International Lithosphere Program
Annual Report 2012

* The ILP-homepage provides information on all aspects of ILP: http://www.scl-ilp.org/
REPORT OF ILP – INTERNATIONAL LITHOSPHERE PROGRAM

1. TITLE OF CONSTITUENT BODY AND NAME OF REPORTERS

Prof. Dr. Sierd Cloetingh, President (Utrecht University)
Prof. Dr. Roland Oberhänslsi, Secretary General (Universität Potsdam)
Dr. Alexander Rudloff, Executive Secretary (GFZ Potsdam)

ILP – an IUGS and IUGG initiative established by ICSU (International Council of Scientific Unions) in 1980

2. OVERALL OBJECTIVES

The International Lithosphere Program (ILP) seeks to elucidate the nature, dynamics, origin and evolution of the lithosphere through international, multidisciplinary geoscience research projects and coordinating committees.

The ILP is charged with promoting multidisciplinary research projects of interest to both the geological (IUGS) and geophysical (IUGG) communities.

The ILP seeks to achieve a fine balance between: “addressing societal needs”, e.g. understanding natural catastrophes and other solid earth processes that affect society and the biosphere, providing information for improved hazard assessment, resource exploration, geo-medicine and environmental protection; as well as “satisfying scientific curiosity”.

According to the Terms of Reference published in 2008 and renewed in 2011 ILP is a body of IUGG and IUGS.

3. FIT WITHIN IUGS AND IUGG POLICY

- IUGS and IUGG are represented in the ILP Bureau.
- ILP cooperates with IUGS and IUGG on the follow-up initiatives to the International Year of Planet Earth (IYPE); the ILP President was a member of the board of IYPE Corporation. In this context ILP was leading the IYPE theme Deep Earth, published in a special brochure and, in addition, is financially supporting IYPE. ILP will take the lead in representing solid earth sciences in the future Planet Earth Institute.
- Now ILP takes again part in the forefront of development of new solid earth initiatives in research and its disseminations. The ILP president is a member of the Board of the new Earth Science Matters initiative.

1 Roland Oberhänslsi was elected as IUGG president during the 34th ICG in Brisbane, August 2012. Magdalena Scheck-Wenderoth from GFZ was jointly appointed by IUGG and IUGS as his successor. This appointment started 1 January 2013 and will end 31 December 2016.
4. ORGANISATION

ILP has an international Bureau with members from several countries that meet annually to monitor progress and to select new programmes and activities in close consultation with the representatives of National Committees. The Bureau is chaired by the President, with support from the Secretary General.

The Bureau was restructured during the Bureau meeting in Vienna on 20 April 2009. As new chair person for the National Committees Dr. Victoria L. Pease was elected. During the Bureau meeting 2010 in Vienna Sierd Cloetingh was re-elected as President and Professor Hans Thybo was nominated as a new associate Bureau member.

Bureau membership

<table>
<thead>
<tr>
<th>Executive Members:</th>
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<tbody>
<tr>
<td>President: S. Cloetingh Netherlands</td>
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<tr>
<td>Secretary General: R. Oberhansli Germany</td>
</tr>
<tr>
<td>with Executive Secretary: A. Rudloff Germany</td>
</tr>
<tr>
<td>Chairperson – Committee of National Representatives: V.L. Pease Sweden</td>
</tr>
</tbody>
</table>

| Honorary President: A. Green Switzerland |
| ILP Fellow: J.F.W. Negendank Germany |

| Representatives of IUGG & IUGS: |
| D. Jackson USA IUGG |
| K. C. Sain India IUGG |
| J. Charvet France IUGS |
| Y. Tatsumi Japan IUGS |
| A. Green Switzerland IUGS & IUGG |

| Associate Members: |
| J.-P. Burg Switzerland |
| H. Thybo Denmark |
| A. Morozov Russia |
| F. Roure France |
| M. Zoback USA |
| P. Mc Keever UNESCO |

| Lifetime Members: |
| P. Ziegler Switzerland |
| M. von Knorring Sweden |
| H. Gupta India |

The Bureau members evaluate submitted projects (task forces, coordinating committees, workshops) and decide on their approval according to the criteria of ILP.

