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Ricardo Gomes, IDSA
Chair of RTP Committee
School of Design
San Francisco State University
415-338-2229 office

Dear Ricardo,

Prof. Pino Trogu: Promotion to Professor

I am writing in the strongest support for the promotion of Prof. Pino Trogu to a Full Professor. I have known Prof. Trogu for many years particularly with his breakthrough work in origami and his novel ideas in the field. Having met several times with his novel discoveries and his cutting edge breakthrough, I have understood much excellent work carried out by Prof. Trogu in mastering fine arts that relate to nature and biological creatures.

From my experience as Chair Professor in Mechanisms and Robotics at a world leading university, as fellow of both ASME and IEEE, as the past Chair of ASME UK and Ireland Section, and as one of the ASME mechanisms and robotics lifelong contribution award recipients in the 2015 ASME Mechanisms and Robotics Award, and in the 2020 ASME Machine Design Award, I can say that Prof. Trogu's research and work are cutting edge in the areas of product design and visual communication design.

Prof. Trogu generated a design pedagogy by creating powerful theoretical underpinnings with the realization that the visual design education goes beyond the state of the art. His visual arts training and his interest in geometry and in bio-inspired design have made teaching drawings and model-making vivid and lively and have impressed many researchers in Europe. His research particularly in recreating a bionic model of a sea urchin in origami folds fascinate the origami researchers and have been highly praised. His level of research has reached beyond the field of product design and the communication design and has also been accepted in the field of mechanisms and robotics.

Prof. Trogu's work is highly innovative and extremely novel with a great potential of applications. Metamaterials are advanced materials that attracted much attentions of researchers worldwide. Prof. Trogu employed novel geometries, fully utilised his strong mathematical skills and created a novel metamaterial prototype. This novel geometric approach for the design of such materials is highly innovative and would pave a new way for people to follow to create these new materials with the

geometric approach. Prof. Trogu's work opens up design variations that have not even existed in articles published in *Nature*. I would highly respect his work and his innovation that create a new dimension of the study.

Prof. Trogu has a broad breadth in the research in geometry, art, design, metamaterials and bio-inspired design. His scholarly level is extremely high and at his scholarly level, he would certainly be qualified as a full professor in our Russel group universities. His innovations are particularly high and extremely impressive. His publications are of high quality with a cutting edge breakthrough in this high level of research and his ideas lend other researchers a powerful tool to follow.

Prof. Trogu's work is not only highly innovative, but also highly meticulous with every details. His work is full of arts and mathematics and is a perfect mingle between geometries and arts and between nature and arts. His innovation that can be said is generating a new dimension for the breakthrough in the field of design art and the product design and in the field of origami and geometry. His powerful use of geometries make me highly impressed and his level of expertise is overtaking leading researchers in the field of origami.

Besides excellent academic performance, I would assert that Prof. Trogu has outstanding teaching ability as evidenced from his academic profile. He has continuously achieved high rating for his teaching and for excellent students' satisfaction, with students performance being excellent in the taught subjects. Prof. Trogu most definitely fits the bill to be promoted to a full professor position with these inspirational qualities for students.

Overall, Prof. Trogu is a highly creative and international professional. He is a pioneer in applying geometries to both origami- and bio-inspired designs with a huge potential in applying to metamaterials and in other applications. His status in research, teaching, professional management and enterprise would make him comparable to Professors at King's College London and other top universities. I fully trust he will continue to produce a large number of results with high standards at the forefront of research in product design and in visual communication design once he is promoted.

All in all, I have no hesitation in recommending Prof. Trogu for the professorial promotion.

I shall be glad to provide further input upon request.

Yours Sincerely,



Jian S Dai, **FIEEE, FASME, FRSA, FIMechE, PhD, PE, CEng**

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