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[\[SuperConductor\]\[Energy\] The International Conference on Novel Super Conductivity at Taiwan 2011 Takes Place in NCKU](#)

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NCKU Research Express (2011/08/12) Hosted by Academia Sinica and National Cheng Kung University, The International Conference on Novel Super Conductivity at Taiwan 2011 (ICNSCT2011) took place for five days since August 5. More than one hundred noted scholars from Taiwan, Japan, China, the U.S., Canada, Holland, Austria, Germany, etc., participated in the event. NCKU Professor In-Gann CHEN pointed out at the open ceremony that the research and the industry of super conductivity can help reduce a lot of electricity consumption and help with carbon reduction as well. He expected super conductivity development will revive in five to ten years.

The conference was divided in four major themes: materials, mechanisms, physical properties and applications. 46 noted scholars including Academia Sinica's Academician Paul CHU and Academician Chang-Chyi TSUEI, Hung-Duen YANG (President of National Sun Yat-sen University), Hideo HOSONO (Professor at Tokyo Institute of Technology), Harold WEINSTOCK (Air Force Office of Scientific Research, the U.S.), etc., took parts in the conference. 58 exhibitions were presented in the event, while the total number of the participants reached about 200.

Since the discovery of super conductivity by the physicist Heike Kamerlingh ONNES in Holland in 1911, a lot of individual as well as group efforts have been contributed. Among the significant theories presented during the past century, Bernd T. MATTHIAS's opinion is most influential. To honor MATTHIAS, the international conference arranged a MATTHIAS symposium, cohosted by Academician CHU and Academician Mow-Kuen WU. In the symposium, the present development and prospect of super conductivity research in Taiwan were introduced to the participants.

Professor In-Gann CHEN said, the electric resistance during the transmission leads to power waste. The technology and materials to reduce resistance hence becomes a topic of energy issue. Super conductors are exactly the transmission technology and materials to reduce resistance.

Professor CHEN further explained, however, not every material can be made into super conductor, and not every material of super conductor can express the super conductivity in ordinary temperature. Most super conductive materials can only work below -200°C . The most applicable findings in the industry, according to CHEH, should be the high-temperature superconductor series Y-Ba-Cu-O, discovered by Academician M.-k. WU and Academician P. CHU. Though named "high-temperature", such materials still need an environment under -200°C . Nonetheless, such temperature is already higher for $60\text{-}70^{\circ}\text{C}$ than all the other superconductive materials.

Professor CHEN also mentioned, the findings of high-temperature super conductors began to emerge in Taiwan 20 years ago. Because of the lack of industrial support, the hot global issue gradually cooled down. However, following the trend of the energy issues, the attention to this field began to grow now, and CHEN expected the industry may revive in 5 to 10 years. He added, Taiwan has strong talents on materials and hence should be expected to lead the industrial development in the globe.

Further Information:

[NCKU Research Express 2011/08/12](#) (Chinese)

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