Academic Clinical Lung Cancer Research in Europe

ESMO-Asia 2015
Rolf A. Stahel
Methodology

• Direct contact with European collaborative groups for information on ongoing trials

• Presentation “Development of oncology platforms in lung cancer across Europe” at ELCC2015 in Geneva

• Supplementary trial information retrieved from ClinicalTrials.gov

• ETOP meeting 2015 in Zürich

• Selection criteria:
  - NSCLC, SCLC, mesothelioma
  - interventional trials (including radiation therapy)
  - currently recruiting or not yet recruiting trials
  - European, non-industry sponsors
### Advanced NSCLC

**Phase III – 1st line, not biomarker selected**

<table>
<thead>
<tr>
<th>Study</th>
<th>Description</th>
<th>Primary endpoint</th>
<th>Sample size</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>MILES-3:</strong></td>
<td>Gemcitabine vs gemcitabine plus cisplatin in elderly patients (≥70 years) with advanced NSCLC (<a href="https://clinicaltrials.gov/ct2/show/NCT01405586">NCI Naples</a>)</td>
<td>Overall survival</td>
<td>480 pts</td>
</tr>
<tr>
<td><strong>MILES-4:</strong></td>
<td>Gemcitabine or pemetrexed, with or without cisplatin, in elderly patients with non-squamous NSCLC (<a href="https://clinicaltrials.gov/ct2/show/NCT01656551">NCI Naples</a>)</td>
<td>Overall survival</td>
<td>550 pts</td>
</tr>
<tr>
<td><strong>SPLENDOUR:</strong></td>
<td>Addition of denosumab to standard first-line anticancer treatment in advanced NSCLC (<a href="https://clinicaltrials.gov/ct2/show/NCT02129699">ETOP / EORTC</a>)</td>
<td>Overall survival</td>
<td>1000 pts</td>
</tr>
</tbody>
</table>
A randomised, open-label phase III trial evaluating the addition of denosumab to standard first-line anticancer treatment in advanced NSCLC

Sample size: 1000

Primary endpoint: Overall survival
Participating Countries

- United Kingdom
- Ireland
- Germany
- Belgium
- Switzerland
- France
- Spain
- Poland
- Czech Republic
- Austria
- Hungary
- Slovenia
- Italy
- Israel

Total
- 9 activated countries
- 52 activated sites

Country Status
- Under ETOP Umbrella
- Under EORTC Umbrella
- To be activated
- To be activated

Accrual curve (as of 31 October 2015) – Registered Patients

Accrual of study 08111

- Theoretical
- Study

Expected today: 129
Observed today: 240

**Advanced NSCLC**

**Phase II – 1st line, not biomarker selected**

<table>
<thead>
<tr>
<th>Study</th>
<th>Primary endpoint</th>
<th>Sample size</th>
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<tbody>
<tr>
<td><strong>Randomised</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CEDAR: Gemcitabine/carboplatin first-line chemotherapy +/- apatorsen in advanced squamous cell lung cancers (Queen Mary University of London) [NCT02423590].</td>
<td>Progression-free survival</td>
<td>140 pts</td>
</tr>
<tr>
<td>NVALT12: Paclitaxel-carboplatin-bevacizumab with or without nitroglycerin patches in patients with stage IV NSCLC (NVALT) [NCT01171170].</td>
<td>Progression-free survival</td>
<td>222 pts</td>
</tr>
<tr>
<td>GFPC 02-2013 CHIC: whole brain radiotherapy (WBRT) followed by chemotherapy vs exclusive chemotherapy in patients with advanced non-squamous NSCLC with asymptomatic inoperable brain metastases (GFPC) [NCT N/A].</td>
<td>Disease-free survival</td>
<td>50 pts</td>
</tr>
<tr>
<td><strong>Single arm</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CHIVA: Carboplatin plus pemetrexed in HIV+ patients with stage III or IV nonsquamous NSCLC (IFCT) [NCT01296113].</td>
<td>Disease control after 4 cycles</td>
<td>62 pts</td>
</tr>
</tbody>
</table>
**Advanced NSCLC**

