JMSJ 論文賞受賞者のことば

JMSJ とは、日本数学会の出版する学術雑誌 Journal of the Mathematical Society of Japan の略称です. JMSJ 論文賞(The JMSJ Outstanding Paper Prize)は，授賞年前年の JMSJ に掲載された論文のうち特に優れたもの（3 篇以内）の著者に贈られる賞です. 2017 年 JMSJ 論文賞は以下の 1 篇に贈られました.

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受賞者のことば：

We both are delighted and honored to have received the Outstanding Paper Prize. It adds to our happiness that this distinction comes from the Japanese Mathematical Society, because for over eighty years now Japanese mathematics has played a special role in our larger subject, complex analysis and geometry. Our paper
that the Society judged worthy has also been directly inspired by Japanese mathematics, an amazing theorem that Ohsawa and Takegoshi found in the 1980s, a result that has not ceased to fascinate complex analysts ever since. For this reason, and because perhaps not all readers of Sugaku Tushin are familiar with this story, we hope that in this acknowledgement we will be permitted to review at least a few instances of the decisive role that Japanese mathematicians have played in the development of complex analysis and geometry.

The beginnings of the story go back to the 1930s. By then Behnke and Thullen in Germany have clearly delineated the central problems of the young subject of complex analysis of several variables; but nobody had any idea how to attack those problems. Nobody, that is, except Oka. Oka as a young man in his thirties not only realized the importance of the problems, but devised a program to solve them. It took him some fifteen years to accomplish his program. More than that, right from the beginning he had an unparalleled vision that the solutions of the problems would surpass the boundaries of complex analysis of several variables, and will be significant for other areas within mathematics. History proved him right. He planted the seeds of the theory of coherent sheaves, without which fields such as contemporary algebraic geometry or number theory would be unimaginable.

In the 1940s–50s it was Kodaira's turn to revolutionize complex analysis and geometry. He took up certain heuristic ideas in algebraic geometry that Hodge had proposed in the 1930s, put them on firm footing, and exploited their full potential. The results he obtained were stunning. He showed that the global theory of systems of elliptic partial differential equations of second order—that he himself developed—is a powerful tool in the study of compact complex manifolds, in particular of projective algebraic manifolds. In analogy with Bochner's work in Riemannian geometry, he demonstrated how curvature can be played out to prove that certain differential equations relevant to complex analysis are solvable: in other words, that certain cohomology groups vanish. The identities of Kodaira, Akizuki, and Nakano are still the cornerstones of the vanishing theorems in complex analysis and geometry.

In our research we have been deeply influenced by the works and insights of Oka, Kodaira, Akizuki, and Nakano, but also, as said before, of their successors, Ohsawa and Takegoshi among others. It is clear none of this would have been possible without the commitment of the broader Japanese society to value intellectual. We greatly admire this, and see the prizes of the Japanese Mathematical Society—ours, and other prizes—as a sign thereof.

Thanks to the Society again,

B.B. and L.L.