ARTS

Apple Research & Technology Support program

Dr Massimo Marino
European Research & Scientific Program

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Dr Massimo Marino – Apple EMEA

It is both a pleasure and an honor to welcome you to ARTS, Apple Research & Technology Support program.

Having spent more than 17 years in research, in Europe (CERN) and in the United States (Lawrence Berkeley Laboratory), it was easy to recognize the importance that science plays in our society, and the crucial role that scientific institutions in Europe and their impact on everyday life. It was just as natural to realize the importance today of marrying the talent of researchers in all fields with the new technologies and solutions in promoting and supporting the innovation and discoveries of the future.

ARTS aims at supporting European research activities of the scientific public institutions by way of allocating a credit to be spent on Apple technology (hw & sw) and support (e.g., Apple Developer Connection, extended support program) in order to facilitate a research program utilising current and future Apple solutions.

We believe that today Apple positions itself as the platform for scientists, academics and researchers, providing professionals with the flexibility, robustness, reliability typical of the Mac platform, together with a familiar Unix environment and considerable computational power. A platform and a technology that does not get in the way and allows the specialist to concentrate on the critical task at hand.

ARTS Research programs will address all areas of scientific endeavor, and at the broadest level, including projects focusing on Information Technology. Your individual Institutions will be the dedicated decision makers with respect to the domain and to the goals of the research activity that ultimately will benefit from ARTS and Apple technologies.

We are delighted that your Institution will be a contributor to the ARTS community and its goals. Hopefully producing results that will make all involved proud of being a part, however large or small our contributions may be.

Yours sincerely

Dr Massimo Marino

Introduction

The **ARTS** program is developed in recognition of the qualitative contributions of the Research and Scientific Institutions in Europe. As well as a means to provide young scientist with the deserved support and consideration when it is most needed: at the dawn of their scientific career.

ARTS candidates will be Post Docs graduates, established researchers in their own public research Institution at the level of Junior Assistant Professors/Scientist in tenure track or equivalent.

The candidates will have to submit a detailed proposal for a research program, this to be considered for the ARTS program, specifying its aims, the impact in its own and/or related fields, the intended use of computing solutions and the time scale for the project.

The Institution, through a proper and established procedure, will collect the proposals and appraise to produce the final selection for the 'Laureate for the **ARTS** program'. The proposed project should be intended to lead to original results and/or scientific publications, and be expected to deliver 6-monthly status updates of the project – or an alternative frequency compatible with the complexity and the nature of the project itself

The retained project will entitle the researcher(s) involved to select $30,000 US value of Apple solutions, these to be used specifically in connection with the research project itself. The description of the project, the profile of the researcher(s) and their institution(s), will be featured as Science Profiles, in Apple communications to third parties and to the public. The researcher(s) will enter into agreement with Apple being enabled to utilise descriptions of the research program in the form of advertisement, and as reference material to contact with other research entities invested in similar research activities.

Apple reserves the right to contact all participants in the ARTS program, in order to provide appropriate support or ease access to its technologies.

ARTS Advantages

ARTS is not a one-time support initiative. That would be limiting and, possibly, of lesser impact and value to the life work of researchers. ARTS aspire to become a community for researchers in Europe, open to all participants in the initiative, not exclusively to those directly supported by the program.

With this objective, Institutions adhering to the program will be granted access to the dedicated store for Education, where higher discounts on selected Apple solutions are available. This unique environment is of particular interest to scientists and further supports the community.

All **ARTS** candidates, regardless whether their research program has been selected by their Institution as ARTS Laureate or not, will enjoy a 6-months window of opportunity in order to profit from an exceptional discounts available on Apple products.

Direct access to Apple Systems Engineers provided on a dedicated network, will uniquely be available to ARTS candidates facilitating a more tangible collaboration and exchange of information among peers. Providing a conduit towards solving problems and issues that could arise in the course of their research activities with Apple technologies.

Last, but not least, ARTS is open to evolution in order to better answer to the needs of the researchers. ARTS goals, aspiration and achievement objective is for the researchers to profit from this program. Hence, your ideas, your contribution and your suggestions are more than welcomed!

Apple solutions for Science and Research

Apple makes serious computers for serious research.
From dual-core portables like MacBook Pro to quad-core workstation-class computers like the Mac Pro, Apple's systems are perfect for the most arduous scientific computational challenges. Xserve, Apple's 1U 64-bit server, provides utility for the IT professional and horsepower for the scientist with exceptional computational needs. For data storage, Xserve RAID provides 7.0TB of high performance storage for Mac OS X-, Windows- and Linux-based clients. With Mac OS X, Apple's UNIX-based operating system, lying at the foundation of every computer, the Mac platform has never been better for scientific computing.

Industrial strength UNIX-based operating system.
Beneath its elegant, intuitive interface, and rich graphics, Mac OS X is built upon a rock-solid UNIX foundation called Darwin, a variant of FreeBSD. Providing a secure, virus-resistant foundation, Darwin provides a complete UNIX environment, with X11 and POSIX services comparable to Linux or FreeBSD, including a familiar kernel, libraries, networking, and command-line utilities. In addition, Mac OS X gives you a comprehensive set of developer tools that allow you to develop and test cross-platform applications. There isn't a more secure, reliable UNIX platform available today.

