The 1st Forum on Sino–Europe Cooperation and Development of Traditional Chinese Medicine

Proceedings

July 21-24, 2011
Bad Koetzting Germany
第一届中欧中医药合作与发展论坛

The 1st Forum on Sino-Europe Cooperation and Development of Traditional Chinese Medicine

论文集

Proceedings
北京中医药大学魁茨汀医院成立 20 周年庆典议程
20th Anniversary of TCM Klinik Bad Koetzting
22th July 2011 • Koetzting

Agenda

Anton Staudinger 先生欢迎词
Welcome Speech Given by Mr.Anton Staudinger
9:30-12:00am 致辞 Address
魁茨汀市市长  Wolfgang Ludwig 先生
Mr.Wolfgang Ludwig, Mayor of Koetzting City
卡姆地区行政长官  Franz Löffler 先生
Mr. Franz Löffler, Chief Executive of Cham
巴伐利亚州劳动社会事务、家庭及妇女部秘书，州议员  Markus Sackmann 先生
Mr. Markus Sackmann, Secretary of Ministry of Labour and Social Affairs, Family Affairs and Women of Bavarian, Member of Parliament
中华人民共和国驻慕尼黑总领事  马晋生 先生
Mr. Ma Jinsheng, Chinese Consulate-General in Munich
世界中医药联合会副主席  李振吉 教授
Prof. Li Zhenji, Vice Chairperson of World Federation of Chinese Medicine Societies
巴伐利亚州议会主席  Barbara Stamm 女士
MS. Barbara Stamm, Chairman of the Bavarian Council
中华人民共和国中医药管理局副局长  马建中先生
Mr. Ma Jianzhong, Deputy Commissioner of State Administration of Traditional Chinese Medicine of the People's Republic of China
Break 20 min
致辞 Address
北京中医药大学校长  高思华 教授
Dr. Gao Sihua, Chancellor for Beijing University of Chinese Medicine
北京中医药大学东直门医院院长  王耀斌 教授
Dr.Wang Yaoxian, Director of Dongzhimen Hospital Affiliated to Beijing University of Chinese Medicine
巴伐利亚州替代医学保险基金会主席  Christian Bredl 先生
Mr. Christian Bredl, Chairman of Alternative Medical Insurance Fund Communion
医院领导致辞 Address given by representatives from TCM KliniK, Bad Koetzting
主任医师  Dr. med. Stefan Hager
Dr. med. Stefan Hager, Chief Physician
北京中医药大学魁茨汀医院  戴京琼 教授
Prof. Dai Jingzhang, TCM KliniK, Bad Koetzting,
魁茨汀中医院顾问主任  Dr. med. Dieter Melchart 教授
Dr. med. Dieter Melchart, Consultant Chairman of TCM KliniK
酒会 Gala Dinner
13:00—17:00pm 参观魁茨汀中医院及参加医院开放日活动
13:00—17:00pm Visiting TCM KliniK and Participating Hospital Activities for Open Day
第一届中欧中医药合作与发展论坛
(2011.7.23 德国魁茨汀)

会议议程

主题演讲
主持人：李振吉
9:00--9:30 题目：2型糖尿病应肝脾肾同治
发言人：高思华 北京中医药大学

9:30--10:00 题目：中欧预防项目--一个基于代谢综合症的五年研究项目
发言人：Melchart Dieter 德国慕尼黑科技大学

10:00--10:30 题目：中国中医药科研项目部署情况
发言人：徐春波 世界中医药学会联合会

10:30--10:50 茶歇

专题报告
主持人：高思华 、Melchart Dieter
10:50--11:10 题目：经方在治疗代谢综合症方面的发展
发言人：Wagner Hildebert 德国慕尼黑路德维格马克米兰大学药理学研究中心

11:10--11:30 题目：中药中植物药的DNA鉴定
发言人：Heubl Günther 德国慕尼黑路德维格马克米兰大学地理生物学与生物多样性研究中心

11:30--11:50 题目：代谢综合症的分子靶
发言人：Ulrich-Merzenich Gudrun 波恩大学

11:50--12:10 题目：中欧代谢综合症预防项目
发言人：Wellenhofer-Li Yanqing 德国慕尼黑科技大学

12:10--13:45 午餐

专题报告
主持人：徐春波、 Heubl Günther
13:45--14:00 题目：中医在香港特别行政区的发展
发言人：黄继儿 香港特区政府驻柏林经贸办公室

14:00--14:20 题目：魁茨汀医院患者护理评估项目结果
发言人：Weidenhammer Wolfgang 德国慕尼黑科技大学

14:20--14:40 题目：中药方剂在治疗方面的发展
发言人：Bauer Rudolf Graz University, Graz, Austria
14:40---15:00  题目：中欧中医药合作与发展论坛
       发言人：王宁  CRP-Santé, Luxembourg

