

# “Solar Energy” lecture schedule – WS 2014/2015

| EAS Hörsaal, Geb.11.10 Raum 107                                  | LTi Hörsaal, Geb. 30.34                                                            |
|------------------------------------------------------------------|------------------------------------------------------------------------------------|
| Tue 21 Oct 2014                                                  | Thu 23 Oct 2014                                                                    |
| Lecture 1: Introduction                                          | Lecture 2: Solar Radiation                                                         |
| Tue 28 Oct 2014                                                  | Thu 30 Oct 2014                                                                    |
| Lecture 3: Semiconductor Basics                                  | Lecture 4: p–n Junction Diodes + Ideal Solar Cell Operation                        |
| Tue 4 Nov 2014                                                   | Thu 6 Nov 2014                                                                     |
| Tutorial #1: Sun, Semiconductors & <i>p-n</i> junctions          | Lecture 5: Operation of Real Silicon Solar Cells + Design of Silicon Solar Cells   |
| Tue 11 Nov 2014                                                  | Thu 13 Nov 2014                                                                    |
| Lecture 6: High-Efficiency Silicon Solar Cells (Dr. Goldschmidt) | Lecture 7: Fabrication of Silicon Solar Cells + Thin-Film PV – Inorganic #1 (c-Si) |
| Tue 18 Nov 2014                                                  | Thu 20 Nov 2014                                                                    |
| Tutorial #2: Silicon Solar Cells                                 | Lecture 8: Thin-Film PV – Inorganic #1 (a-Si)                                      |
| Tue 25 Nov 2014                                                  | Thu 27 Nov 2014                                                                    |
| Lecture 9: Thin-Film PV – Inorganic #3 (CIGS + CdTe)             | Lecture 10: Thin-Film PV – Excitonic #1 (Dr. Howard)                               |
| Tue 2 Dec 2014                                                   | Thu 4 Dec 2014                                                                     |
| Tutorial #3: Inorganic Thin-Film Solar Cells                     | Lecture 11: Thin-Film PV – Excitonic #2 (Dr. Howard)                               |
| Tue 9 Dec 2014                                                   | Thu 11 Dec 2014                                                                    |
| <del>Lecture 12: Third Generation PV #1</del>                    | Lecture 13: Third Generation PV #1 & #2                                            |
| Tue 16 Dec 2014                                                  | Thu 18 Dec 2014                                                                    |
| Tutorial #4: Excitonic Solar Cells                               | Lecture 14: PV Modules                                                             |
| Tue 23 Dec 2014                                                  | Thu 25 Dec 2014                                                                    |
| NO LECTURE                                                       | NO LECTURE                                                                         |
| Tue 6 Jan 2015                                                   | Thu 8 Jan 2015                                                                     |
| NO TUTORIAL                                                      | Lecture 15: PV System Components #1                                                |
| Tue 13 Jan 2015                                                  | Thu 15 Jan 2015                                                                    |
| Lecture 16: PV System Components #2                              | Lecture 17: PV: Environmental Aspects, Energy Payback Time & Life Cycle Cost       |
| Tue 20 Jan 2015                                                  | Thu 22 Jan 2015                                                                    |
| Tutorial #5: Third Gen PV and PV Systems                         | EXCURSION – Fraunhofer ISE (Freiburg)                                              |
| Tue 27 Jan 2015                                                  | Thu 29 Jan 2015                                                                    |
| Lecture 19: PV in Developing Countries                           | Lecture 18: Solar Thermal                                                          |
| Tue 3 Feb 2015                                                   | Thu 5 Feb 2015                                                                     |
| Tutorial #6: Solar Thermal                                       | Lecture 20: Solar Fuels (Dr. Redel)                                                |
| Tue 10 Feb 2015                                                  | Thu 12 Feb 2015                                                                    |
| Lecture 21: Energy Scenarios                                     | Lecture 22: Review                                                                 |