

# Science Minister launches World's largest diffraction pattern at Diamond Light Source

Submitted by: Diamond Light Source

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During a visit to Diamond Light Source on Friday 7th November, Lord Drayson, the new Science Minister, launched the World's largest diffraction pattern project by contributing a silver stitch to what will become the world's largest diffraction pattern. The project, which will involve over 5000 people adding their stitches, has been created to provide a platform for scientists to explain their research to the public in an engaging and imaginative way.

Diffraction patterns are obtained by biomedical researchers during their experiments at Diamond and lead to a 3-D representation of the structure of a specific biological target, which can be used to help design cures for specific diseases. The diffraction pattern being created in the art and craft piece is that of a target called serine racemase, which is an important target in the fight against pain and neurodegenerative disorders such as Alzheimer's disease. It is one of the first ever collected for this specific biological target and the research was carried out by scientists from the pioneering Oxfordshire-based biopharmaceutical company, Evotec. The company undertakes regular research at Diamond and is kindly supporting this initiative.

Lord Drayson was delighted to get involved, he said: "I am pleased to be taking part in this thought provoking project, which will give members of the public an opportunity to appreciate the wide range of science taking place at Diamond. Over the next decades, Diamond will play a vital role to engage the young and the old in the exciting contribution science is making to society and will inspire the next generation of scientists and engineers in the same way that cool projects in the 70s and 80s inspired me."

Anne Griffiths, a textile artist leading the project, is keen to start collecting more stitches, she says: "Having been involved with Diamond Light Source for several years I am delighted to be able to continue the relationship through this project. It is wonderful to be able to bring science and art together in this way and I am looking forward to gathering stitches from lots of different people over the next few months. This will enable us to create the world's largest diffraction pattern and to help people understand more about the science behind the art."

Dr John Barker, Group Leader of X-ray crystallography at Evotec, and his team achieved the featured diffraction pattern during beamtime at Diamond earlier this year. He says: "The information we gain from these diffraction patterns is vital to the progression of our research into serious diseases such as Alzheimer's and Parkinson's, and pain relief. It is fantastic that one of our diffraction patterns is now being used to create a unique work of art whilst at the same time widening access to science. Evotec is very pleased to be supporting Diamond Light Source in this initiative and we are looking forward to seeing it on display."

The World's largest diffraction pattern will receive stitches from far and wide as the project will be taken to Paris this week for its celebrations as European City of Science and to Chicago for the American Association for the Advancement of Science (AAAS) meeting in February 2009.

Members of the public who are interested in sewing a stitch and finding out more about the dialogue project should visit [www.diamond.ac.uk](http://www.diamond.ac.uk) or email us at [diamondcomms@diamond.ac.uk](mailto:diamondcomms@diamond.ac.uk).

For further information and high-res images contact Sarah Bucknall, PR Officer  
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Notes to Editors:

Photo caption: Left to Right - Lord Drayson, the new Science Minister, Anne Griffiths leading local textile artist, Dr John Barker, Group Leader of Evotec and Prof. Gerd Materlik, CEO of Diamond with the soon-to-be world's largest diffraction pattern, at Diamond Light Source.

Diamond Light Source

- For more information about Diamond, see [www.diamond.ac.uk](http://www.diamond.ac.uk)
- Diamond generates extremely intense pin-point beams of synchrotron light of exceptional quality ranging from x-rays, ultra-violet and infrared. For example Diamond's x-rays are around 100 billion times brighter than a standard hospital X-ray machine or 10 billion times brighter than the sun.
- Many of our everyday commodities that we take for granted, from food manufacturing to cosmetics, from revolutionary drugs to surgical tools, from computers to mobile phones, have all been developed or improved using synchrotron light.
- Diamond will bring benefits to:
  - Biology and medicine. For example, the fight against illnesses such as Parkinson's, Alzheimer's, osteoporosis and many cancers will benefit from the new research techniques available at Diamond.
  - The physical and chemical sciences. For example, in the near future, engineers will be able to image their structure down to an atomic scale, helping them to understand the way impurities and defects behave and how they can be controlled.
  - The Environmental and Earth sciences. For example, Diamond will help researchers to identify organisms that target specific types of contaminant in the environment which can potentially lead to identifying cheap and effective ways for cleaning polluted land.

Evotec

Evotec is a leader in the discovery and development of novel small molecule drugs and has established a powerful drug discovery platform that is applicable to biological targets across all therapeutic areas. It uses pioneering approaches and technologies such as structure-based drug design using the Diamond Light Source in its collaborative and proprietary research. In addition, Evotec has specific expertise in the area of diseases of the central nervous system such as Alzheimer's and Parkinson's disease. Evotec is a regular user of Diamond and is supporting this science and art initiative.

For more information about Evotec, please visit [www.evotec.com](http://www.evotec.com)