

The Marie Curie programme at the Institute of Archaeology 2004-2008

Thilo Rehren

The Marie Curie Early Stage Training (MEST) projects, run by the European Commission, offer training opportunities to young scientists from EU member states and sometimes also from non-European countries. The Institute of Archaeology hosted one such project between 2004 and 2008, which is described here by its Principal Investigator.



Figure 1 Logo of MEST programme.

The single-host Marie Curie project MEST-2004-519504, with its focus on materials science-based archaeology was a major boost to the Institute's ability to enrol high-calibre non-UK Masters' and doctoral students, not only from within the European Union but also from overseas. A total of 48 fellows benefited from the generous funding offered under this scheme; most of them would otherwise not have been able to study at the Institute. Two particular – and for a European Union grant previously rather unusual – features made this project such a runaway success, and contributed to the near perfect match between the funding body's terms and conditions and the needs of the Institute and its desire to offer training opportunities in archaeology on a world-wide scale. The first was the ability to apply as a "single host" rather than a multi-partner network, while the second was the inclusion of a (limited) number of non-European students that could be funded as fellows.

The end of September 2008 saw the formal completion of the Institute's four-year Marie Curie project, under contract MEST-2004-519504 between UCL and the European Commission (Fig. 1). MEST stands for Marie Curie Action for Early Stage Research Training, while the acronym IoASCA refers to the Institute of Archaeology Science, Conservation and Archaeology. Although the effects of this project are likely to continue for some time, at the Institute and in the future careers of the nearly 50 fellows who benefited from it, this date offers a good opportunity to take stock of what has been achieved.

Marie Curie (Fig. 2), the famous Polish-French scientist at the heart of our modern understanding of radioactivity and a role model for female achievement in the sciences, has lent her name to a range of funding programmes (*actions* in EU parlance) aimed at enhancing the mobility of young researchers. In effect, it continues where the Erasmus programme for undergraduate students (and teachers) finishes, by focusing on Masters and doctoral students (*Early Stage Researchers*, defined as those with less than four years

research experience), and post-doctoral researchers up to a certain period after their entry into the research world. The programme is highly competitive, with success rates of typically less than ten percent, a drawn-out application process and at times a testing procedural side. Thus, a good deal of luck must have been involved when in summer 2004 we learnt of our inclusion in the list of projects to be funded that year across Europe, with a budget of more than 2.2 million Euros and a total allocation of 516 *person months*.

An elaborate plan had been submitted, emphasizing the excellent and within Europe probably unparalleled provision at the UCL Institute of Archaeology of laboratories for materials science and geographical information systems dedicated to archaeological training and research. The emphasis was very much on offering science training to archaeologists, and included specific programmes for artefact studies and the Institute's highly regarded conservation programme. To our delight, 2004 was the first year which allowed up to 20% of the total