15:00---15:15  题目：寒温并治法治疗II型糖尿病的随机对照临床研究
       发言人：钟森  成都中医药大学附属医院

15:15---15:30  题目：站在生命科学的前沿，继承与发扬中医学
       发言人：高益民  首都医科大学中医药学院

15:30---15:45  题目：中医在当今和未来医药卫生事业中的作用与地位
       发言人：朱勉生

15:45---16:05  茶歇

专题报告

16:05---16:20  题目：中医在法国的发展史：中医教育实践的现状
       发言人：Denis Colin

16:20---16:35  题目：中奥中医高科技针灸研究的成功合作
       发言人：Gerhard Litscher  Medizinische Universität Graz

16:35---16:50  题目：背部腧穴拔罐治疗咳嗽技术
       发言人：袁军  河北省中医院

16:50---17:05  题目：宽胸解毒抗乙肝病毒感染治疗动力学的数学建模
       发言人：闫乐泉  北京科技大学

17:05---17:20  题目：2923例慢性乙型重型肝炎预后影响因素的临床分析
       发言人：李丰衣  中国人民解放军第三零三医院

闭幕式  17:20---18:00
       主持人：李振吉  施道丁格尔先生

自助晚餐  18:30---20:30
The 1st Forum on Sino-Europe Cooperation and Development of Traditional Chinese Medicine
(July 23, 2011 Bad Koetzting)

Agenda

主題发言/Keynote lectures:
Moderator: Prof. Li Zhenji

1) Prof. Gao Sihua (Beijing University of TCM, Beijing, P.R.China) (9:00—9:30)
Simultaneous Treatment on Liver, Spleen and Kidney for Type 2 Diabetes

2) Prof. Melchart Dieter (Klinikum rechts der Isar, Munich Technical University, Munich, Germany)
(9:30—10:00)
Sino-European Prevention Program – A Notion of a 5-years Research Project on Metabolic Syndrome

3) Prof. Xu Chunbo (World Federation of Chinese Medicine Societies, Beijing, P.R.China)
(10:00—10:30)
Research Projects Deployment of TCM in China

Coffee break 20 Min (10:30—10:50)

大会发言/lectures:
Moderator: Prof. Gao Sihua and Prof. Melchart Dieter

4) Prof. Wagner Hildebert (Pharmacology research centre, Ludwig Maximilians University, Munich, Germany) (10:50—11:10)
Development of Fixed Drug Combinations for the Treatment of Metabolic Syndrome

5) Prof. Heubl-Günther (Geobiology and Biodiversity research center, Ludwig Maximilians University, Munich, Germany) (11:10—11:30)
DNA-based Authentication of TCM-plants

6) Dr. Ulrich-Merzenich Gudrun (University of Bonn) (11:30—11:50)
Molecular-targets of the Metabolic Syndrome
7) Dr. Wollenhofer-Li Yanqing (Klinikum rechts der Isar, Munich Technical University, Munich, Germany) (11:50—12:10)
Sino-European-Prevention-Program in Metabolic Syndrome

Lunch (12:10—13:45)

Moderator: Prof. Xu Chunbo and Prof. Heubl-Günther
8) Mr. Huang Jier (Hong Kong Economic and Trade office in Berlin) (13:45—14:00)
Development of Chinese Medicine in Hong Kong

9) Dr. Weidenhammer Wolfgang (Klinikum rechts der Isar, Munich Technical University, Germany) (14:00—14:20)
Results of the Patient Care Evaluation Program TCM-Hospital Bad Kötzting

10) Prof. Bauer Rudolf (Graz University, Graz, Austria) (14:20—14:40)
Development of a Formula of TCM-drugs for the treatment

11) Dr. Ning Wang (CRP-Santé, Luxembourg) (14:40—15:00)
Sino-Europe Collaboration on TCM Research---New Drug Development

