

P ... plenary lectures (all students), St ... student presentations,  
B ... specialised lectures



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**Sunday 14/09/2025**

18:00 student registration  
18:00 optional: Get-together of all lecturers  
20:00 welcome reception (bar)  
20:30 welcome dinner

**Monday 15/09/2025**

|       |       |                                                                         |                                                                                                                   |
|-------|-------|-------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------|
| P.01  | 08:30 | Welcome and General Introduction                                        | Robert Steinberger-Wilckens (U Bham)                                                                              |
|       | 09:00 | Sustainable and Renewable Energy Future                                 | Jens Oluf Jensen (DTU)                                                                                            |
|       | 09:45 | coffee break                                                            |                                                                                                                   |
| P.02  | 10:00 | Introduction to Fuel Cells and Electrolysis                             | Robert Steinberger-Wilckens (U Bham)                                                                              |
|       | 11:15 | break                                                                   |                                                                                                                   |
| P.03  | 11:30 | Thermodynamics and Efficiency of Electrochemical Cells                  | Jens Oluf Jensen (DTU)                                                                                            |
|       | 13:00 | lunch                                                                   |                                                                                                                   |
| P.04  | 16:00 | Introduction to Battery Technology                                      | Hans Kungl (FZJ)                                                                                                  |
|       | 17:30 | coffee break                                                            |                                                                                                                   |
| P.05  | 17:45 | PowerTalk - Panel discussion on the evolution of the 'hydrogen economy' | moderated by Robert Steinberger-Wilckens (U Bham) with John Bøgild Hansen, Sune Ebbesen and Shangfeng Du (U Bham) |
| P.06  | 19:15 | Introduction to the Students' Project                                   |                                                                                                                   |
|       | 20:00 | dinner                                                                  |                                                                                                                   |
| St.01 | 21:00 | Students' Introductions I                                               | n.n.                                                                                                              |

**Tuesday 16/09/2025**

|       |       |                                                                                    |                                                     |
|-------|-------|------------------------------------------------------------------------------------|-----------------------------------------------------|
| B.01  | 08:30 | History of Batteries and their application (Materials I)                           | Karin Kleiner (INRS-UQTR)                           |
|       | 09:45 | coffee break                                                                       |                                                     |
| B.02  | 10:00 | All Solid State Li-Ion Batteries                                                   | Hans Kungl (FZJ)                                    |
|       | 11:15 | break                                                                              |                                                     |
| B.03  | 11:30 | Li-Ion Batteries: Performance Evaluation and Material Types                        | Hans Kungl (FZJ)                                    |
|       | 13:00 | lunch                                                                              |                                                     |
| P.07  | 16:00 | Characterisation Methods for Fuel Cell, Electrolyser and Battery Materials         | Shangfeng Du (U Bham)                               |
|       | 17:15 | coffee break                                                                       |                                                     |
| P.08  | 17:30 | Industry presentation: Catalysis, CO <sub>2</sub> valorisation & Hydrogen Industry | John Bøgild Hansen (ex-Topsoe) and Hans Kungl (FZJ) |
|       | 18:45 | break                                                                              |                                                     |
| St.02 | 19:00 | Student Q&A session with John Bøgild Hansen (ex-Topsoe)                            | all lecturers & students                            |
|       | 20:00 | dinner                                                                             |                                                     |
| St.03 | 21:00 | Students' Introductions II                                                         | n.n.                                                |

**Wednesday 17/09/2025**

|      |       |                                                                     |                           |
|------|-------|---------------------------------------------------------------------|---------------------------|
| B.04 | 08:30 | Modern Batteries (Materials II)                                     | Karin Kleiner (INRS-UQTR) |
|      | 09:45 | coffee break                                                        |                           |
| B.05 | 10:00 | Spectroscopy and Diffraction – advanced characterisation techniques | Karin Kleiner (INRS-UQTR) |
|      | 11:15 | break                                                               |                           |
| B.06 | 11:30 | Cell and Pack Designs for Batteries                                 | Sébastien Martinet (CEA)  |
|      | 13:00 | lunch                                                               |                           |
|      | 14:00 | excursion                                                           |                           |
|      | 21:00 | dinner                                                              |                           |

**Thursday 18/09/2025**

|              |       |                                                                                      |                                                                                                                          |
|--------------|-------|--------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------|
| P.09         | 08:30 | Atomistic Modelling in fuel cell, electrolyser and battery research                  | Arghya Bhowmik (DTU)                                                                                                     |
|              | 09:45 | coffee break                                                                         |                                                                                                                          |
| B.07         | 10:00 | Manufacturing of Batteries                                                           | Sébastien Martinet (CEA)                                                                                                 |
|              | 11:15 | break                                                                                |                                                                                                                          |
| B.08         | 11:30 | System Technology and Safety for Batteries                                           | Sébastien Martinet (CEA)                                                                                                 |
|              | 13:00 | lunch                                                                                |                                                                                                                          |
| B.09         | 16:00 | Transport Modelling of Batteries                                                     | Arghya Bhowmik (DTU)                                                                                                     |
|              | 17:15 | coffee break                                                                         |                                                                                                                          |
| B.10         | 17:30 | Degradation of Li-ion Batteries                                                      | Boryann Liaw (FZJ)                                                                                                       |
|              | 18:45 | break                                                                                |                                                                                                                          |
| St.04 / P.10 | 19:00 | Student project time (coaching) /alternative/ Beyond hydrogen: e-fuels and chemicals | all lecturers & students / Robert Steinberger-Wilckens (U Bham) & John Bøgild Hansen (ex-Topsoe) & Sune Ebbesen (Topsoe) |
|              | 20:00 | dinner                                                                               |                                                                                                                          |

**Friday 19/09/2025**

|       |       |                                                  |                                                               |
|-------|-------|--------------------------------------------------|---------------------------------------------------------------|
| B.11  | 08:30 | Beyond Lithium - Resource-Efficient Batteries    | Arghya Bhowmik (DTU)                                          |
|       | 09:45 | coffee break                                     |                                                               |
| B.12  | 10:00 | Challenges of future application (Materials III) | Karin Kleiner (INRS-UQTR)                                     |
|       | 11:15 | break                                            |                                                               |
| P.12  | 11:30 | industry presentation t.b.c.                     | t.b.c.                                                        |
|       | 13:00 | lunch                                            |                                                               |
| St.05 | 16:00 | Optional ECTS exams                              |                                                               |
|       | 16:45 | coffee break                                     |                                                               |
| St.06 | 17:00 | Students' Project Presentations                  | Jens Oluf Jensen (DTU) & Robert Steinberger-Wilckens (U Bham) |
| P.13  | 19:00 | Farewell session                                 | Robert Steinberger-Wilckens (U Bham)                          |
|       | 20:30 | farewell dinner                                  |                                                               |