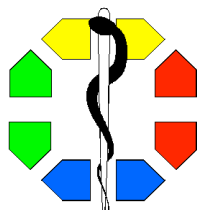


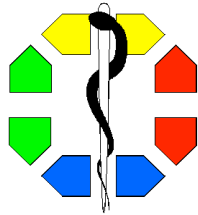
International Workshop on Fast Neutron Therapy in Essen on 14-16 September 2006



PROGRAMME



Universitätsklinikum Essen



Universitätsklinikum Essen

PROGRAMME FOR THE
**INTERNATIONAL WORKSHOP ON
FAST NEUTRON THERAPY**
ESSEN 14 - 16 SEPTEMBER 2006

Thursday 14 September 2006

0830 **Registration in the ground floor in the Pathology building in front of the Auditorium**

Welcome

0915 - Prof. W. Havers, Medical Director University Hospital Essen
 - Prof. M. Stuschke, Director Department of Radiotherapy

Opening Remarks

0925 Administrative brief: Wolfgang Sauerwein

Session 1: Overview and update from all centres

Chair: Sabet Hachem & Wolfgang Sauerwein

0930	Status report and developments at the neutron therapy facility at Fermi Lab	<i>Arlene Lennox</i>
0945	Hadron therapy at iThemba LABS	<i>Dan Jones</i>
1000	Status report and developments at the neutron therapy facility in Seattle	<i>Ruedi Risler</i>
1015	Coffee	
1040	Neutron Therapy Programs at Medical Radiological Research Center RAMS, Obninsk, Russia <i>(Franz Wagner presenting)</i>	<i>A. Tsyb, S. Ulianenko Yu. Mardinsky, I. Gulidov A. Sysoev, S. Koriakin A. Lichagin</i>
1050	Fast Neutron Therapy at Gershenson Radiation Oncology Center	<i>Mark Yudelev</i>
1105	Fast Neutron Therapy at Orleans <i>(Wolfgang Sauerwein presenting)</i>	<i>Noël Breteau</i>
1120	Discussion period	

1210	The Fast Neutron Therapy Facility in Essen	<i>Andrea Wittig Wolfgang Baumhoer Reinhard Hentschel W. Sauerwein, M. Stuschke</i>
1225	The new fission neutron irradiation facility MEDAPP at FRM II, Garching	<i>Franz Wagner Anton Kastenmüller Wolfgang Waschkowski</i>
1240	Discussion period	
1300	Lunch	
1400	Present Facilities at PTB for Neutron Dosimetry - What are the future demands?	<i>Ulrich Giesen</i>
1415	Facilities for neutron dosimetry and metrology at IRSN in Cadarache	<i>Carole Monnin-Parietti</i>
1430	Discussion period	

Session 2: Physics – Dosimetry Procedures

Chair: Ulrich Giesen & Jürgen Rassow

1505	Dosimetry procedures or: how big is the Gray at	
	<ul style="list-style-type: none"> • Fermi • iThemba 	<i>Arlene Lennox Dan Jones</i>
1525	Coffee	
1545	<ul style="list-style-type: none"> • Seattle • Detroit • Orleans (<i>Reinhard Hentschel presenting</i>) • Essen • Munich 	<i>Ruedi Risler Mark Yudelev Roland Sabattier Reinhard Hentschel Peter Kneschaurek</i>
1645	Discussion period	
1730	ECHED, is there any future?	<i>Rainer Schmidt</i>
1745	Visit to the Essen Cyclotron	
1900	Meet for drinks at Irish Pub “Fritzpatrick” at the corner Rüttenscheider Str. - Girardetstr.	

Friday 15 September 2006

Session 3: Physics – Aspects of measurement and new developments

Chair: Ivan Rosenberg & Mark Yudelev

0900	Measurement of thermal and fast neutron and photon dose around a CF-252 source	<i>Rainer Schmidt</i>
0915	Passive neutron spectrometry and dosimetry at LINAC facilities for medical radiotherapy	<i>Khalil Amgarou Carole Monnin-Parietti</i>
0925	Epithermal neutron-beam dosimetry applied to fast neutron therapy: Sense or nonsense?	<i>Finn Stecher-Rasmussen Jürgen Rassow Antoaneta Roca</i>
0940	Discussion period	
1010	Coffee	

Chair: Peter Kneschaurek & Rudi Risler

1030	Enhanced fast neutron therapy: dosimetric considerations	<i>Arlene Lennox</i>
1045	Multi Leaf Collimator for Neutron Therapy: beam characterisation	<i>Mark Yudelev</i>
1100	Intensity modulated fast neutron therapy	<i>Arlene Lennox</i>
1115	Discussion period	