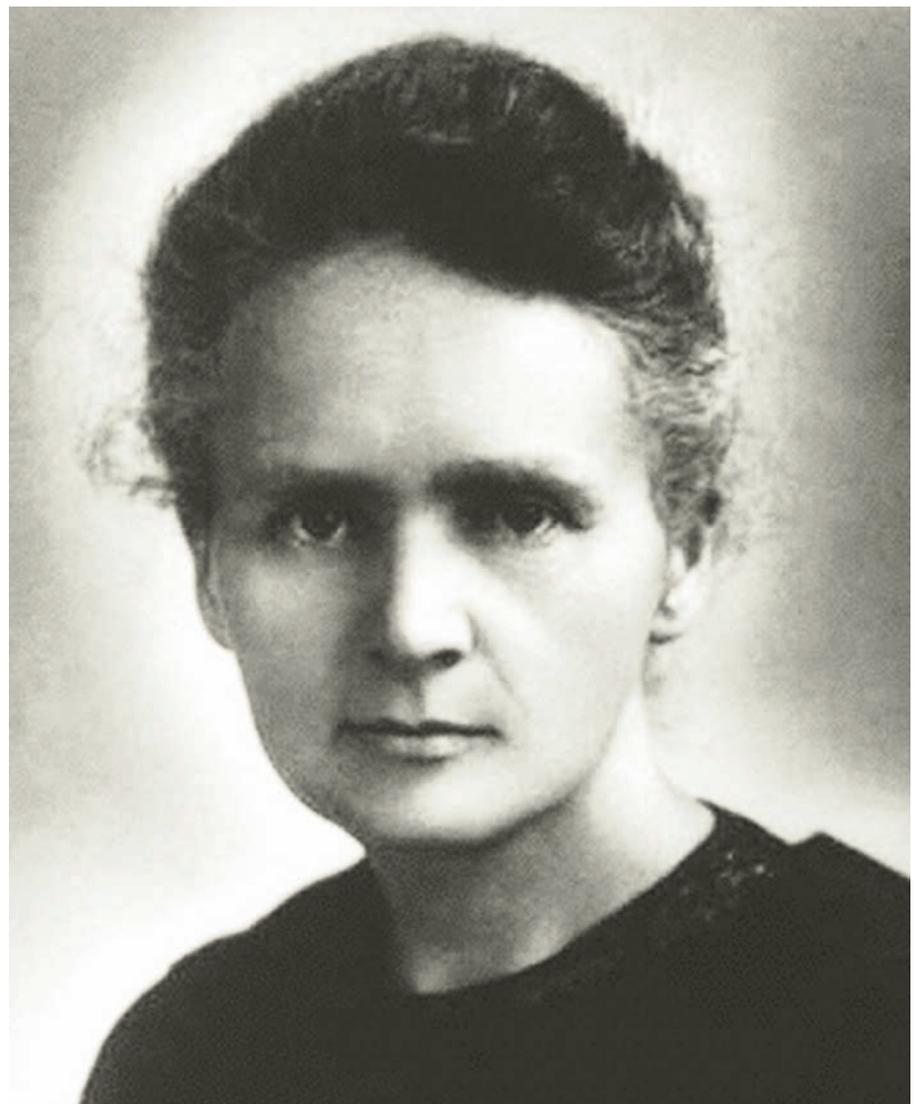


Figure 2 Marie Curie, Polish-French scientist and inspiration for the European Commission MEST programme

person months to be awarded to non-EU applicants: a measure we used to the very maximum and which very significantly contributed to the overall success of the programme. The initial plan foresaw funding for three to four Masters students in each of the four years, three three-year grants for doctoral students starting in each of the first two years, and a further three two-year grants starting in Year 3. No individual grant was allowed to outlast the overall grant duration, hence the two-year grants starting in Year 3 and no further doctoral grants starting in Year 4. The remaining 72 person months were earmarked for 24 so-called visiting fellows, typically doctoral students enrolled at a university outside the UK, who would receive three-month awards for individually tailored training and research opportunities at the Institute to complement their education.

It was clear from the timetable for negotiations with the European Commission that the first cohort, starting during the academic year 2004–05, would have to be found very quickly if they were to start in time; in the end, UCL's central administration allowed us to go ahead with the initial series of appointments even before the formal contract with the EU had been signed, a sign of flexibility greatly appreciated. Despite the short notice, this first cohort proved to be as academically excellent and geographically and culturally diverse as one could hope for, including students not only from European Union countries such as Italy, France, Germany and Greece, typically well represented in most such programmes, but also from less well represented countries such as Portugal, Cuba and Jordan. In a trend foreshadowing the future development, the vast majority of fellows were female. The European Commission is concerned about increasing funding for female applicants, and has a target of 40%; in the first year we awarded 85% of all person months to female applicants, and over the four-year period this level remained high, at 75%.

One of our first three-month fellows was Roberto Valcarcel Rojas from Cuba, to the best of my knowledge the first Cuban student to join the Institute of Archaeology. He had been in touch with Jago Cooper, one of our British doctoral students working in the Caribbean, and this was the ideal opportunity to bring him to the UK, where he could learn how to analyse some of the artefacts he had excavated at a contact-period cemetery in northern Cuba. Spending three months here exposed him to a wealth of literature and ideas to which he had no access in Cuba, despite being a member of the Department of Archaeology at

the Ministry of Science, Technology and Environment. As a very tangible result of his fellowship he co-authored several papers with colleagues at the Institute, not only in the Cuban annual journal of archaeology but also in the *Journal of Archaeological Science*, and in our own *Archaeology International* (see *AI* 10, 37–40). His project received a further boost through a successful ORADS application for AMS radiocarbon dating and, most recently, he was finally able to enrol in a doctoral programme at Leiden University, following on directly from the contacts and research developed during his fellowship at the Institute.

