

TRIQS Summer School 2023



Report of Contributions

Contribution ID: 5

Type: **not specified**

Many-Body Refresher

Tuesday, August 29, 2023 8:30 AM (1h 30m)

Second quantization
Hubbard model
Evolution operators
Green functions
Self-Energy
Coherent state functional integrals

Presenter: TREMBLAY, André-Marie (Université de Sherbrooke)

Contribution ID: 6

Type: **not specified**

Many-Body Refresher

Tuesday, August 29, 2023 10:30 AM (1h 30m)

Second quantization
Hubbard model
Evolution operators
Green functions
Self-Energy
Coherent state functional integrals

Presenter: TREMBLAY, André-Marie (Université de Sherbrooke)

Contribution ID: 7

Type: **not specified**

Basic Tutorials

Tuesday, August 29, 2023 4:30 PM (2 hours)

Presenters: HAMPEL, Alexander (CCQ); WENTZELL, Nils (CCQ); PARCOLLET, Olivier (CCQ); BECK, Sophie (CCQ)

Contribution ID: **8**

Type: **not specified**

Basic Tutorial + IPT

Test description

Presenter: WENTZELL, Nils (CCQ)

Contribution ID: 9

Type: **not specified**

Dynamical Mean-Field Theory (DMFT)

Wednesday, August 30, 2023 8:30 AM (1h 30m)

Correlation Effects in Solids
Spectral Function
Luttinger Ward Functional
DMFT Self-Consistency
Effective Impurity Action

Presenter: GEORGES, Antoine (CCQ-Flatiron Institute and College de France)

Contribution ID: **10**

Type: **not specified**

Dynamical Mean-Field Theory (DMFT)

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Correlation Effects in Solids

Spectral Function

Luttinger Ward Functional

DMFT Self-Consistency

Effective Impurity Action

Presenter: GEORGES, Antoine (CCQ-Flatiron Institute and College de France)

Contribution ID: **11**

Type: **not specified**

DMFT Tutorials

Wednesday, August 30, 2023 2:00 PM (2 hours)

Presenters: HAMPEL, Alexander (CCQ); WENTZELL, Nils; PARCOLLET, Olivier (CCQ); BECK, Sophie (CCQ)

Contribution ID: 12

Type: **not specified**

DMFT Tutorials

Wednesday, August 30, 2023 4:30 PM (2 hours)

Presenters: HAMPEL, Alexander (CCQ); WENTZELL, Nils; PARCOLLET, Olivier (CCQ); BECK, Sophie (CCQ)

Contribution ID: 13

Type: **not specified**

Introduction to Monte Carlo Methods

Thursday, August 31, 2023 8:30 AM (1h 30m)

Stochastic integration
Importance sampling
Markov chain Monte Carlo
Detailed balance and ergodicity
Metropolis-Hastings algorithm
Variance estimate
Illustration on the 2d Ising model

Presenter: FERRERO, Michel (CNRS)

Contribution ID: 14

Type: **not specified**

Introduction to Abinitio DMFT

Thursday, August 31, 2023 10:30 AM (1h 30m)

DFT+DMFT Workflow
Correlated Subspace
Impurity Solvers
Observables/Post-Processing

Presenter: BECK, Sophie (CCQ)

Contribution ID: 15

Type: **not specified**

Abinitio DMFT Tutorial

Thursday, August 31, 2023 2:00 PM (2 hours)

Presenters: HAMPEL, Alexander (CCQ); WENTZELL, Nils; PARCOLLET, Olivier (CCQ); BECK, Sophie (CCQ)

Contribution ID: 16

Type: **not specified**

Abinitio DMFT Tutorial

Thursday, August 31, 2023 4:30 PM (2 hours)

Presenters: HAMPEL, Alexander (CCQ); WENTZELL, Nils; PARCOLLET, Olivier (CCQ); BECK, Sophie (CCQ)

Contribution ID: 17

Type: **not specified**

Two-particle response

Friday, September 1, 2023 10:30 AM (1h 30m)

Response Functions
Lindhard Susceptibility
Random-Phase Approximation
Two-Particle-Self-Consistent Approach

Presenter: STRAND, Hugo (Örebro University)

Contribution ID: **19**

Type: **not specified**

School Intro / Welcome

Tuesday, August 29, 2023 8:15 AM (15 minutes)

Contribution ID: **20**

Type: **not specified**

TRIQS Intro & Basic Tutorials

Tuesday, August 29, 2023 2:00 PM (2 hours)

Presenters: HAMPEL, Alexander (CCQ); WENTZELL, Nils; PARCOLLET, Olivier (CCQ); BECK, Sophie (CCQ)

Contribution ID: 21

Type: **not specified**

Continuous-time Quantum Monte Carlo

Friday, September 1, 2023 8:30 AM (1h 30m)

Anderson impurity model
Quantum Monte Carlo and the fermionic sign problem
Perturbation series for the partition function
Introduction to the CT-INT solver
Monte Carlo implementation

Presenter: FERRERO, Michel (CNRS)

Contribution ID: 22

Type: **not specified**

Two-particle response Tutorial

Friday, September 1, 2023 2:00 PM (2 hours)

Presenters: HAMPEL, Alexander (CCQ); STRAND, Hugo (Örebro University); WENTZELL, Nils; PARCOLLET, Olivier (CCQ); BECK, Sophie (CCQ)

Contribution ID: 23

Type: **not specified**

Two-particle response Tutorial

Friday, September 1, 2023 4:30 PM (2 hours)

Presenters: HAMPEL, Alexander (CCQ); STRAND, Hugo (Örebro University); WENTZELL, Nils; PARCOLLET, Olivier (CCQ); BECK, Sophie (CCQ)

Contribution ID: 24

Type: **not specified**

Poster Session

Tuesday, August 29, 2023 7:45 PM (1 hour)