

## Network Action Proposal

Title:	Research visit proposal in Humboldt University
Membership number(s)	18
Member name(s)	Ricardo Sanz
Member institute/company name(s)	Universidad Politécnica de Madrid
Goals of the action	<p>The goal of this action is to enable a 2 month research visit for <b>Jaime Gomez</b> –a PhD student at our group at the Universidad Politécnica de Madrid– to the <b>Humboldt-Universität zu Berlin / Berlin School of Mind and Brain</b>.</p> <p>Jaime Gomez has been invited by the associate <b>Prof. Dr. Michael Pauen</b> to participate at research activities and lectures at Berlin School of Mind and Brain.</p> <p>According to our interests and Prof. Pauen and the rest of the staff in Humboldt University, we propose to use this time in Berlin to work in the next two topics:</p> <p><u>Self-awareness in cognitive systems:</u> Consciousness can be conceived as the process permitting the cognitive agent to build an inner world. The habitual image of consciousness as an interface or mediator between stimuli and responses must be overcome. Consciousness plays a role as a simulator of stimuli permitting the cognitive agent to construct and experience its inner world. A robot capable to simulate sense impressions could improve movement capabilities by means of senso motor simulated schemas, giving new insights of imagination in robots.</p> <p><u>Neural correlates of consciousness and mental content:</u> Meaning has to be studied as a core property of a physical cognitive system. We propose to formulate a theory of meaning and content with special emphasis in the very concept of explanation. We can explain meaning through nonmeaningful entities like neurons, because they count on physical causal relations, that are responsible, in their causal level, for higher order properties like mental content.</p>
Principal activity to which it contributes <ul style="list-style-type: none"> <li>○ Community Outreach</li> <li>○ Scientific Outlook</li> <li>○ Education &amp; Training</li> </ul>	<p><u>Community Outreach:</u></p> <p>Set the foundations for longer collaboration between Universidad Politécnica de Madrid / Autonomous Systems Laboratory and Humboldt-Universität Berlin / Berlin School of Mind and Brain.</p> <p><u>Scientific Outlook:</u></p> <p>Gomez’s doctoral thesis proposes to study the cognitive system properties that carry out the discovery of primitives, that is the properties that determine minimal function units at a certain level.</p> <p>One main hypothesis is that the systemic approach to the human brain calls for new kinds of mathematical description and computational models. The rapidly evolving</p>

	<p>and tightly knit fields of cognitive modeling and computational neuroscience will thus play a key role in a scientific community that strives to integrate mind and brain research.</p> <p>Interdisciplinary research on topics related to the mind, needs to be conceived and derived from operational definitions that can be mapped onto those definitions used in the brain sciences, i.e., we need to develop a new “lingua franca” for mind and brain research.</p>
<p>Concrete outcomes of the action (at least one of which should be material suitable for publication on the euCognition website)</p>	<p>Hopefully a solid theoretic foundation for epistemic issues will be proposed. A cognitive model expressed in a lingua franca will be built for the emotional and cognitive control architecture.</p> <p>At least one state of the art survey position paper on metatheoretic framework for cognitive architectures which will be submitted for journal/conference publication.</p> <p>The research visit could lay the foundation for collaboration between the ASLAB and Berlin School of Mind and Brain.</p>
<p>Effort in person-days that will be charged to the Network Action (if any)</p>	<p>0</p>
<p>Expected start and duration in months</p>	<p>From 4<sup>th</sup> January through 24 February 2008 (52 days)</p>
<p>The requested funding, under the following headings:</p> <ul style="list-style-type: none"> <li>○ Travel Costs</li> <li>○ Other Costs (check with the Network Coordinator if you aren't sure about eligibility of these costs)</li> <li>○ Labour Costs (identify the number of person-days and the rate per day).</li> </ul>	<p><u>Travel Costs:</u> Flight Madrid-Berlin, Berlin-Madrid = 220 euros</p> <p><u>subsistence and accommodation</u> 52 days = 4650 euros (1500 for first 10 days + 3150 for the remaining 42 days)</p> <p>TOTAL= 220+4650 = 4870 euros</p>
<p>Please identify any other sources of funding that contribute to this Action (actions to support events such as workshop and conferences should include an outline budget identifying the total cost)</p>	
<p>Workshops: <i>official euCognition event</i> (yes/no &amp; maximum number of members that can be accommodated)</p>	