EXTENT OF SUPPORT FROM SOURCES OTHER THAN IUGS AND IUGG

ILP is basically financed by IUGS and IUGG (each 15,000 US $ up to 2008). In 2012 IUGS lowered its support substantially. The Bureau could raise funds via the national committees and other bodies from the participating countries (e.g. National Science
Foundations, Academies; see list of contributing countries 2011 and earlier). As a result France became a supporting member of ILP in 2009. During 2010 several efforts in raising national support and acquainting new member countries were undertaken. In this context the Arab Emirates, Jordan and Saudi Arabia were approached, but funding needs still to be realised. The head of the national committees initiated systematic efforts to contact additional countries. The payment from the different national science foundations is still very heterogeneous as to be been from the following table.

ILP is greatly indebted to the GFZ German Research for Geosciences at Potsdam for its continuing and long-lasting support.

**Voluntary contributions:**

<table>
<thead>
<tr>
<th>Country/Institution</th>
<th>Contribution 2011:</th>
<th>Contribution 2012:</th>
</tr>
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<tbody>
<tr>
<td>China</td>
<td>2,000.00 US $ (2012)</td>
<td>2,000.00 US $ (2013)</td>
</tr>
<tr>
<td>Czech Republic</td>
<td>400.00 US $</td>
<td>400.00 US $</td>
</tr>
<tr>
<td>Denmark</td>
<td>2,000.00 US $</td>
<td>2,000.00 US $</td>
</tr>
<tr>
<td>Finland</td>
<td>1,000.00 US $</td>
<td>1,000.00 EUR</td>
</tr>
<tr>
<td>France</td>
<td>5,000.00 US $ (2010)</td>
<td>5,000.00 EUR</td>
</tr>
<tr>
<td></td>
<td>5,000.00 US $ (2011)</td>
<td></td>
</tr>
<tr>
<td>Germany</td>
<td>5,000.00 EUR (2010)</td>
<td>5,000.00 EUR (2011)</td>
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<td></td>
<td>5,000.00 EUR (2012)</td>
<td></td>
</tr>
<tr>
<td>India</td>
<td>2,000.00 EUR (2010)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>2,000.00 EUR (2011)</td>
<td></td>
</tr>
<tr>
<td>Netherlands (ISES)</td>
<td></td>
<td>5,000.00 EUR</td>
</tr>
<tr>
<td>Sweden</td>
<td></td>
<td>4,173.24 US $</td>
</tr>
<tr>
<td>Switzerland</td>
<td>2,000.00 EUR</td>
<td>2,000.00 EUR</td>
</tr>
<tr>
<td>Taiwan</td>
<td></td>
<td>700.00 US $</td>
</tr>
<tr>
<td>USA</td>
<td>8,000.00 US $</td>
<td>8,000.00 US $</td>
</tr>
<tr>
<td>IUGG</td>
<td>15,000.00 US $</td>
<td>15,000.00 US $</td>
</tr>
<tr>
<td>IUGS</td>
<td>15,000.00 US $</td>
<td>11,000.00 US $</td>
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<tr>
<td><strong>Total:</strong></td>
<td><strong>53,400.00 US $</strong></td>
<td><strong>43,273.24 US $</strong></td>
</tr>
<tr>
<td></td>
<td><strong>11,000.00 EUR</strong></td>
<td><strong>23,000.00 EUR</strong></td>
</tr>
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In the future ILP will make further special effort towards emerging countries and will intensify its partnership with industry.

### 4. INTERFACE WITH OTHER INTERNATIONAL PROJECTS

ILP stimulates and supports the Task Forces and Regional Coordinating Committees with 4,000 US $ or the equivalent sum in € per year over a period of 5 years. This basic support (“seed money”) is used by the project leaders to raise additional funds for their scientific activities, while there is a strong existing interface with other projects (e.g. ICDP, TOPO-EUROPE, TOPO-CENTRAL ASIA, TerMeX).
5. MAIN ACCOMPLISHMENTS IN 2012

ADMINISTRATION

- Bureau meeting of ILP, Vienna, Austria, 23 April 2012

Minutes of the ILP Bureau Meeting during the EGU General Assembly 2012, Austria, 23 April 2012