**Phase III – Maintenance, not biomarker selected**

<table>
<thead>
<tr>
<th>Study Details</th>
<th>Primary endpoint</th>
<th>Sample size</th>
</tr>
</thead>
<tbody>
<tr>
<td>IDA: Maintenance <a href="https://www.ncbi.nlm.nih.gov/pubmed/26429968">pemetrexed</a> therapy after induction chemotherapy vs pemetrexed at progression in advanced NSCLC (Norwegian University of Science and Technology) [NCT02004184].</td>
<td>Overall survival</td>
<td>436 pts</td>
</tr>
<tr>
<td>IFCT-GFPC-1101: Strategies for <a href="https://www.ncbi.nlm.nih.gov/pubmed/26429968">pemetrexed</a> maintenance in advanced stage NSCLC (IFCT) [NCT01631136].</td>
<td>Overall survival</td>
<td>932 pts</td>
</tr>
<tr>
<td>IFCT-1201 – MODEL: Maintenance with <a href="https://www.ncbi.nlm.nih.gov/pubmed/26429968">pemetrexed</a> or <a href="https://www.ncbi.nlm.nih.gov/pubmed/26429968">gemcitabine</a> or surveillance in non-progressing elderly patients (≥70 years) with advanced NSCLC controlled by induction chemotherapy (IFCT) [NCT01850303].</td>
<td>Overall survival</td>
<td>549 pts</td>
</tr>
</tbody>
</table>
## Advanced NSCLC

**Randomized phase II – Maintenance, not biomarker selected**

<table>
<thead>
<tr>
<th>Study</th>
<th>Primary endpoint</th>
<th>Sample size</th>
</tr>
</thead>
<tbody>
<tr>
<td>MA.NI.LA: Maintenance low dose oral vinorelbine in patients with NSCLC (IRCCS Milano) [NCT02176369].</td>
<td>Progression-free survival</td>
<td>120 pts</td>
</tr>
<tr>
<td>PIN: Efficacy and tolerability olaparib in maintenance vs placebo in chemosensitive advanced NSCLC. (Cardiff, UK) [NCT01788332].</td>
<td>Progression-free survival</td>
<td>114 pts</td>
</tr>
</tbody>
</table>
### Advanced NSCLC: Randomized phase II – 2nd and later line, biomarker selected

<table>
<thead>
<tr>
<th>Study</th>
<th>Goal</th>
<th>Primary endpoint</th>
<th>Sample size</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>GOAL</strong>: Gefitinib in combination with olaparib vs gefitinib alone, in patients with EGFR+ advanced NSCL (GECP/SLCG) [NCT01513174].</td>
<td>Maximum tolerated dose</td>
<td>186 pts</td>
<td></td>
</tr>
<tr>
<td><strong>LADIE</strong>: Gefinitib or erlotinib (EGFR-TKI) vs gefinitib or erlotinib with fulvestrant in women with advanced stage EGFR+ NSCLC (IFCT) [NCT01556191].</td>
<td>Progression-free survival</td>
<td>358 pts</td>
<td></td>
</tr>
<tr>
<td><strong>National lung matrix trial</strong>: multi-drug, genetic marker-directed, non-comparative, multi-arm trial in NSCLC (Birmingham, UK) [NCT N/A].</td>
<td></td>
<td>410 pts</td>
<td></td>
</tr>
<tr>
<td><strong>SAFIR02 Lung</strong>: Efficacy of targeted drugs guided by genomic profiles in metastatic NSCLC (IFCT) [NCT02117167].</td>
<td>Progression-free survival</td>
<td>650 pts</td>
<td></td>
</tr>
<tr>
<td><strong>In development</strong>: Activity of alectinib for pretreated RET-rearranged advanced NSCLC patients (ETOP/EORTC/CGM – SPLECTAlung) [NCT N/A].</td>
<td>Overall response</td>
<td>36 pts</td>
<td></td>
</tr>
</tbody>
</table>
SAFIR 02 lung-IFCT1301

