

Titanium Trophy Design Competition

Designs wanted for a trophy made by Additive Layer Manufacturing

The Titanium Information Group (TIG) is launching a competition for the design of its new trophy for the Harvey Flower Prize.

The **Harvey Flower Prize** is awarded annually to individuals in recognition of outstanding contribution to the development of titanium. The prize is dedicated to the memory of the late Professor Harvey Flower from Imperial College London whose outstanding contribution to the science and technology of titanium led to a clearer and fuller understanding of the metal and its alloys.

We are looking for a new design of the Harvey Flower prize trophy to celebrate the properties of titanium and highlight the capabilities of advanced manufacturing. The prize will be manufactured by the **Mercury Centre at the University of Sheffield** using an ARCAM electron beam powder deposition system and will be coloured by **Poligrat** using their titanium coating process. The winning entry will make full use of the capabilities of additive layer manufacturing, demonstrating the versatility of the process over

conventional methods for engineering design whilst achieving a visually attractive and eye-catching item.

In keeping with the exploitation of the property advantages of titanium, designs

based on a 'minimal mass' theme are encouraged. Demonstration of design strategies for titanium components used in aerospace, structural design, transport or biomedical devices are welcomed.

The winning entrant will receive a prize* and their design will be promoted widely through the Titanium Information Group and the National Metals Technology Centre's extensive network of contacts. This is therefore **an excellent opportunity for designers to showcase their skills to a wide audience**, whilst raising the profile of additive manufacturing and the use of titanium in high-value manufacturing. In addition to widespread publicity, the winner will receive the manifestation of their own design in titanium.

***First prize of £100**

Closing Date

17th February 2012

Designs should be e-mailed to:
kathryn.jackson@namtec.co.uk



Specifications for Entries for Harvey Flower Trophy Design

- The trophy is to be made from Ti6Al4V with a maximum mass of 1kg. Please therefore scale the volume of your design accordingly to ensure that the maximum mass is not exceeded.
- The minimum feature size is 700µm, with an accuracy of ±0.4mm
- The maximum design envelope is 200 x 200 x 200mm
- Closed cavities are not acceptable because loose un-melted powder has to be removed.
- The trophy must be 'grown' from a flat base which is to be included in the mass of the finished product.
- The trophy should feature a visible flat area where the name of the winner can be deposited; this can be part of the flat base.
- The design should be provided as a 3D CAD file as .dwg or .dxf or .stl format; the deposition programme will be put together by the Mercury Centre team.
- A selection of images of the finished design should be provided alongside some text (100-200 words) explaining the methods that have been used and why the design should be selected. This is acceptable as a pdf document for circulation amongst the judges.
- The trophy will be coloured using a coating selected and applied by Poligrat; designers are not required to select the colour of their finished design.