Session 4: Mathematics for Treatment planning

Chair: Dan Jones & Finn Stecher-Rasmussen

1130	Mathematical approaches to model neutron beams	<i>Birgit Wortmann</i>
1200	Discussion period	
1215	Treatment planning systems for BNCT - are they applicable for fast neutron therapy?	<i>Sander Nievaart</i>
1230	Modelling the d(14)+Be fast neutron beam in Essen	<i>Reinhard Hentschel Josselin Morand Sabet Hachem Wolfgang Sauerwein</i>
1245	Discussion period	
1300	Lunch	

Session 5: Quality assurance

Chair: Jacobus Slabbert & Jeffrey Forman

- 1400 Radiological quality assurance (QA) procedure for clinical fast neutron beam *John Gueulette*
- 1415 Discussion period

Session 6: Radiobiology

High LET

- 1430 Radiobiology of high LET radiation *Gerard van den Aardweg
John Hopewell*
- 1500 Use of the concepts of maximum and minimum RBE in the radiobiological analysis of high-LET treatments *Roger Dale
Alejandro Carabe-Fernandez*
- 1530 Discussion period
- 1545 Coffee**
- 1605 Results of in vitro radiobiology experiments at Fermilab *Linda Yasui
Arlene Lennox*
- 1620 Effects of High LET (C-12) and Low LET (Co-60) irradiation on chromosomal aberrations of peripheral blood lymphocytes *Andrzej Wojcik,
Sylvester Sommer
Marta Deperas-Kaminska
Ray Moss, Wolfgang Sauerwein*

Beam intercomparison

Chair: Rainer Schmidt & Gerard van den Aardweg

- 1635 Radiological intercomparison of clinical fast neutron beams *John Gueulette*
- 1655 Discussion period

Neutron induced secondary cancer

- 1705 Estimation of carcinogenesis risk following radiotherapy *Liuba Coretskaia*
- 1720 Risk of second malignancy after mixed neutron/photon radiation *Jeffrey Forman*
- 1735 Discussion period
- 1930 Bus transfer to the steam brewery**
- 2000 Meet for drinks and buffet supper at Dampf-Bierbrauerei at Heinrich-Brauns-Strasse 9-15 (tel: 0201 63007-0)**

Saturday 16 September 2006

Session 7: Clinical discussions

Overall strategies

Chair: Sandra de Canha & Andrzej Wojcik

- | | | |
|------|------------------------------------------------------------------------------------------------|---------------------------------------------------------|
| 0900 | Clinical Experience and Proposed Protocols at NIU
Institute for Neutron Therapy at Fermilab | <i>K.R. Saroja</i>
<i>(Arlene Lennox presenting)</i> |
| 0915 | EBRT with Fast Neutrons at FRM II will start soon | <i>Birgit Loeper-Kabasakal</i> |
| 0930 | Discussion period | |

Clinical discussions - by disease

Salivary glands (adenoid cystic carcinoma)

- | | | |
|-------------|-------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------|
| 0940 | Salivary gland tumours treated with fast Neutron
therapy at iThemba LABS | <i>Clare Stannard</i>
<i>FJA Venimmen</i>
<i>DTL Jones, EA de Kock</i>
<i>EED Mills, CV Levin</i>
<i>S Fredericks, JJ Hille</i> |
| 0955 | Prognostic factors in adenoid cystic carcinoma
treated with fast neutrons. | <i>A. Krüll</i>
<i>R. Schwarz</i>
<i>S. Brackrock</i>
<i>K. Roeser, K. Donath</i> |
| 1010 | Combined Photon-Neutron-Therapy of adenoid-
cystic carcinomas at FRM I | <i>Birgit Loeper-Kabasakal</i> |
| 1015 | Adenoid Cystic Carcinoma of Salivary Glands:
Results after Surgery and Neutron Therapy | <i>Melanie Teschendorf</i>
<i>Diana Arweiler-Harbeck</i>
<i>Wolfgang Sauerwein</i>
<i>Klaus Jahnke</i> |
| 1025 | Discussion period | |
| 1045 | Coffee | |

Chair:: Martin Stuschke & Klaus-Peter Thiele

Prostate

- | | | |
|------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------|
| 1105 | Long-term results of neutron irradiation in prostate
cancer: Results of 5 clinical trials involving 1000
patients | <i>Jeffrey Forman</i> |
| 1120 | Preliminary Results of a Combination of Fast
Neutron Irradiation and
Permanent Prostate Brachytherapy
in Intermediate and Poor Prognosis
Prostate Cancer : Expanded Results
of a phase II Trial | <i>Jeffrey Forman</i> |
| 1135 | Discussion period | |

Breast

- 1145 Extensive chest wall recurrence of breast cancer: a possible indication for neutron therapy *Beata Sas-Korczynska
Jan Skolyszewski*
- 1155 Neutron therapy of locally recurrent breast cancer at FRM I *Birgit Loeper-Kabasakal*
- 1205 Discussion period

