

# Case Study Groups

- 10 predefined groups of 7 (before 3 cancellations)
- Each group assigned one of 5 projects
- Work wherever you feel most comfortable
- Some time in the program; feel free to do more!
- Presentations by each group on the last day

# Case Studies

1. Design an ERL-FEL for 10 kW average power at 13.5 nm
2. Design a normal conducting X-ray FEL at 1 Angstrom. Optimize for output energy, facility length and power consumption
3. Design a three stage HGHG cascade to reach 1 nm
4. Design a compact ERL for a THz-FEL oscillator
5. Design the transport and FEL line for an electron beam from a Plasma injector

# Case Study Groups 1 and 2

## Case Study 1

Design an ERL-FEL for 10 kW average power at 13.5 nm

### Group 1

Andre	Thomas	Soleil Synchrotron
Borissenko	Dennis	DESY
Brynes	Alexander	Science & Technology Facilities Council
Celcer	Tine	PSI
Dinter	Hannes	DESY
Dittert	Dominique	TU Darmstadt
Fabich	Adrian	CERN

### Group 2

Birkhan	Jonny	TU Darmstadt
Domont-Yankulova	Dilyana	Accelerator Technology group (TEMF)
Dorda	Ulrich	DESY
Englisch	Uwe	XFEL GmbH
Karabekyan	Suren	European XFEL GmbH
Kostin	Denis	DESY
Zhao	Quantang	PITZ, DESY

# Case Study Groups 3 and 4

## Case Study 2

Design a normal conducting X-ray FEL at 1 Angstrom

### Group 3

Fang	Shaobo	Chinese Academy of Sciences
Felber	Matthias	DESY
Gobbo	Alexandre	PSI
Gruen	Christian	DESY
Heil	Philipp	Johannes Gutenberg Universitaet Mainz
Hessler	Christoph	CERN

### Group 4

Bettoni	Simona	PSI
Hein	Lutz	Johannes Gutenberg-Universitat Mainz
Lorbeer	Bastian	DESY
Hellert	Thorsten	DESY
Herbert	Maximilian	TU Darmstadt
Huang	Xiyang	Institute of High Energy Physics
Kaertner	Franz	DESY

# Case Study Groups 5 and 6

## Case Study 3

Design a three stage HGHG cascade to reach 1 nm

### Group 5

D'Alessio	Antonio	TU Darmstadt
Friebel	Florence	CERN
Geng	Zheqiao	PSI
Kruger	Hilmar	DESY
Li	Yuhui	the European XFEL GmbH
Maag	Christoph	DESY
Shayeganrad	Gholamreza	Center for Synchrotron Radiation

### Group 6

Kinjo	Ryota	RIKEN
Lang	Tino	DESY
Lazzarino	Leslie Lamberto	University of Hamburg
Lechner	Christoph	DESY
Liu	Shan	DESY
Lockmann	Nils	DELTA / TU Dortmund
Pfarr	Jonas	TU Darmstadt

# Case Study Groups 7 and 8

## Case Study 4

Design a compact ERL for a THz-FEL oscillator

### Group 7

Li	Peng	European XFEL
Mueller	Florian	DESY
Panofski	Eva	Helmholtz-Zentrum Berlin
Pfingstner	Juergen	University of Oslo
Plath	Tim	University of Hamburg
Rodriguez Fernandez	Angel	PSI

### Group 8

Boedewadt	Joern	DESY
Kammering	Raimund	DESY
Ledroit	Ben	Johannes Gutenberg-Universitaet Mainz
Petralia	Alberto	ENEA Frascati
Saa-Hernanddez	Angela	PSI
Sanaye Hasari	Shahin	IPM
Schmeisser	Martin	Helmholtz-Zentrum Berlin

# Case Study Group 9 and 10

## Case Study 5

Design the transport and FEL line for an electron beam from a Plasma injector

### Group 9

Sichau	Jonas	Center for Hybrid Nanostructures (Univ of Hamburg)
Simon	Daniel	Institut fuer Kernphysik
Steinhorst	Manuel	TU Darmstadt
Stengler	Timo	Johannes Gutenberg-Universitaet Mainz
Sulimov	Alexey	DESY
Yarmohammadi	Masoomeh	IPM
Zhou	Chun	Center for Free-Electron Laser Science (CFEL)

### Group 10

Stoll	Christian	Johannes Gutenberg-Universitaet Mainz
Tarkeshian	Roxana	PSI
Ushakov	Andriy	Helmholtz Zentrum Berlin
Wei	Tao	European XFEL GmbH
Winkelmann	Lutz	DESY
Wissmann	Jan	Institut fuer Kernphysik
Wolff-Fabris	Frederik	European XFEL GmbH