## Simple Particle Swarm Optimization as a description of society

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## **April** 2019

## 1 Introduction

test

$$\begin{aligned} x_i(0) &\in \mathbb{R}^n \\ v_i(0) &= \vec{0} \\ v_i(t+1) &= \begin{cases} c_c r_1 [p_{best} - x_i(t)] + \\ \omega v_i(t) + c_s r_2 [g_{best} - x_i(t)] + \\ c_r r_3 [\Phi - x_i(t)] \end{cases} \\ x_i(t+1) &= x_i(t) + v_i(t+1) \end{aligned}$$