Biopsy metastatic site:
Next generation sequencing
Array CGH

N= 230

Molecular alteration
Excluding EGFR+/ALK+

R 2:1

Pemetrexed if Non-SCC

EGFR TKI if SCC

No PD

Followed up but not included

metastatic NSCLC first line chemotherapy

Chemotherapy
4-6 cycles

No alteration

N= 650

All histologies

Ethics approval Sept 2013; ANSM approval Oct 2013
Biomarker A: Drug A
Biomarker B: Drug B
Biomarker C: Drug C
Biomarker D: Drug D
Biomarker E: Drug E
Biomarker F: Drug F
Biomarker etc: Drug etc

Pre-screening
NGS sequencing
MATRIX Lung Study

- Currently upto 2000 NSCLC patients screened per year
- Utilising DNA from routine FFPE biopsies
- 28 gene multiplexed NGS panel; detects mutations, deletions, CNV and DNA rearrangement
- National screening to national trial

- Phase 2a signal finding study
- 8 drugs, 21 stratified arms to begin with
- Sponsored by the University of Birmingham
- CI Professor Gary Middleton,
- Coordinated by Birmingham CRCTU
- Centralised pharmacy & recruitment across 18 ECMCs
- Rolling protocol, capable of incorporating new arms
BOOSTER: Osimertinib with or without bevacizumab for mEGFR with T790M+ NSCLC

Study design: Multicentre, randomized, open label, phase II trial, ETOP sponsored

Primary objectives: To assess safety and efficacy of osimertinib in combination with bevacizumab versus AZD9291 monotherapy

Primary endpoint: Progression-free survival

Sample size: 154 randomized patients
## Advanced NSCLC: Single arm phase II – 2\textsuperscript{nd} and later line, biomarker selected

<table>
<thead>
<tr>
<th>Study</th>
<th>Primary endpoint</th>
<th>Sample size</th>
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</thead>
<tbody>
<tr>
<td><strong>EUCROSS</strong>: Crizotinib in advanced adenocarcinoma of the lung harbouring IOS1 translocations (<a href="#">University of Cologne, Germany</a>)[NCT02183870].</td>
<td>Objective response</td>
<td>30 pts</td>
</tr>
<tr>
<td><strong>NICHE</strong>: Afatinib in pre-treated patients with advanced NSCLC harbouring <em>HER2</em> exon 20 mutations (<a href="#">ETOP</a>)[NCT02369484].</td>
<td>Disease control at 12 weeks</td>
<td>22 pts</td>
</tr>
<tr>
<td><strong>NVALT-16 – IRENE</strong>: re-administration of gefitinib to EGFRm NSCLC patients, pretreated with at least one line of TKIs followed by another line of treatment (non-TKI) (<a href="#">VU University Medical Center, Netherlands</a>)[NCT02025218].</td>
<td>Disease control</td>
<td>92 pts</td>
</tr>
</tbody>
</table>
### Advanced NSCLC: Phase II – 2nd and later line, not biomarker selected

#### Randomised

<table>
<thead>
<tr>
<th>Primary endpoint</th>
<th>Sample size</th>
</tr>
</thead>
<tbody>
<tr>
<td>NVALT 10: Erlotinib compared to single agent chemotherapy and erlotinib combination in pretreated patients with advanced NSCLC (NVALT) [NCT00835471].</td>
<td>Progression-free survival</td>
</tr>
</tbody>
</table>

#### Single arm

<table>
<thead>
<tr>
<th>Primary endpoint</th>
<th>Sample size</th>
</tr>
</thead>
<tbody>
<tr>
<td>REFRACT: Nintedanib plus docetaxel in second line of treatment in patients with non-squamous NSCLC refractory to first line chemotherapy (GFPC) [NCT N/A].</td>
<td>Disease-free survival</td>
</tr>
</tbody>
</table>
## Locally advanced NSCLC: Randomized – Multimodality questions

