

Mini-school on Nuclear Reaction Theories for Nuclear Astrophysics

University of Surrey, January 7th -9th, 2009

Wednesday January 7th: 13.30 – 17.00

13.30 - 15.00 and 15.30 - 17.00: Lectures, (Room: 35AC04)

15.00 – 15.30 Coffee/Discussions

Topics covered:

- 1) *Potential models, bound and continuum states (Tostevin, Surrey)*
- 2) *R-matrix methods I (Descouvemont, ULB Belgium)*

17.00 - 17.30 Topical application, (Room: 35AC04)

Ed Simpson (Surrey): R-matrix applied to simultaneous data sets

Thursday January 8th: 9.00 – 12.30

9.00 - 10.30 and 11.00 - 12.30: Lectures, (Room: 35AC04)

10.30 - 11.00, Coffee/Discussion

Topics covered:

- 3) *R-matrix methods II (Descouvemont, ULB Belgium)*
- 4) *Radiative capture (Timofeyuk, Surrey)*

13.30 - 15.00 and 15.30 - 17.00: Lectures, (Room: 35AC04)

15.00-15.30 Coffee/Discussions

Topics covered:

- 5) *Distorted wave theories (Thompson, LLNL)*
- 6) *Role of breakup in transfer reactions (Johnson, Surrey)*

17.00 - 18.00 Topical applications: (Room: 35AC04)

Wilton Catford (Surrey): What do experimentalists doing transfer really want from friendly theorists?

Natasha Timofeyuk (Surrey): Combined method to extract spectroscopic factors from transfer reactions

19.00 (TBA) Gathering for dinner in Guildford (Delegates support themselves)

Friday January 9th: 9.30 – 13.00

9.30 - 11.00 and 11.30 - 13.00: Lectures, (Room: 35AC04)

11.00 - 11.30, Coffee/Discussion

Topics covered:

- 7) *Fusion reactions (Thompson, LLNL)*
- 8) *Breakup and knockout reactions (Tostevin, Surrey)*

13.00 Sandwich lunch and end of school (Physics, Room 30BB03)

Local Organizers:

[Natasha Timofeyuk](#) (Room 15BB03)

[Jeff Tostevin](#) (Room 09BB03)

Physics Office: (Cristobel Soares-Smith, Room 06BB03)