18:00 h – 19:50 h, Austria Centre Vienna, Room SM1

Attendees, see Annex 1

<table>
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<tr>
<th>Agenda</th>
<th>ILP Bureau Meeting</th>
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<tr>
<td></td>
<td>EGU European Geosciences Union - General Assembly</td>
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<td></td>
<td>Vienna, Austria, 23 April 2012</td>
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1 Welcome and Report of the President
2 Report of the Secretary General
3 Report on ESM, IGC Brisbane, etc.
4 Reports from the Task Forces and Coordinating Committees
5 Flinn Hart Award 2011 – Ceremony
6 Any other business

Welcome and Report of the President
- The delegates were welcomed by ILP President Cloetingh; the meeting agenda was adopted without changes. The President gave a short report on accomplishments of ILP.
- More than 35 scientists attended the ILP bureau meeting, representing Austria, Belgium, the Czech Republic, Denmark, Finland, France, Germany, Italy, Japan, Mexico, the Netherlands, Poland, Slovenia, Sweden, Switzerland, Turkey, and the United States. Representatives from ESM, IASPEI, ICDP, IUGG, IUGS, and NSF were also present.
- The president underlined that the quality of reporting within ILP has to meet the same level as of the scientific activities. The ILP office introduced a template for support. Last year reports to IUGS and IUGG received significant and valuable remarks.
- ILP was present during the celebration of 25 years of IGCP at UNESCO in Paris.
- ILP will be active and visible during IGC 2012 in Brisbane as it was at IUGG 2011 in Melbourne.
Report of the Secretary General (SG)

- SG Oberhäuserli gave a short statement on the financial situation of ILP.
- He stated that the situation of ILP is stable. Nevertheless, the annual support to the Task Forces and Coordinating Committees cannot be increased. Supplementary financial support, either by enlarged engagement of existing sponsors or new ones is highly welcome. The support by the national committees should be increased, as well as the national voluntary contributions to ILP’s annual budget.
- The SG outlined again the importance of the chair of the national committees and the national delegates.

Report on Earth Science Matters Initiative (ESM)

- Wolfgang Eder reported on the activities of the ESM initiative, formerly known as IYPE or PEI. ILP was one of the founding partners, represented by its president. The general goal of ESM is to “bring knowledge of the earth to everyone”.

Reports of the Task Forces and Coordinating Committees

- The attending leaders of the ILP Task Forces gave short reports on their activities: V. Pease (TF I), A. Tibaldi (TF II), W. Faryad on behalf of L. Dobrzhinetskaya (TF IV), U. Achauer (TF V), M. Scheck-Wenderoth (TF VI), P. Agard (TF IX), and B. Horsfield (TF X). The reports for M. Bohnhoff (TF III), O. Heidbach (TF VI) are summarized by the Executive Secretary. The attending leaders of the ILP Coordinating Committees continued hereafter: ICDP: B. Horsfield, TOPO-Europe: S. Cloetingh, TOPO-Central Asia: Y. Rojas-Agramonte on behalf of Q. Wang, MEDYNA: C. Garrido, and for DYNAQLIM: M. Poutanen.
- In the following discussion the importance of strengthening links with other global initiatives was stressed by ILP’s Executive Secretary. The linkage to other active bodies and entities, like IASPEI, IAVCEI still can be optimised. The ES also encouraged the Task Force and Coordinating Committee leaders to show the ILP flag, when publishing or organising workshops, sessions, etcetera.
- Alik Ismail-Zadeh and Hans Thybo recommended a broader view of geo-scientific topics. This may result in a higher attraction to more participants from other continents such as Asia, Africa and the Americas.

Flinn Hart Award 2011

- Magdala Tesauro was given ILP’s Flinn Hart Award for 2011 in recognition of her outstanding contributions to solid earth sciences. She received a diploma from the President.

Due to a conflicting schedule the President had to leave the meeting. The Secretary General took over the chair.

All other business

- The next (European) ILP bureau meeting will be held at the EGU General Assembly 2013 (Monday, 8 April 2013 - 18:00).
- All delegates are invited to submit suggestions for the Flinn-Hart-Award 2012.
- The next TOPO Europe meeting is scheduled for September 2012, in Istanbul/TURKEY.