<table>
<thead>
<tr>
<th>Phase III</th>
<th>Primary endpoint</th>
<th>Sample size</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>LUNG ART</strong>: Post-operative conformal radiotherapy (PORT) to no post-operative radiotherapy in patients with completely resected NSCLC and mediastinal N2 involvement (Gustave Roussy) [NCT00410683].</td>
<td>Disease-free survival</td>
<td>700 pts</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Phase II</th>
<th>Primary endpoint</th>
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</thead>
<tbody>
<tr>
<td><strong>REMNANT</strong>: Neoadjuvant afatinib in early stage EGFR+ NSCLC (EORTC) [NCT02470065].</td>
<td>Decrease in ct stage at 8 weeks</td>
<td>38 pts</td>
</tr>
</tbody>
</table>
Completely resected NSCLC with mediastinal histologically or cytologically proven nodal involvement.

- Adjuvant CT
- R
- Pre-op and/or Post-op CT

Control

Post-operative conformal RT (54 Gy)

Primary end-point: Disease-free survival

CI Cecile Le Pechoux
<table>
<thead>
<tr>
<th>Study</th>
<th>Intervention</th>
<th>Primary endpoint</th>
<th>Sample size</th>
</tr>
</thead>
<tbody>
<tr>
<td>NICOLAS:</td>
<td>Anti-PD1 nivolumab consolidation after standard first-line chemotherapy and radiation therapy in locally advanced stage NSCLC (ETOP) [NCT02434081].</td>
<td>Grade ≥3 pneumonitis at 6 month</td>
<td>43 pts</td>
</tr>
<tr>
<td>SAKK 16/08:</td>
<td>Preoperative chemotherapy and radiotherapy concomitant to cetuximab in NSCLC patients with IIIB disease (SAKK) [NCT01059188].</td>
<td>Progression-free survival</td>
<td>69 pts</td>
</tr>
<tr>
<td>SAKK 16/14:</td>
<td>Anti-PD-L1 antibody MEDI4736 in addition to neoadjuvant chemotherapy in patients with operable stage IIIA NSCLC (SAKK) [NCT N/A].</td>
<td>Event-free survival at 12 month</td>
<td>68 pts</td>
</tr>
</tbody>
</table>
A feasibility trial evaluating anti-PD1 nivolumab consolidation after standard first-line chemotherapy and radiotherapy in locally advanced stage IIIA/B NSCLC

Primary Endpoint: grade ≥3 pneumonitis
Sample Size: 43 patients
Locally advanced NSCLC: Phase II – Radiotherapy questions

<table>
<thead>
<tr>
<th>Study</th>
<th>Primary endpoint</th>
<th>Sample size</th>
</tr>
</thead>
<tbody>
<tr>
<td>GFPC 01-14: Study of the efficacy of SBRT after chemoradiotherapy on unresectable peripheral primary tumour (GFPC) [NCT02400424].</td>
<td>Local control rate</td>
<td>70 pts</td>
</tr>
<tr>
<td><strong>Isotoxic IMRT:</strong> Isotoxic intensity modulated radiotherapy (IMRT) in stage III NSCLC - a feasibility study (Christie Hospital NHS) [NCT01836692].</td>
<td>Number of participants treated with IMRT</td>
<td>35 pts</td>
</tr>
<tr>
<td><strong>ELDAPT:</strong> Primary therapy according to geriatric assessment (Maastricht Radiation Oncology) [NCT02284308].</td>
<td>Quality adjusted survival</td>
<td>300 pts</td>
</tr>
</tbody>
</table>
ELDAPT: Elderly With Locally Advanced Lung Cancer: Deciding Through Geriatric Assessment on the Optimal Treatment Strategy

Eligible patients: Age ≥75 years Stage III NSCLC

Part I: Geriatric assessment

- Frail patients
  - Physician’s discretion
- Fit patients
  - Radiochemotherapy
  - Part II: Randomisation in Phase III trial
    - Sequential RCHT
    - Concurrent RCHT

Primary endpoint: Quality-adjusted survival

Intensified treatment with CRT results in better outcome with preserved quality of life in a subgroup of medically fit elderly stage III patients.