12) Prof. Zhong Sen (Hospital affiliated to Chengdu University of TCM, Sichuan, P.R.China) (15:00—15:15)
Chinese herbs of hot and cold property in the treatment of type 2 diabetes mellitus: A study protocol for a randomised controlled trial

13) Prof. Gao Yimin (Beijing Capital Medical University, Beijing, P.R.China) (15:15—15:30)
Standing in the Frontier of Life Sciences, Inheriting & Developing Traditional Chinese Medicine

14) Prof. Zhu Miansheng (University Paris XIII faculte de medicine leonard de vinci, Paris, France) (15:30—15:45)
The Role of Traditional Chinese Medicine Play in Present and Future Medicine Health Industry

Coffee break 20 Min (15:45—16:05)

Moderator: Prof. Zhong Sen and Prof. Bauer Rudolf
15) Dr. Denis Colin (16:05—16:20)
History of the development of the TCM in France: the current conditions of education and practice of TCM

16) Prof. Gerhard Litscher (Medizinische Universität Graz) (16:20—16:35)
Successful Sino-Austrian TCM research cooperation on high-tech acupuncture
17) Dr. Yuan Jun (Department of Acupuncture and moxibustion, Hebei hospital of TCM, P.R. China) (16:35—16:50) 
Cupping Technique on Back Acupoints in Treating Cough

18) Prof. Min Lequan (University of Science & Technology Beijing, Beijing, P.R. China) (16:50—17:05) 
Mathematical Modeling of Chinese Herb Kuanxiongjiedu Grain for anti-HBV Infection Treatment

19) Dr. Li Fengyi (302 Hospital of PLA, Beijing, P.R. China) (17:05—17:20) 
Clinical Analysis: The Prognosis Influencing Factors of 2923 Cases of Chronic Severe Hepatitis B

Closing ceremony 17:20—18:00 (prof. Li Zhenji and Mr. Staudinger)

Buffet Dinner 18:30—20:30
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Chinese herbs of hot and cold property in the treatment of type 2 diabetes mellitus: A study protocol for a randomised controlled trial

13）站在生命科学的前沿，继承与发扬中医学 高益民
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14）中医在当今和未来医药卫生事业中的作用与地位 朱勉生
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Successful Sino-Austrian TCM research cooperation on high-tech acupuncture

17）背部腧穴拔罐治疗咳嗽技术 袁军
Cupping Technique on Back Acupoints in Treating Cough

18）宽胸解毒抗乙肝病毒感染治疗动力学的数学建模 闵乐泉
Mathematical Modeling of Chinese Herb Kuanxinongjiedu Grain for anti-HBV Infection Treatment

19）2923例慢性乙型重型肝炎预后影响因素的临床分析 李丰衣
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20）方剂的系统生物学 Thomas Eff erth
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第二部分 论文

Part Two Papers

1）Graves病不同证型与SNP的关系研究 向楠
Associations of The Genetic Variants and TCM Syndrome in Patients with Graves Disease

2）中药治疗多囊卵巢综合症的体会 张炎
Acquirements on TCM Treating Polycystic Ovary Syndrome

3）促愈汤对肛瘘术后组织修复的临床及实验研究 姚一博
The Clinical and Experimental Study on The Effect of Cuyu Decoction of The Tissue Reparation of Wound Surface after The Operation of Anal Fistula

4）肝脏B超图像处理研究 闵乐泉
Research on B Scan Image Processing of Livers
第一部分 学术报告
Part One: Lectures
高思华教授简介
高思华，男，医学博士，博士生导师，北京中医药大学校长、二级教授，国家973计划中医药专项首席科学家。享受国务院政府特殊津贴。

兼任中华中医药学会副会长、糖尿病专业委员会副主任委员；中国中医药学会副会长、内分泌疾病专业委员会副主任委员；中国保健协会副会长；中国老年保健学会副会长；中国药膳研究会副会长等职。还受聘担任教育部医学教育认证专家委员会委员、国家科学技术奖审评专家、国家中医药管理局重点学科建设专家委员会副主任委员、香港浸会大学荣誉教授等职。

早年先后师从著名中医学家张珍玉教授和方药中教授，并先后留学日本和英国。多年来一直致力于中医基础理论的教学与研究以及糖尿病的中医内科临床研究工作。对中医理论体系尤其是气化学说、阴阳五行学说的研究有独到见解，对糖尿病的内科临床治疗研究有独到之处。

擅长中西医结合治疗糖尿病、心脑血管疾病、脾胃病、内分泌失调、月经病等内科、妇科疑难病症。并曾多次应邀赴日本、泰国、韩国、香港、澳大利亚、美国、法国等国家和地区讲学。

Introduction of Professor Gao Sihua

Gao Sihua, male, MD, PhD supervisor, President of Beijing University of Chinese Medicine, chief scientist of TCM Program under National 973 Project, and enjoys the special government allowance granted by the State Council.