Other

- 1215 Neutron therapy for Mesothelioma – a Pilot study *(Sandra de Canha presenting)* *Frederik Vernimmen*
- 1230 Neutron Therapy of Malignant Melanoma at FRM I *Birgit Loeper-Kabasakal*
- 1240 Discussion period
- 1245 Lunch**

Chair: Andrea Wittig & Arlene Lennox

Sarcomas and chordomas

- 1345 Neutron therapy in soft tissue sarcoma *Rudolf Schwarz*
- 1400 FNT in chordoma – results from Orleans *(Wolfgang Sauerwein pesenting)* *Noel Breteau
Roland Sabattier*
- 1410 Neutron and proton radiation therapy for chordomas *Sandra de Canha
S Fredericks
DTL Jones, EA de Kock, F
Venimmen
Clare Stannard
J Wilson, Z Mohamed*
- 1425 Discussion period

Surgery after neutron therapy

- 1435 Neutron therapy and reconstructive plastic surgery: interdisciplinary concepts *Heinz-Herbert Homann*
- 1450 Discussion period

Financial Aspects

- 1505 Neutron Therapy: aspects of healthcare finances *Klaus-Peter Thiele*
- 1520 Discussion period

1535 Coffee

Session 9: Actual developments in radiotherapy concerning other external beam modalities (photon, proton and carbon ion)

Chair: Clare Stannard & John Gueulette

1605	Review of hadron therapy	<i>Dan Jones</i>
1635	Carbon ions	<i>Daniella Schultz-Ertner</i>
1705	Synchrotron radiation at ESRF: a new concept of experimental radiotherapy	<i>Jacques Balosso Helène Elleaume Anne-Marie Charvet Nicolas Foray François Estève</i>
1735	Discussion period	

1800 Closing

Poster Exposition

Scientific Organization: Britta Hahn

1. **Measurement of the Fast Neutron Spectrum of the Neutron Therapy Facility at the University Hospital Essen.**
E. Martin, H. Müller, B. Asselineau, G. Hüdepohl, A. Hachem, B. Serrano, S. Nievaart, T. Bolognese, C. Monnin-Parietti, W. Sauerwein
2. **Monte Carlo Simulation of Neutron and Photon Production in a Thick Beryllium Target at the Essen Fast Neutron Therapy Facility**
J. Morand, R. Hentschel, S. Hachem, A. Wittig, W. Sauerwein
3. **Calibration of a Clinical Fast Neutron Beam.**
Arlene J Lennox
4. **Stability of A-150 Plastic Ionization Chamber Response Over a ~30 Year Period.**
Thomas Kroc, Arlene Lennox
5. **Prognostic Factors in Patients Treated With Fast-Neutron Radiotherapy for Malignancies of the Parotid Gland.**
DJ Perry, OE Tulunay, B Peshek, CJ Zuniga, JR Jacobs, LM Essenmacher, JW Ager, HE Kim
6. **Neutron vs Photon Radiotherapy in Locally Advanced Breast Cancer (LABC) with or without Metastases.**
EM Murray, ID Werner, G Schmidt, C Stannard, A Gudgeon, J Wilson, J Harris, S Fredericks, E McEvoy, E Nel, S de Canha
7. **European Commission's High Flux Reactor (HFR) Petten: A Central Facility for BNCT in Europe.**
R. Moss, A. Wittig, F. Stecher-Rasmussen, A. Roca, G. Daquino, R. May, J. Rassow, W. Sauerwein
8. **A Strategy to Develop Boron Neutron Capture Therapy: The Clinical Trials of the EORTC BNCT Group.**
A. Wittig, P. Paquis, J. Heimans, L. Collette, K. Haselsberger, V. Barsegian, S. Grabbe, G. Kaiser, R. Moss, J. Rassow, F. Stecher-Rasmussen, R. Huiskamp, K. Törrönen, S. Bührmann, P. Bet, B. Hahn, K. Hideghety, H. Arlinghaus, W. Sauerwein
9. **Optimised Treatment Planning Procedures for Multi-Beam Boron Neutron Capture Therapy.**
V. Nievaart, A. Wittig, R. Moss, G. Daquino, R. Hentsche, S. Levegrun, J. Rassow, W. Sauerwein
10. **Boron Neutron Capture Therapy (BNCT) for Treating Disseminated, Non-Resectable Liver Metastases.**
W. Sauerwein, M. Malago, R. Moss, A. Wocjik, S. Altieri, G. Hampel, A. Wittig, V. Nievaart, L. Collette, P. Mauri, R. Huiskamp, J. Michel, G. Daquino, G. Gerken, N. Bornfeld, C.E. Broelsch
11. **Create an Experimental Model for BNCT Use in Hepatoma Bearing Rats.**
Maria Iuliana Gruia, Valentina Negoita, F. Constantin, D. Barbos, Rodica Anghel
12. **The Cyclotron Trust**
D. J. Grocott