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**Novel Nanostructures Created by Supercritical Fluid Processing of Polymers**<sup>1</sup> RAHMI OZISIK, KUMIN YANG, TONG LIU, Rensselaer Polytechnic Institute — The foaming of polymers using supercritical fluids has been studied extensively and is still the topic of ongoing research. The sudden thermodynamic instability caused by rapid depressurization induces a drop in the gas solubility and produces small cells in large numbers. Novel structures were created using carbon dioxide as the supercritical fluid with polystyrene and polycarbonate. These structures have nanometer length scales and were previously not observed. In addition, the effect of nanoparticles on nucleation and cells were investigated.

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