Figure 23: Simulation from a spherical distribution using the stochastic representation. First we simulate independently $n$ times from the uniform distribution on the unit sphere to obtain $\mathbf{s}_1, \ldots, \mathbf{s}_n$ (above, left). Then, we multiply each sample by $A$ to get the points $A\mathbf{s}_1, \ldots, A\mathbf{s}_n$ (above, right). Next, we simulate $r_1, \ldots, r_n$ from the distribution of $R$ to obtain $r_k A\mathbf{s}_k$ for $k = 1, \ldots, n$ (below, left). Finally we add $\boldsymbol{\mu}$ to obtain $\mathbf{x}_k = \boldsymbol{\mu} + r_k A\mathbf{s}_k$ for $k = 1, \ldots, n$ (below, right).