How to select this “medically fit” subgroup of elderly patients?
Early NSCLC
Radiotherapy questions

<table>
<thead>
<tr>
<th>Phase III</th>
<th>Primary endpoint</th>
<th>Sample size</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>SABRTooth</strong>: Comparing stereotactic ablative radiotherapy (SABR) with surgery in patients with peripheral stage I NSCLC considered to be at higher risk of complications from surgical resection (University of Leeds, NHS) [NCT N/A].</td>
<td></td>
<td>54 pts</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Phase II - Single arm</th>
<th>Primary endpoint</th>
<th>Sample size</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>LungTech</strong>: Stereotactic body radiotherapy (SBRT) of inoperable centrally located NSCLC (EORTC) [NCT01795521].</td>
<td>Effectiveness of SBRT</td>
<td>150 pts</td>
</tr>
</tbody>
</table>
A study to determine the feasibility and acceptability of conducting a phase III randomised controlled trial comparing stereotactic Ablative Radiotherapy (SABR) with surgery in patients with peripheral stage I non-small cell lung cancer (NSCLC) considered to be at higher risk of complications from surgical resection.

- **Average recruitment rate per month over formal monitoring period**
  - 21 month recruitment period (target 54 patients)
    - 6 month run-in period (May 15 – Oct 15)
    - 15 month formal monitoring period (Nov 15 – Jan 17)
- Average of 3 patients per month must be recruited over a consecutive 15 month period (a minimum of 45 patients)

- ✓ Provide evidence that recruitment targets for the main trial can be met within an adequate timeframe
- ✓ Provide evidence that clinician’s are willing to recruit, and patients are willing to be randomised into a trial of SABR vs surgery

CI Kevin Franks
## SCLC: Phase III

<table>
<thead>
<tr>
<th>Study</th>
<th>Primary endpoint</th>
<th>Sample size</th>
</tr>
</thead>
<tbody>
<tr>
<td>GFPC 01-2013 study</td>
<td>Efficacy of topotecan vs carboplatin/etoposide in 2nd line SCLC (GFPC) [NCT N/A].</td>
<td>Disease-free survival</td>
</tr>
<tr>
<td>HA-PCI: Prophylactic cranial irradiation with or without hippocampal avoidance in SCLC (The Netherlands Cancer Institute) [NCT01780675].</td>
<td>Neurocognitive decline</td>
<td>168 pts</td>
</tr>
<tr>
<td>RASTEN: Standard Treatment with or without enoxaparin in SCLC (Lund University Hospital, Sweden) [NCT00717938].</td>
<td>Significant increase of overall survival</td>
<td>390 pts</td>
</tr>
</tbody>
</table>
**Chemo-Radiotherapy:**
cis-/carboplatin + etoposide
4 cycles

**Tumour evaluation:**
- PD no
- RT yes
- off

**Consolidation vs observation:**
- induction
- maintenance
  - combination nivolumab/ipilimumab
  - nivolumab
  - max 1 year

**RT (Thoracic Radiotherapy):**
- accelerated schedule preferred
  - start: day 1 of chemo cycle 1
  - or day 1 of chemo cycle 2

**CT scans for tumour assessment**
- up to 18 months: every 9 weeks
- up to 2 years: every 12 weeks
- years 3 & 4: every 6 months
- at 5 years

**Biomaterial for translational research:**
- Serum
- Whole blood
- Biopsy: FFPE block or slides

**At progression:**
- Voluntary re-biopsy: → FFPE block

**Co-primary endpoints:** PFS & OS

**Sample Size:** 260 randomized patients
**SCLC: Phase II**

**Randomised**

<table>
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<tr>
<td><strong>STIMULI</strong>: Consolidation of nivolumab plus ipilimumab in limited stage SCLC after chemo-radiotherapy (<a href="NCT02046733">ETOP/IFCT</a>).</td>
<td>Overall survival and progression-free survival</td>
<td>260 pts</td>
</tr>
<tr>
<td><strong>THORA</strong>: Two schedules of hyperfractionated thoracic radiotherapy in limited disease SCLC (<a href="NCT02041845">Norwegian University of Science and Technology</a>).</td>
<td>2-Year survival</td>
<td>154 pts</td>
</tr>
</tbody>
</table>