When we first advertised the fellowships there was some criticism voiced questioning the wisdom of offering even more funded doctoral studentships when there are no jobs to go to after the PhDs have been completed. This is indeed an important issue which we all face when taking on doctoral students – particularly in fields such as archaeology where there are notoriously few professional opportunities compared to the number of students completing their degrees every year. Luckily, the situation so far for our Marie Curie fellows is rather encouraging. All three doctoral fellows appointed as part of the first cohort have already found qualified employment, two of them even before completing their studies, and the third immediately afterwards. What is more, all three are in long-term positions: Aude Mongiatti works as a research scientist at the British Museum's Department of Science and Conservation, Lorna Anguilano is managing the materials science laboratory at Brunel University, while Fatma Marii is managing the conservation laboratory at the new National Museum in Amman. Similarly, two of the three doctoral students appointed in the second year already have a permanent position (Daniel Thompson) or are close to signing a contract for a post-doctoral project (Bastian Asmus). The only negative thing that can be said about this extraordinary success is that in all cases where the students started their employment before finishing their studies, it delayed the submission of their thesis considerably: but surely this is a small price to pay. But even without this inevitable delay, there is clearly much wisdom in extending the funding period and normal expectation for completing a PhD from the current three years to four years. Too often a student whose three-year grant runs out has to take up unqualified employment, or return home, a few months before they are ready to submit. Nearly always this results in serious further delays in submitting their thesis, delaying their entry into qualified

employment. It is reassuring to see that some funding bodies are already moving in this direction, a trend I would very much support. It would not only accept the reality on the ground, it might even improve completion rates within the four-year window required, and facilitate the transition into postdoctoral positions or other qualified employment.

The initial plans had allowed for nine doctoral fellowships; however, in the end only seven were awarded. Why was this, when the fellowships were clearly attractive and resulted in well qualified young researchers who even seem to find jobs? The adjustment to the initial plan was a response to the overwhelming demand for three-month fellowships, aimed at existing doctoral students enrolled at universities outside the UK, and to the number of high quality applicants for one-year Masters fellowships. By re-defining two doctoral studentships we were able to fund three additional Masters fellows and eight more visiting fellows, in effect increasing the number of students to benefit by nine. The project officers in Brussels, monitoring progress through annual reports and ad hoc email communication, were extremely supportive, accepting our arguments without resorting to excessive bureaucratic retaliation. Their support and understanding of our concerns throughout the project period is highly appreciated.

Four to five Masters students were funded each year through this project. Did this make a difference in view of our annual intake of 250+ MA and MSc students? It did: not only for the specialist degree programmes such as the MSc in Technology and Analysis of Archaeological Materials and the MSc in Spatial Analysis and GIS in Archaeology, which attracted the majority of our Masters fellows, but most definitely for the students whom we were able to fund. The effects of being awarded one of the highly competitive awards were in several instances life-changing, and led directly to opportunities which otherwise would not have been available to the students. Consider the cases of two students in Year 3, Thomas Thondhlana and Miljana Radivojevic. Thomas did his first degree in Zimbabwe's Northwest University, finishing with a study on copper bead typology. He built on this by studying at the Institute for an MSc in Technology and Analysis of Archaeological Materials, funded by a one-year grant, and with a strong element of MA Artefact Studies and MA African Archaeology added in for good measure. A paper based on his MSc thesis was recently published in the *Journal of African Archaeology*. Miljana had studied archaeology at the



Figure 3 On board the “Uluburun III”, the replica of the original Late Bronze Age vessel and centerpiece of the exhibition at the Deutsches Bergbau-Museum in Spring 2006

beyond. Logistically the most challenging was a two-day trip in Spring 2006 to Bochum’s German Mining Museum (Deutsches Bergbau-Museum) to visit the exhibition of the Late Bronze Age Uluburun shipwreck, enriched by a half-day seminar with invited international speakers addressing specific aspects of the cargo, its excavation, study and interpretation (Figs 3 and 4). More than 40 students took part and enjoyed the hospitality, academic input and logistical excellence of our hosts; many thanks to them again.

A series of one- and two-day seminars in London focused on regional aspects of archaeometallurgy: Chris Thornton organized a workshop on Ancient Metallurgy in Iran, including contributors from Italy, Germany and the US; the following year, Miljana Radivojevic organized one on Balkan metallurgy with many participants, particularly from the new member states of the EU; and finally,

University of Belgrade, with a focus on Vinča Culture metallurgy. She too came for the MSc in Technology, and ended up characterizing as part of her thesis the world’s earliest known copper smelting, radiocarbon dated to c.5200 BC. Both finished their studies with well-deserved distinction degrees before they returned home. We would have been delighted to keep them for doctoral studies, but the Marie Curie grant would not have been able to fund them any further, and other funding sources were not available to them. However, through the outstanding generosity of two major mining companies and further help from other sponsors, combined with matching funds from the British Research Councils through the Dorothy Hodgkin Postgraduate Awards scheme, they are now both back for their fully-funded PhD programmes, and on track for promising careers in shaping and re-building the future of archaeology in their war-torn countries. Clearly, these fairy-tale examples are the exception, but the overwhelming majority of the Masters students funded through MEST-IoASCA-2004-519504 carried on into research degree programmes, either at the Institute or indeed elsewhere, and most would have struggled to get onto this career without the support offered. A major aim of the programme, to train future researchers and teachers in archaeology in the application of materials science methods, has been met.

