

## **NUCLEONICA – web driven nuclear science from the JRC**

***In September 2006, the European Commission's Joint Research Centre (DG JRC) launches an innovative new nuclear science web portal – NUCLEONICA. NUCLEONICA gives professionals, academics and students in the nuclear industry access to all the information they need through the most up-to-date integrated web applications.***

NUCLEONICA is designed to be a new reference and knowledge management tool for the nuclear science sector. It provides a customisable, integrated environment and collaboration platform delivered through the latest dynamic web technology. NUCLEONICA should become an indispensable tool for anyone working in nuclear science and industry. 'Web driven science' is apt because NUCLEONICA is much more than an extensive online data source; it's also a practical and highly innovative tool, as easy to use as a calculator but much more powerful.

The NUCLEONICA portal has **four main 'centres'**:

- **A Data Centre** – with online interactive nuclide charts, new searchable databases with internationally evaluated nuclear data, and a library creation facility
- **An Application Centre** – featuring application modules (decay, dosimetry & shielding, fission yields, range & stopping power, reactor irradiation, neutron activation, transport and packaging, etc.), with professional-level graphics and advanced scripting language for user defined calculations and batch processing
- **A Knowledge Centre** – a nuclear news collection service, based on JRC web crawler technology which scans thousands of websites regularly for the latest information, a mobile device (e.g. Blackberry, PDAs, etc.) portal, historical articles, FAQs, 'Ask an Expert' and forum services and a wiki online user manual;
- **A Training Centre** – with online access to all available training courses and workshops.

NUCLEONICA is also designed to preserve nuclear knowledge by creating user-friendly web-based versions of complex 'legacy' codes developed over many decades in the nuclear industry. KORIGEN is an example of such a 'legacy' code, which will be available on NUCLEONICA.

NUCLEONICA is aimed at professionals, academics and students working with radionuclides in fields as diverse as the life sciences (e.g. biology, medicine, agriculture), the earth sciences (geology, meteorology, environmental science) and the more traditional disciplines such as nuclear power, health physics and radiation protection, nuclear and radiochemistry, and astrophysics. It is offered as "software as a service" (SaaS) on the web rather than through installed software, adding a greater level of stability and security and avoiding version compatibility and update problems. In addition, all NUCLEONICA's web applications are browser and operating system independent and can therefore be accessed by most web browsers.

NUCLEONICA will be available from September 2006 from the following address:  
<http://www.nucleonica.net>

***A presentation describing NUCLEONICA in more detail will be given at JRC's stand at ESOF 2006 on Sunday, 16 July, and Monday, 17 July.***