**Single arm**

<table>
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<tr>
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<th>Sample size</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>SAKK 15/12</strong>: Early hippocampal avoidance prophylactic cranial irradiation (PCI) in patients with limited disease SCLC (<a href="NCT02058056">SAKK</a>).</td>
<td>Neurocognitive functioning</td>
<td>42 pts</td>
</tr>
</tbody>
</table>
## Mesothelioma

### Phase III

<table>
<thead>
<tr>
<th>Study</th>
<th>Primary endpoint</th>
<th>Sample size</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>PIT</strong>: Prophylactic irradiation of tracts in patients with malignant pleural mesothelioma (<a href="#">Christie Hospital NHS, UK</a>) [NCT01604005].</td>
<td>Maximum tolerated dose</td>
<td>374 pts</td>
</tr>
<tr>
<td><strong>PROMISE-ME</strong> (in development): Pembrolizumab vs standard chemotherapy for advanced pretreated malignant pleural mesothelioma (<a href="#">ETOP</a>) [NCT N/A].</td>
<td>Progression-free survival</td>
<td>142 pts</td>
</tr>
</tbody>
</table>

### Phase II - Single arm

<table>
<thead>
<tr>
<th>Study</th>
<th>Primary endpoint</th>
<th>Sample size</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>MESO-02</strong>: Ganetespib with platinum, in patients with malignant pleural mesothelioma (<a href="#">University College, London</a>) [NCT01590160].</td>
<td>Maximum tolerated dose</td>
<td>24 pts</td>
</tr>
</tbody>
</table>
PROMISE-ME Pembrolizumab in advanced pretreated malignant pleural mesothelioma

Study design: Multicentre, randomised, phase III trial, ETOP sponsored

Primary objectives: To assess safety and efficacy of pembrolizumab versus standard chemotherapy in MPM

Primary endpoint: Progression-free survival (based on independent radiological review)

Sample size: 142 randomized patients

Stage III–IV MPM

One previous line of chemotherapy

Pembrolizumab 200mg flat dose i.v. day 1 of each 3-week cycle

Chemotherapy by institutional choice

* Experimental arm: continuation in case of clinical benefit, until PD by immune response criteria.
### Platform Studies

<table>
<thead>
<tr>
<th>Study</th>
<th>Primary endpoint</th>
<th>Current sample size</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>CPCT-02</strong>: Center for personalized cancer treatment. DNA-based cancer research. Next generation sequencing technology to map genetic changes (<a href="https://www.clinicaltrials.gov/ct2/results?searchTerm=CPCT-02">The Netherlands</a>)</td>
<td>Observational</td>
<td>1240 pts</td>
</tr>
<tr>
<td><strong>Network Genomic Medicine</strong>: Genomics-based classification of human lung tumours. Clinical trial program covering nearly all genotypes (<a href="https://www.clinicaltrials.gov/ct2/results?searchTerm=Network+Genomic+Medicine">University Cologne, Germany</a>)</td>
<td>Observational</td>
<td>4000 pts</td>
</tr>
<tr>
<td><strong>SPECTAlung</strong>: Screening patients with thoracic tumours for efficient clinical trial access (<a href="https://www.clinicaltrials.gov/ct2/results?searchTerm=SPECTAlung">EORTC / ETOP</a>)</td>
<td>Observational</td>
<td>3500 pts</td>
</tr>
<tr>
<td><strong>TRACERx</strong>: Tracking NSCLC evolution through therapy (Rx). Sequencing study of NSCLC from diagnosis to relapse (<a href="https://www.clinicaltrials.gov/ct2/results?searchTerm=TRACERx">Cancer research UK</a>)</td>
<td>Observational</td>
<td>842 pts</td>
</tr>
</tbody>
</table>
18 SPECTAlung participating sites

