

# SPARTA: A Parallel, Flexible, Open-source DSMC Code

Steve Plimpton & Michael Gallis  
Sandia National Labs  
sjplimp@sandia.gov & magalli@sandia.gov

DSMC15 Short Course  
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slides available at: <http://sparta.sandia.gov/tutorials.html>



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# Welcome

- **Steve Plimpton**
  - 25 years at Sandia, Center for Computing Research
  - computational science, HPC and parallel computing
  - co-developer of several open-source packages
- **Michael Gallis**
  - 17 years at Sandia, Engineering Sciences Center
  - 25 years working with DSMC algorithms & codes
- Management support for SPARTA in ES Center
  - Dan Rader, Basil Hassan, Steve Kempka, Justine Johannes

# Tell us about you

- What are your backgrounds?
- What do you want to learn from this short course?

# Outline of short course

- 1:00-2:00 Intro and SPARTA basics (Plimpton)
- 2:00-2:45 Physical models (Gallis)
- 2:45-3:00 SPARTA advanced topics - part I (Plimpton)
- 3:00-3:15 **break**
- 3:15-3:45 SPARTA advanced topics - part II (Plimpton)
- 3:45-4:15 Validation & verification (Gallis)
- 4:15-4:45 How to modify/extend SPARTA  
for your applications (Plimpton)
- 4:45-5:00 Future directions (group discussion)