Alexander Rudloff, Executive Secretary of ILP
• **IUGS EC meeting in Brisbane, Australia, 26 June - 7 July 2012**

The SG of ILP attended the IUGS meetings held during the 34th IGC congress in Brisbane and gave the report on ILP to the assembly: R. Oberhänsli gave a short overview on the scientific achievements of ILP based on the above mentioned statements. The report was well accepted and besides the IUGS EC many delegates expressed their support for ILP and acknowledged its high visibility and strong scientific standing.

ILP SG Roland Oberhänsli was nominated as candidate for IUGS presidency by many European countries and from the Middle East to allow for open elections. He was elected President of IUGS in Brisbane and left his position as Secretary General during October 2012. By that time IUGS and IUGG both accepted ILP proposition to appoint Dr. Magdalena Scheck-Wenderoth as new Secretary General.

**SCIENCE AND RESEARCH**

This section compiles symposia and workshops that were organized under the auspi ces of ILP followed by a list of the most important publications. The full reports of the Task Forces are available on request.

• **EGU General Assembly, April 2012, Vienna**

During the 2012 meeting the following Task Forces organized sessions and special symposia:

**CC TOPO-EUROPE:** Union Symposium and ST/GM Session TOPO-EUROPE

**TF 1:** Session and Keynote at EGU “Arctic Lithosphere” - Drachev, Pease, & Stephenson


   “Physics and dynamics of magma ascent, emplacement, eruption and deposition in volcanic systems”, Conveners: O. Galland, J. Kavanagh, C. Annen, N. Le Corvec, S. Burchardt, G. Gisler, E. P. Holohan, M. Kervyn, G. A. Douillet, D. M. Doronzo

**TF 6:** “Basin Dynamics” (GD2.1/SSP5.5/TS4.8) Conveners: Magdalena Scheck-Wenderoth, Francois Roure.

**TF 5:** “The lithosphere-asthenosphere boundary (LAB) depth paradox” Conveners Ulrich Achauer and Jaroslava Plomerova et al.

**CC MEDYNA:** “Geodynamics of the Westernmost Mediterranean and Northwest Africa”

Moreover presentations of members of TF III, VII, CC TOPO-CENTRAL-ASIA in several sessions
• **34th International Geological Congress 2012, Brisbane** Australia:

  Other task forces present: CC TOPO-CENTRAL-ASIA

• **AGU Fall meeting 2012**
  TF 1: Session “Arctic Tectonics: From Basins to Mountain Belts”


  Other task forces present: CC TOPO-CENTRAL-ASIA, CC MEDYNA

• **SESEH 2012** Sino-European Symposium on Environment and Health, Galway, Ireland:
  “Session 6: Advanced Medical Mineralogy Short Course”, Chairs: M. Dogan, A.U. Dogan.

• **Annual meeting of the Seismological Society of America** (SSA San Diego 2012): **TF 3**

• **ECGS workshop on Earthquake Source physics on various scales** (Luxembourg), TF 3

• **Kashiwazaki Symposium on Seismic Monitoring of Nuclear Power Plants** (Kashiwazaki, Japan) (Invited Talk), TF 3

• **Geological Society of America Annual Meeting**; Charlotte, North Carolina, USA 4–7 November 2012.