**Ireland**
Sanjay Popat – Royal Marsden

**UK**
Sanjay Popat – Royal Marsden

**France**
Benjamin Besse – Gustave Roussy
Julien Mazieres - Hôpital Larrey

**Netherlands**
Egbert Smit - VU University Medical Center

**Germany**
Martin Reck - Center of Pneumology and Thoracic Surgery of Grosshansdorf

**Switzerland**
Rolf Stahel – University Hospital of Zurich
Solange Peters – University of Lausanne

**Belgium**
Thierry Berghmans - Institute Jules Bordet
Johan Vansteenkiste - Institute KU Leuven
Jan Van Meerbeeck - Antwerpen University Hospital

**Spain**
Enriqueta Felip – Vall d’Hebron University Hospital
Luis Paz-Ares - Hospital Universitario Doce de Octubre

**Italy**
Silvia Novello – University of Turin
Andrea Ardizzoni - S. Orsola-Malpighi Hospital

**Slovenia**
Tanja Cufer – University Clinic Golnik

**Denmark**
P. Meldgaard - Aarhus University Hospital

**Poland**
Rafal Dziadziusko – Medical University of Gdansk

★ Central Biobank
Gustave Roussy
Cancer Campus

EORTC
etop Information | Research

The future of cancer therapy
UK-wide Sequencing study of NSCLC from diagnosis to relapse
- Aim to sequence > 6000 exomes (500x) in 842 patients
- Tracking the clonal evolution of tumours

Multi-region sequencing of primary tumours
- Stages I-III A eligible for surgical resection

Relapse biopsy cohort

Longitudinal sampling
- Circulating biomarkers, e.g. cfDNA & CTCs
- Immunological biomarkers, e.g. TILs & TCR phosphopeptides
Belgium
Leuven: J. Vansteenkiste, E. Verbeken, C. Dooms, L. Vliegen

Denmark
Aarhus: P. Meldgaard, L.B. Madsen

Greece
ETOP Statistical Center, Frontier Science Hellas: U. Dafni, Z. Tsourti

Germany
Heidelberg: H. Dienemann, A. Warth, T. Muley

Ireland
Dublin: S. Finn, S. Gray, K. Gately

Italy
Chieti: A. Marchetti, F. Buttitta, A. Di Lorito

Poland
Gdansk: R. Dziadziusko, W. Biernat, A. Sejda, A. Wrona

Spain
Barcelona: E. Felip, J. Hernandez-Losa, I. Sansano, M. T. Salcedo, M. Canela
Badalona: R. Rosell, M.A. Molina
Valencia: C. Camps, M. Martorell, M.C. Calabuig, E. Jantus-Lewintre

Switzerland
Basel: L. Bubendorf, S. Savic
Zurich: W. Weder, V. Tischler, A. Soltermann

The Netherlands
Amsterdam VUMC: E. Thunnissen, E. Smit
Amsterdam NKI: P. Baas, K. Monkhorst
Maastricht: A.-M. Dingemans, E.-J. M. Speel

United Kingdom
Aberdeen: K.M. Kerr, N. Price, M. Nicolson

Beyond Europe:
China
Shanghai Chest Hospital: S. Lu, Z. Jie, Q. Tan

USA
Roswell Park Cancer Institute: A. Adjei, R. Cheney, M. Reid

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iBiobank usage

and more to come...

**PD-L1 (IHC)**

**RANK/RANKL (IHC)**

**PIK3CA (FISH)**

**PTEN (IHC)**

**Multiplex Mutation** (AKT, BRAF, EGFR, ERBB2, FLT3, HRAS, JAK2, KIT, KRAS, MET, MYD88, NRAS, PIK3CA)

**MET (IHC, SISH)**

**ALK (IHC, FISH, RT-PCR)**

**ETOPdata**

(demographics, histopathology, outcome)
Thank you for listening!