Focus on your research. Not the technology.
You don't have to know a lot about technology to benefit from Apple's high-performance systems. What researchers will profit from the Mac is its unequalled combination of power and simplicity. That's why the Mac is perfect for the bench scientist with little or no IT knowledge, as well as for the UNIX-savvy computational scientist. With the Apple Workgroup Cluster, Apple has even taken the complexity out of buying, setting up, and managing a complete computational cluster for MATLAB, Mathematica, bioinformatics, or other commonly used cluster applications.

Your favorite tools and applications work beautifully on the Mac.
As a scientist, you're solving extremely complex problems that demand a wide range of tools and applications – including custom scripts; open source and commercial applications, as well as in-house code. You can run all of these kinds of applications seamlessly on UNIX-based Mac OS X, so you have all the access to the resources you need to be creative and comprehensive in your research endeavors.

Unrivaled visualization capabilities.
Mac OS X and Mac Pro workstation enable scientists to see a whole new dimension of their work. With the workstation-class Quadro graphics card, a CRT display, and an emitter, scientists can use shutter eyewear to see graphics in stereoscopic 3D from a growing number of applications in molecular modeling, computational chemistry, and x-ray crystallography. And for crisp, bright graphics, the 30-inch Apple Cinema Display is unrivaled; you can even connect up to eight Apple Cinema Displays to a single Mac Pro. There's no platform as affordable, powerful, and easy to use for scientific visualization.

Accomplish all your work on one system.
What's unique about the Mac is that it allows you to accomplish everything from data acquisition and analysis to publishing and storage – all on one system. Only on a Mac can you run native Mac applications, UNIX, Windows, X11 and command line applications all at the same time, not to mention that in doing so you still enjoy the Mac's ease of use. A unified desktop means increased productivity.

The Mac simplifies and streamlines IT support.
It's easy to support even hundreds of Macs with a lean support staff. The reason for this is simple: With its exemplary ease of use and stability, Mac OS X allows its users to keep working at full tilt with minimal assistance and virtually no interruptions from system crashes or viruses. When administrators do need to set up or administer the network, Mac OS X Server and Apple Remote Desktop make the task painless. Mac OS X Server includes a set of comprehensive administrative tools that are as robust as they easy to use. Networking Mac OS X systems even in a cross-platform environment is efficient and streamlined because the operating system is based on standards and includes all the major standard network protocols. And with Apple Remote Desktop, administrators can provide online support or upgrade the entire organization to the latest software without leaving their desks. All of this means that they can devote more of their time to moving the infrastructure forward rather than keeping it up and running.

The Mac fits in.
The Mac is a model network citizen. You can easily connect your Mac to any network – whether wired or wireless, Mac-, UNIX- or Windows-based. Built using many of the same technologies that power the Internet itself, Mac OS X includes modern networking and support for standard protocols. The Open Directory architecture makes it easy to integrate Mac OS X client and server systems into your existing network infrastructure. The Mac is compatible with other standards-based LDAP servers and can even plug into environments that use proprietary services such as Microsoft's Active Directory and Novell's eDirectory.

Value in unexpected places.
The Mac platform offers great value. Here are just a few examples: Xserve cluster node delivers one of the industry's best values in price per Gigaflop. Xserve RAID with a cost of less than $2 per gigabyte offers a breakthrough price/performance standard for storage deployments in Windows, Linux, and Mac environments. Xsan delivers an advanced storage area networking (SAN) solution at a fraction of the price of competing systems. Xcode, Mac OS X's integrated development environment, is included with the operating system. The Apple Volume License Program offers unmatched cost savings with unlimited client licensing on Mac OS X. You can serve thousands of users – without spending thousands of additional dollars in licensing fees.

The Mac experience: like no other.
Only on a Mac you do find seamless integration of hardware and software – that's because only with a Mac you get an operating system built by the same people who build the computer it runs on. You experience that hand-in-glove fit from the moment you plug your Mac in – just turn it on and you're ready to go. Only on a Mac can you experience the most intuitive, user-friendly interface of any enterprise platform. Only on a Mac can you have such built-in productivity features as Exposé, Bonjour, iChat AV, to name just a few. Only on a Mac can you easily do all your work on the same system. Not to mention that the Apple customer experience goes well beyond its hardware and software – Apple provides an unparalleled level of quality service and support, updates, security, training and financing.

Hardware for Research

The Mac platform offers advanced technology that's flexible enough for individual researchers and scales to support large collaborative efforts. Compute. Visualize. Store. Develop custom applications.

From the Apple Workgroup Cluster, to servers and storage RAID solutions, to powerful client solutions, all featuring powerful new generation chips from Intel: Core Solo, Core Duo, Core 2 Duo and Dual Core Xeon: you needs are covered.
http://www.apple.com/science/hardware.html

Software for Research

Mac OS X is ready for research. Because it's UNIX-based, it runs a wide range of commercial and open source scientific applications. Mac OS X also provides a powerful and feature-rich developer environment that makes it easy to create custom applications and scripts.

World-class tools and leading software products for analysis, visualization, data acquisition and development you'll find that software solutions on the Mac are what best the industry produces.
http://www.apple.com/science/software/

A complete solution

The ideal platform for your research computing needs, the Mac also allows you to publish, communicate with colleagues, and browse the Internet – all on a single, consistent platform. Add to that the Mac's legendary ease of use and cutting-edge technologies and you have a complete system that truly gives you the freedom to focus on your research.

Related links

http://www.apple.com/science/resources.html