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Structural Insights into SARS Coronavirus Proteins. Zihe Rao, Tsinghua Univ., Inst. of Biophysics, CAS Joint Research Group for Structural Biology, Beijing, 100084 China.

Zihe Rao's group has been active in SARS basic research since the 2003 global outbreak, and was the first to determine the crystal structure of a key replicase protein encoded by the SARS coronavirus (SARS-CoV) – the main protease or M^{pro} – and its complex with an inhibitor. His group has since made a number of important breakthroughs in SARS research, major achievements include: wide spectrum inhibitor design targeting coronavirus M^{pro}; the elucidation of the autocleavage mechanism of coronavirus M^{pro}; the structures of the spike (S) protein fusion cores from SARS-CoV and MHV; the structure of the super-complex between two SARS non-structural proteins, nsp7 and nsp8; the dodecamer structure of the SARS non-structural protein nsp10; and the hexamer structure of the MHV non-structural protein nsp15, an endoribonuclease. With more than 18 protein and complex structures from SARS-CoV and related coronaviruses to date, Zihé Rao's group has provided important structural insights into coronavirus replication/transcription.