• **CC TOPO-EUROPE Young Scientists workshops**, Bratislava, Slovak Republic, Utrecht the Netherlands, Istanbul, Turkey, Utrecht, the Netherlands
• 3rd international GeoQus Workshop August 2012: organized by TF 7,
• GEISER workshop on Induced Seismicity, June 2012, TF 7
• 9th international Inkaba yeAfrica workshop, November 2012: TF 6,7,10
• Workshop on Craton formation and destruction with special emphasis on BRICS Cratons, 2012 at Johannesburg. CC TOPO-CENTRAL-ASIA
• Helmholtz Alberta Initiative – 3rd HAI workshop in Edmonton, May 2012: TF VII
• 4th BBSPA Kiew Upstream & Investments Workshop, November 2012, Kiew, Ukraine TF 10
• AAPG GTW, May 2012, Warsaw, Poland-- TF 10
• AAPG Hedberg Research Conference, Petroleum Systems: Modeling the Past, Planning the Future. October, 2012, Nice, France-- TF 6, 10
• Bulgarian Energy Forum, December 2012, Sofia, Bulgaria-- TF 10
• EAGE-European Unconventional Resources Conference & Exhibition, March 2012, Vienna, Austria-- TF 10
• GEO2012, Middle East Geoscience Conference and Exhibition, March 2012, Bahrain—TF 10
• Geofluids Conference, June 2012, Rueil-Malmaison, France-- TF 6, 10
• Gordon Conference on Organic Geochemistry, July 2012, New Hampshire— TF 10
• IGEM Shale Gas Conference, March 2012, Durham, UK—TF 10
• International Conference GeoEnergy, October 2012, Potsdam, Germany—TF 3, 6, 10
• International Risk Governance Council Workshop, November 2012, Zürich, Switzerland,--TF 10
• Meeting Scientific Committee for Sinopec Key Laboratory, April 2012, Wuxi, China,—TF 10
• Reserve Estimation for Unconventional Resources EMEA, February 2012, London, UK, —TF 10
• Shale Gas Environmental Summit, October 2012, London, UK, —TF 10
• Shale Gas Workshop. February 2012, University of Port Elizabeth, South Africa
• Statoil Research Summit, Trondheim, Norway, —TF 10
• UGOS Unconventional Gas & Oil Summit, March2012, Warsaw, Poland, TF 10
• UK Shale Gas Summit, September 2012, London, UK—TF 10
• World Shale Gas Asia, July 2012, Singapore—TF 10
Publications:

**TF 1:**

**TF 2:**

**TF 3:**

**TF 4:**


Two Special Volumes to be issued in January 2013 (now available on-line):
(2) Gondwana Research (Eds: Farayd, W., Dobrzhinetskaya, L., Hoinkes, G., Zhang, J).

**TF 5:**


**TF 6:**


**TF 7:**


TF 10


CC TOPO-EUROPE


CC TOPO-CENTRAL-ASIA
Chen L., Concordant structural variations from the surface to the base of the upper mantle in the North China Craton and its tectonic implications, Lithos, 120, 96-115. 2010.


CC MEDYNA


- **Task Forces & Coordinating Committees in the realm of the major ILP themes:**

I. Geoscience of global change
   - TF 3: Bridging the gap from microseismicity to large earthquakes
   - TF 10: The Unconventionals

II. Contemporary dynamics and deep processes
   - TF 4: Continental Collisional Orogens: from Atomic Scales to Mountain Building
   - TF 8: Tracking supercells through Earth history
   - TF 9: DISC - Deep Into the Subduction Channel

III. Continental lithosphere
   - TF 1: CALE - Circum Arctic Lithosphere Evolution
   - TF 2: Volcanoes and society: environment, health and public outreach
   - TF 3: Bridging the gap from microseismicity to large earthquakes
   - TF 4: Continental Collisional Orogens: from Atomic Scales to Mountain Buildings
   - TF 5: LAPBOX - The lithosphere-asthenosphere boundary depth paradox
   - TF 6: Sedimentary Basins
   - TF 7: 3D Geomechanical modelling of geodynamic processes in the lithosphere

IV. Oceanic lithosphere
   - TF 1: CALE - Circum Arctic Lithosphere Evolution

**Coordinating Committees:**
   - TOPO-EUROPE
   - TOPO-Central Asia
   - DynaClim
   - MEDYNA - Mantle Dynamics and Plate Architecture Beneath North Africa

The activities are documented in the bibliography (see homepage and annex).
6. SUMMARY OF INCOME & EXPENDITURES IN 2012

Statement of Income and Expenditure for the period January 1st until December 31, 2012

INCOME 2012:

Annual contributions:

1. Annual contribution China (2013): (2,000.00 USD) 1,527.42 EUR
2. Annual contribution Czech Republic: (400.00 USD) 317.13 EUR
3. Annual contribution Denmark: (2,000.00 USD) 1,523.97 EUR
4. Annual contribution Finland: 1,000.00 EUR
5. Annual contribution France: 5,000.00 EUR
6. Annual contribution Germany (2011 + 2012): 10,000.00 EUR
7. Annual contribution Netherlands (ISES): 5,000.00 EUR
9. Annual contribution Switzerland: 2,000.00 EUR
10. Annual contribution Taiwan: (700.00 USD) 556.26 EUR
11. Annual contribution USA: (8,000.00 USD) 6,183.34 EUR
12. IUGS subvention: (11,000.00 USD) 8,397.04 EUR
13. IUGG subvention: (15,000.00 USD) 12,120.97 EUR

Sub-Total: 56,880.37 EUR

Miscellaneous income/Excess of former years:

Rest Euro account from 2011: 39,309.27 EUR
Rest Dollar account from 2011: 2,065.65 USD
Interests: 776.69 EUR

Total Income Dollar Account: 2,065.65 USD
Total Income Euro Account: 96,966.33 EUR
EXPENDITURE 2012

A / Scientific Activities

Workshop/Symposium support

Expenses relating to publications, etc.
- Layout and Print of new ILP-flyers: 2,225.30 EUR

Travel costs of Officers/Expenses relating to Bureau meetings
- Travel to Paris, Vienna, Joint booth 34th ICG, etc.: 3,944.05 EUR

Project Support/Task Force Support

Theme I: The Geoscience of Global Change
- M. Bohnhoff – Task Force III: 3,200.00 EUR
- B. Horsfield – Task Force X: 3,200.00 EUR

Theme II: Contemporary Dynamics and Deep Processes
- L. Dobrizhinskaya – Task Force IV: 3,200.00 EUR
- P. Agard – Task Force IX: 3,200.00 EUR

Theme III: Continental Lithosphere
- A. Tibaldi – Task Force II: 3,200.00 EUR
- U. Achauer – Task Force V: 3,200.00 EUR
- F. Roure – Task Force VI: 3,200.00 EUR
- O. Heidbach – Task Force VII: 3,200.00 EUR

Coordinating Committees (CC)
- S. Cloetingh – CC-1/3 Topo Europe: 3,200.00 EUR
- Q. Wang – CC-1/4 Topo-Asia: 3,200.00 EUR
- C. Garrido – CC-1/6 MEDYNA: 3,200.00 EUR

Edward A. Flinn-Pembroke J. Hart Award 2011
- Dr. Magdala Tesauro (5,000.00 USD) 3,855.00 EUR

Other support
- Partnership with Earth Science Matters Foundation: 5,000.00 EUR

Sub-Total Euro Account: 50,224.35 EUR

B / Administrative Expenses

- Expenses related to ILP secretariat: 60.00 EUR
  (homepage)
- Bank charges: 322.88 EUR

Sub-Total Euro Account: 382.88 EUR

Total Expenditure Euro Account: 50,607.23 EUR

Total Expenditure Dollar Account: 0.00 USD
Total Income Dollar Account: 2,065.65 USD
Total Expenditure Dollar Account: 0.00 USD
Dollar Account Balance: 2,065.65 USD

Total Income Euro Account: 96,966.33 EUR
Total Expenditure Euro Account: 50,607.23 EUR
Euro Account Balance: 46,359.10 EUR

Deposit: 36,889.14 EUR

Dollar Account: (2,065.65 US $) 1,562.76 EUR *
Euro Account: 46,359.10 EUR
Deposit: 36,889.14 EUR
Total: 84,811.00 EUR

*Exchange rate as of 31 December 2012

7. WORKPLAN FOR 2013

- IUGS EC Meeting Paris, 19-22 February 2013
- Publications in EOS, Episodes and Earth Science Reviews in preparation
- Advertising for new support by national science foundations and industry
- Several sessions with TF and CC contributions at EGU-GA Vienna, 2013
- Several workshops of individual task forces
- ILP Bureau meeting at EGU in Vienna, 8 April 2013 - 18:00

Potsdam, 31 January 2013

Sierd Cloetingh, Roland Oberhansli, Alexander Rudloff & Leni Scheck-Wenderoth