Another very successful aspect of the grant were the topical seminars that we organized, often driven by individual fellows, but always including all interested students at the Institute, and occasionally



Figure 4 Participants of the Marie Curie workshop discussing some of the original cargo of the Uluburun ship on display at Bochum, including blue glass discs, massive copper ingots in bun and oxhide shape and an amphora originally containing beer

we organized a meeting on the earliest evidence for iron production in Eurasia, again involving an international group of early stage researchers.

Clearly it is too early to assess the impact which these Marie Curie awards will have had on the fellows overall. However, their track record so far is already impressive, not just in the number and quality of Masters and PhD theses, but also in conference presentations, peer-reviewed and other publications, and academic progression. Of course, there is a price for all this. Not only has the European Union put a lot of money into this, but numerous colleagues at the Institute and within UCL were directly affected by an increased workload. The three-month visitors were particularly noticeable, since they did not normally fit into the existing teaching schedule but required individually tailored research training programmes, developed in close consultation with their tutors at the Institute, and often involving significant further input from the support staff in the laboratories. However, this was typically more than compensated for by the genuine gratitude the fellows expressed at the end of their stay. Several said they would not have been able to conduct the instrumental analyses necessary to adequately finish their research at their home institutions for one reason or another, were it not for the support they received here. I vividly remember hearing about the Scanning Electron Microscope not working at their home departments, and the deadline for submission of the thesis relentlessly approaching – this happened not once, but twice. Others had no laboratory facilities at all at their disposal, and the period at the Institute opened up entirely new perspectives for them even if they were not in a position to continue this materials science approach in their home department. At least they now know what is possible, and what to ask of their neighbouring science departments. Yet others, such as Roberto Valcarcel Rojas from Cuba, Kunlong Chen from China and Blanca Maldonado from Mexico, have embarked on lasting research collaborations with members of staff at the Institute, enriching our experience and opportunities as much as their own.

As this contribution is being written we receive excellent news concerning two of our short-term fellows. Edwinus Lyaya from Tanzania was awarded a three-year doctoral fellowship from the Commonwealth Scholarship Commission to study at UCL, and Yixian Lin from China was awarded a highly prestigious two-year postdoctoral Newton fellowship for a joint project at UCL. Both awards

are the direct consequence of the fellows' initial periods of study at the Institute under the Marie Curie scheme, and testament to the high calibre of our fellows.

What about UCL and the Institute of Archaeology? Did we benefit from the award? Of course we did, even though UCL was not really happy with the very limited level of overheads which are payable on these grants, way below the full economic cost the British universities are aiming to recoup from external research funders. However, in my view this low level of overhead is justified, considering the teaching and training nature of these Marie Curie grants. Quite rightly, these grants aim to focus their funding on the students themselves, and the university is paid already through the fees (which are also paid by the grant). Thus, even a modest amount of overheads is providing more for UCL than a self-funded student would contribute. Within the Institute, we have gained not only through the rewarding academic activities and educational experiences, some of which have been mentioned above. On a practical level, the grant covered most of the additional teaching and laboratory costs related to the fellows, again in addition to the fees. In the long run, it enabled us to set up a small visitors' room in the Wolfson Archaeological Science Laboratories. These two desks are still there for future use by guests and visitors, whether they are former fellows or not. It also contributed significantly to the costs of maintaining and replacing some of the more worn-out equipment in the laboratories, and provided a significant stimulus to enhance our microscopy laboratory. However the real gain for the hosts of these grants is probably the long-term academic contacts which develop from them, and the opportunity to help shaping a discipline's next generation of scholars.

The Marie Curie project MEST-2004-519504 started on October 1, 2004. It ended on September 30, 2008, after completing the four year award period. It is held in loving memory by its PI and 48 fellows, from Argentina to Tanzania, from China to Canada, from Mexico to New Zealand, and across the European Union, including one fellow from the UK. Financial support from the European Union, under contract MEST-2004-519504, is most gratefully acknowledged.