question: what do sand, rice, and jelly beans have in common?
answer: they are all granular materials (they consist of grains in contact and surrounding voids).

my name is david kirszenblat and over the summer of 2008/09 i took part in the vacation scholarship program. i worked on a six week project with the mgm (micromechanics of granular media) group, under the supervision of associate professor antoinette tordesillas. my research topic was deformation of granular materials.

so how do granular materials deform?

let’s take a good example – sand. if you grab some sand and squeeze it in the palm of your hand, it will change shape or deform. how does it deform? – well, it doesn’t deform because each grain of sand gets squashed! instead, it deforms because grains of sand rearrange.

looking back on the experience

i found the vacation scholarship program to be highly rewarding, and would encourage other keen maths students to apply. i gained a taste for research in applied mathematics and was fortunate to attend the annual anziam (the professional association for industrial and applied mathematics in australia and new zealand) conference held in caloundra, queensland. there we had the privilege of attending talks by applied mathematicians, scientists and engineers, and were able to present our own work.