The Anders Gustaf Ekeberg Tantalum Prize 2021: SHORTLIST ANNOUNCED

Recognising excellence in tantalum research and innovation

BRUSSELS, BELGIUM, July 9, 2021 /EINPresswire.com/ -- The Anders Gustaf Ekeberg Tantalum Prize ('Prize') is awarded annually for outstanding contribution to the advancement of the knowledge and understanding of the element tantalum (Ta). Announcing the 2021 shortlist, the Secretary General of the T.I.C., Emma Wickens, said that technology-driven innovations will ensure the long-term future of the tantalum market and that the Ekeberg Prize will encourage research and development. "Winners of the Anders Gustaf Ekeberg Tantalum Prize will be acknowledged as true leaders in this field", she added.

The award is administered by the Tantalum-Niobium International Study Center (T.I.C.), the global trade body representing the tantalum and niobium industry.
The seven publications on the short list show the great versatility of tantalum:
- Tantalum-titanium alloys for additive manufacturing applications
- Microwave preparation of polyoxoniobates and polyoxotantalates
- An examination of why it is so difficult to cut tantalum metal
- Integrating tantalum pentoxide waveguides into niobium-titanium nitride superconducting nanowires
- Using oxalic-nitric acid to dissolve and separate niobium and tantalum
- Ultrahigh thermal conductivity of θ-phase tantalum nitride
- Creating homostructural Ta3N5 nanotube/nanoparticle photoanodes for water splitting

The winner will be chosen by the independent panel of experts and the Prize medal, made from pure tantalum metal, will be awarded at the T.I.C.'s 62nd General Assembly (annual conference) scheduled to be held in London, UK, in November 2021. The T.I.C.'s conference is the largest annual gathering of tantalum and niobium industry leaders, with delegates from every sector of the global industry.

In 2020 the Ekeberg Prize was awarded to a team from Edinburgh University, UK, led by Prof. Jason Love, for Tantalum recycling by solvent extraction: chloride is better than fluoride published in the journal Metals. Information about this paper, and photos from the award ceremony, are available in the T.I.C.'s quarterly magazine Bulletin #183.

Ekeberg Prize Shortlist 2021:

1) Microwave synthesis of alkali-free hexaniobate, decaniobate, and hexatantalate polyoxometalate ions, by Mark A. Rambaran, Magda Pascual-Borràs and C. André Ohlin.
2) Osteogenic potential of additively manufactured TiTa alloys, by Erin G. Brodie, Kye J. Robinson, Elizabeth Sigston, Andrey Molotnikov, and Jessica E. Frith.
3) Cutting of tantalum: why it is so difficult and what can be done about it, by Jason M. Davis, Mojib Saei, Debapriya Pinaki Mohanty, Anirudh Udupa, Tatsuya Sugihara, and Srinivasan Chandrasekar.
4) Superconducting nanowire single-photon detectors integrated with tantalum pentoxide waveguides, by Martin A. Wolff, Simon Vogel, Lukas Splitthoff, and Carsten Schuck.
5) Homostructural Ta3N5 nanotube/nanoparticle photoanodes for highly efficient solar-driven water splitting, by Xian Zhang, Huilin Guo, Guojun Dong, Yajun Zhang, Gongxuan Lu and Yingpu Bi.
6) Ultrahigh thermal conductivity of θ-phase tantalum nitride, by Ashis Kundu, Xiaolong Yang, Jinlong Ma, Tianli Feng, Jesús Carrete, Xiulin Ruan, Georg K. H. Madsen, and Wu Li.
7) Niobium and tantalum processing in oxalic-nitric media: Nb2O5·nH2O and Ta2O5·nH2O precipitation with oxalates and nitrates recycling, by Gauthier J.-P. Deblonde, David Bengio, Denis Beltrami, Sarah Bélair, Gérard Cote, Alexandre Chagnes

About the Ekeberg:
The Ekeberg Prize is the annual award that recognizes excellence in published research about the element tantalum (Ta). The long-term future of the tantalum market will depend on technology-driven innovations and a new prize dedicated to this rare and critical element will encourage research and development. The Ekeberg Prize increases awareness of the many unique properties of tantalum products and the applications in which they excel.
A T.I.C. spokesman said “Winners of the Anders Gustaf Ekeberg Tantalum Prize are acknowledged as true leaders in this field.” Further information is available at https://www.tanb.org/view/prize.

About Dr Anders Gustaf Ekeberg:
Born in 1767, Anders Gustaf Ekeberg was a Swedish scientist, mathematician, and poet. He became a professor at Uppsala University in 1794 and discovered tantalum in 1802. According to Ekeberg’s friend, the chemist Jacob Berzelius, Ekeberg chose the name ’tantalum’ partly to reflect the difficulties that he had experienced in reacting the new element with common acids and partly out of his passion for ancient Greek literature. Tantalus was a demi-god who killed and cooked his son, Pelops, and as punishment was condemned to stand in a pool of water beneath a fruit tree with low branches, with the fruit ever eluding his grasp, and the water always receding before he could take a drink.

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