea.it
TYPE OF PARTNER SEARCH*: PUBLIC BODY & SME	
<input checked="" type="checkbox"/> FP7 SPECIFIC CALL	
<input type="checkbox"/> NO SPECIFIC CALL/EXPRESSION OF INTEREST (ONLY IF RELEVANT)	
CONSORTIUM*	POSITION WITHIN CONSORTIUM*
<input checked="" type="checkbox"/> Create a new consortium <input checked="" type="checkbox"/> Join an existing consortium	<input type="checkbox"/> As a Coordinator <input checked="" type="checkbox"/> As a Partner
IF FP7 RELEVANT CALL: AREA OF INTEREST	

* Compulsory



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COOPERATION		CAPACITIES	
<input type="checkbox"/> 1 – Health <input checked="" type="checkbox"/> 2 – Food, agriculture, fisheries and biotechnologies <input type="checkbox"/> 3 – ICT <input type="checkbox"/> 4 – NMP <input type="checkbox"/> 5 – Energy <input type="checkbox"/> 6 – Environment (including climate change) <input type="checkbox"/> 7 – Transports (including aeronautics) <input type="checkbox"/> 8 – SSH <input type="checkbox"/> 9 – Space <input type="checkbox"/> 10 – Security		<input type="checkbox"/> Research infrastructures <input type="checkbox"/> Research for the profit of SMEs <input type="checkbox"/> Regions of knowledge <input type="checkbox"/> Research potential <input type="checkbox"/> Science in society <input type="checkbox"/> Support to the coherent development of research policies <input type="checkbox"/> International cooperation	
PEOPLE		IDEAS	
<input type="checkbox"/> Initial Training Networks (ITN) <input type="checkbox"/> Intra-European Fellowships (IEF) <input type="checkbox"/> European Reintegration Grants (ERG) <input type="checkbox"/> Cofunding (COFUND) <input type="checkbox"/> Industry-Academia Partnerships and Pathways (IAPP) <input type="checkbox"/> International Outgoing Fellowships (IOF) <input type="checkbox"/> International Incoming Fellowships (IIF) <input type="checkbox"/> International Reintegration Grant (ERG) <input type="checkbox"/> Marie Curie "Researchers' Night" <input type="checkbox"/> Marie Curie Awards		<input type="checkbox"/> Starting Independent research grant <input type="checkbox"/> Advanced Investigator grants	
<input type="checkbox"/> EURATOM		<input type="checkbox"/> JRC	
CALL DETAILS			
CALL IDENTIFICATION (according to WP): Call: FP7-KBBE-2012-6 – single stage KBBE.2012.1.3-04: Optimised terrestrial farm animal reproduction systems and/or technologies	DATE OF PUBLICATION: 20 July 2011	CLOSURE DATE: 15 November 2011	
PROJECT INFORMATION			
ACRONYME & TITLE:			



PARTNER SEARCH FORM

SUMMARY*:

Our research group has built an internationally recognized expertise on the optimization and application of biomarkers of semen quality in human, experimental rodents and farm animals, in the frame of European and national funded projects (see below).

We think that our expertise could fit the above mentioned call that aims at "...developing systems, processes and/or technologies to improve reproductive efficiency in terrestrial farm animals in a balanced and sustainable manner".

We think that biomarkers of genetic and epigenetic integrity of sperm, so far developed mainly in experimental mammalian models, could be fruitfully applied to farm animal species to contribute to the call aims.

Currently, we do not have ongoing collaborations on this topic with other European partners and, in particular, we do not have direct contacts with farming industries and breeders.

We would like to exploit the IGLO Partner Search Service to get in touch with a candidate coordinator interested in our approach.

