

## Kleinert Hagen

Position: Professor of Theoretical Physics

Sub-Project Applied Quantum Field Theory

Period covered:1964-2007



### I Scientific Work

1. Theory of Defect-Induced Phase Transitions
2. Quark and String Physics
3. Quantum Mechanics
4. Classical and Statistical Mechanics in Spaces with Curvature and Torsion
5. Classical Statistics
6. Quantum Statistics
7. Polymer Physics
8. Field Theory of Liquid Crystals
9. Fluctuation Effects in Membranes
10. Superfluid Helium 3
11. Superconductivity
12. Mathematical Physics
13. Stochastic Physics
14. Supersymmetry in Nuclear Physics
15. Financial Markets

### II Conferences and educational activities

Conferences and Other External Scientific Work

Hundreds of conferences.

Work With Students

Hundreds of students.

Diploma thesis supervision

Hundreds of theses.

### Other Teaching Duties

All courses of Theoretical Physics

### Work With Postdocs

Many Postdocs financed by FU-Berlin, Humboldt Foundation, DFG, and DAAD.

## III Service activities

### Within ICRA Net

Lecturing and exchange of ideas. Organization of big Marcel-Grossmann Conference 2006.

### Research and collaborations.

#### Outside ICRA Net

Teaching and research, writing textbooks.

## IV Other

### Study and Degrees:

1960 -1963: TH Hannover; there 1962 -BS with fist class honors 1963 -1964:  
Georgia Institute of Technology, Atlanta, Georgia, USA;  
there 1964 -Master of Science  
Fall 1964: Washington University, St. Louis, USA  
Spring 1965: University of Wisconsin, Madison, USA  
1965 -1967: University of Colorado, Boulder, Colorado, USA;  
there 1967 -Ph. D.  
Spring 1969: Habilitation at the Free University Berlin

### Positions:

Fall 1963 – Research Assistant at EURATOM, Ispra, Italy  
June 1967 – Research Associate at the University of Colorado  
Jan. 1968 – Assistant Professor at the University of Montana

Oct. 1969 – Associate Professor at the Free University Berlin

Okt. 1976 – Full Professor at the Free University Berlin

Since 1965 – Numerous invited lectures at summer schools and conferences

Since 1968 – Numerous visiting professorships,  
in particular:

CERN – summer 1968, spring 1970, summer 1970, spring 1971, summer 1971,  
spring 1972,

California Institute of Technology – winter 1973/1974, spring 1977, spring 1980,  
spring 1983, spring 1986

Los Alamos – winter 1976/77

University of Kioto – winter 1979

Berkeley – spring 1980

UC Santa Barbara – winter und spring 1982/83

UC San Diego – winter und spring 1985/86

University of Miami – winter und spring 1989/90

Princeton University – winter und spring 1993

Chair Offers:

University Wuppertal (declined) 1975,

University Dortmund (declined) 1994,

Technical University Braunschweig (declined) 1996,

Technical University Graz (declined) 1999

Member of Russian Academy of Creativity since 2001.

Max-Born Medal 2008.

## **V 2007-2008 List of Publications**

Hagen Kleinert

Multivalued Fields in Condensed Matter, Electromagnetism, and Gravitation

pp. 1-500, World Scientific, Singapore 2008

Hagen Kleinert and Robert T. Jantzen (eds.)

Proceedings of the Eleventh Marcel Grossmann Meeting on General Relativity

pp. 1-2800, World Scientific, Singapore 2008

H. Kleinert

Stiff Quantum Polymers

Berlin preprint 2007

F. Nogueira and H. Kleinert

Compact quantum electrodynamics in  $2+1$  dimensions and spinon deconfinement: a renormalization group analysis  
Berlin preprint 2007

J.W. Zhang, Y. Zhang, and H. Kleinert  
Power tails of Index Distributions in Chinese Stock Market  
Berlin preprint 2007

K. Glaum, A. Pelster, H. Kleinert, and T. Pfau:  
Critical Temperature of Weakly Interacting Dipolar Condensates;  
Physical Review Letters *98*, 080407/1-4 (2007); cond-mat/0606569

H. Kleinert and S.-S. Xue  
Photoproduction in Semiconductors by Onset of Magnetic Field  
Eur. Phys. Letters *81*, 57001 (2008).

H. Kleinert, R. Ruffini, and S.-S. Xue  
Electron-Positron Pair Production in Space- or Time-Dependent Electric Fields  
Phys. Rev. D *78*, 025011 (2008).