Short profile of the ENEA Research Group on Development of Fertility Biomarkers and Reproductive Toxicology

Research Experience and major achievements

- Optimization and standardization of an immunocytochemistry method to assess global DNA methylation levels in sperm (ongoing).
- Evaluation of epigenetic biomarkers (coding and non coding RNAs, sequence specific methylation levels) of sperm quality (ongoing)
- Comparative assessment of the performances of comet assay, TUNEL assay, Sperm Chromatin Structure Assay in bull, rodent and human sperm to detect endogenous levels of DNA damage and susceptibility to environmental stressors.
- Development and evaluation of a modified Comet Assay applied to bull semen exposed in vitro to potentially genotoxic agents, as a fully in vitro approach to screen compounds for potential genotoxicity in sperm.
- Application of Sperm Chromatin Structure Assay to large cohorts in human reproductive epidemiological studies
- Time course and dose dependent assessment of DNA damage in sperm after exposure to ionizing radiation

Current and Recent Grants

- European Commission, 7th FP, Project CLEAR (2009-2013): Development and application of a flow cytometry-based method to measure global DNA methylation levels in human sperm, as a possible epigenetic indicator of sperm quality variations.
- Italian Ministry for Agriculture and Forestry (2007-2010): Application of Sperm Chromatin Structure Assay to obtain predictive fertility biomarkers in bovine and swine species.
- European Commission, 6th FP, Project REPROTECT (2004-2009): Development and evaluation of a fully in vitro comet assay based-method to assess DNA integrity in sperm
- European Commission, 5th FP, Project INUENDO (2002-2005): Application of Sperm Chromatin Structure Assay to human semen samples and correlation analyses with fertility and individual plasmatic levels of environmental contaminants

Selected Publications

- Villani P, Eleuteri P, Grollino MG, Rescia M, Altavista P, Spanò M, Pacchierotti F, Cordelli E. Sperm DNA fragmentation induced by DNase I and hydrogen peroxide: an in vitro comparative study among different mammalian species. *Reproduction* 140: 445-452, 2010
- de Jager C, Aneck-Hahn NH, Bornman MS, Farias P, Leter G, Eleuteri P, Rescia M, Spanò M. Sperm chromatin integrity in DDT-exposed young men living in a malaria area in the Limpopo Province, South Africa. *Hum Reprod* 24: 2429-2438, 2009
- Cordelli E, Fresegna AM, D'Alessio A, Eleuteri P, Spanò M, Pacchierotti F, Villani P. ReProComet: a new in vitro method to assess DNA damage in mammalian sperm. *Toxicol Sci* 99: 545-552, 2007
- Spanò M, Toft G, Hagmar L, Eleuteri P, Rescia M, Rignell-Hydbom A, Tyrkiel E, Zvezday V, Bonde JP; INUENDO. Exposure to PCB and p, p'-DDE in European and Inuit populations: impact on human sperm chromatin integrity. *Hum Reprod* 20: 3488-3499, 2005

Main Facilities

FACS

Fluorescence and non fluorescence microscopes equipped with image analysis systems

Real Time PCR and other standard molecular biology laboratory appliances

Small rodent conventional animal house

X-ray machine

* *Compulsory*



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KEYWORDS: Sperm genetic integrity; epigenetics; male fertility biomarkers; sperm selection; ART	
TYPE OF PROJECT Funding scheme : Collaborative Project (small or medium-scale focused research project targeted to SMEs).	
PARTNERS ALREADY INVOLVED (Contact Name, Name of organization, e-mail address): We had an informal contact with Alfonso Gutiérrez-Adán, Dpto Reproducción Animal, INIA, Ctra de la Coruña Km 5,9, Madrid 28040, Spain, agutierr@inia.es	
PARTNER SOUGHT	
COUNTRY (IES) (if relevant):	
EXPERTISE REQUESTED*: Farm animal breeding, including ART; farming technologies; sustainable livestock production; reproductive performance evaluation; oocyte and embryo physiology	
ROLE: <input checked="" type="checkbox"/> Technology development <input checked="" type="checkbox"/> Research <input type="checkbox"/> Training <input type="checkbox"/> Dissemination <input type="checkbox"/> Demonstration <input type="checkbox"/> Other (specify):	
ORGANISATION TYPE: <input checked="" type="checkbox"/> Public body (research organisation/university/lab) <input checked="" type="checkbox"/> SME/ SME association <input type="checkbox"/> Other private actor <input type="checkbox"/> Not for profit organisation <input type="checkbox"/> Regional body/agency <input type="checkbox"/> Other (specify) <input type="checkbox"/> Any	
HOW MANY PARTNERS ARE REQUIRED?	The call is for a small or medium-scale focused research project targeted to SMEs, thus presumably 4-5 partners could be involved