He currently serves as Vice President of China Association of Chinese Medicine, Vice Chairman of Diabetes Committee; Vice President of Chinese Association of Integrative Medicine, Vice Chairman of Endocrinology Speciality Committee; Vice President of China Health Care Association; Vice President of China Elder Health Care Association; Vice President of China Association Of Health-Protection Food.

In his early, he studied under notable TCM experts, Prof. Zhang Zhenyu and Prof. Fang YAOZHONG, and studied abroad (Japan and UK). He himself holds a deep reflection on TCM theory, especially on Theory of Functional Activity of Qi and Theory of Yin and Yang as well as Five Elements, and his research on medical treatment of diabetes are also quite original.

He is good at the integrative Chinese and Western Medicine treatment of diabetes mellitus, cardiovascular disease, Spleen-stomach disease, Endocrine disorder, menopause and other Internal diseases and Gynecological diseases.
2型糖尿病应肝脾肾同治
Simultaneous Treatment on Liver, Spleen and Kidney for Type 2 Diabetes

北京中医药大学 高思华
Prof. Gao Sihua
Beijing University of Chinese Medicine

疾病治疗的基本要求
Basic requirements of treatment for diseases
对“病”的治疗要求
Requirements for treating “diseases”
对“证”的治疗要求
Requirements for treating “syndromes”
对“症”的治疗要求
Requirements for treating “symptoms”

患者要求
*Requirements of patients:
To cure diseases and remove symptoms
作为中医
As for Chinese medicine, it is needed to cure the disease and remove symptoms by identifying syndrome.

中西医结合，把握病的变化规律，坚持中医院辨证论治，才能提高临床疗效
Applying integrative medicine, grasping the changes of the disease, adhering to syndrome differentiation and treatment of TCM, so as to improve the clinical therapeutic effect.
二、这种认识正与中医学的传统认识相吻合
2. The idea echoes the traditional view of Chinese medicine

脾主运化，胃为后天之本。
The spleen is responsible for transformation which will be weaken if the spleen and stomach are damaged.

气不升清气下陷----正气日亏
Clear qi fails to bear upward and the essence qi descend ---the healthy qi becoming deficient day by day.

水湿不化滋生湿热----邪气日盛
Water fails to transform causing dampness-heat ---the pathologic qi becoming exuberant.

肝主疏泄，肝病则疏泄失司
The liver is responsible for soothing which will be weaken when the liver is damaged.

木不疏土----脾失运化
The wood fails to sooth the earth—the spleen fails to transform

气郁化火----耗伤阴津
Qi stagnation transforms into fire—damage the yin fluid

气机不畅----气郁血瘀
Qi movement blocks—qi stagnation and blood stasis

肾主封藏和固摄，肾精被伤
The kidney is responsible for keeping and constraining, if the kidney essence is damaged:

阴虚生热----热更伤阴
Yin deficiency would engender heat— the heat would damage yin

气虚不固----精气外泄
Deficiency and insecurity of qi—essence qi would leak
病先害于脾者，脾关便泄
If the disease first damage the spleen, the spleen would fail to transport

五脏互济而生脉血而荣荣之序
Middle energizer or exuberance of dampness heat cause rebellion to the liver and the overwhelming to the kidney

* The deficiency of spleen qi causes overwhelming of liver qi or rebellion of

--------肝脾肾同病
The simultaneous disease in liver, spleen and kidney.

病先害于肝者
If the disease firstly damages the kidney

水不生木而淑及于肝

The disease would spread to the liver if the water fails to enrich the wood.
The disease would spread to the spleen if fire fails to engender the earth or the earth overwhelm the water because of the water deficiency

--------肝脾肾同病
The simultaneous disease in the liver, spleen and kidney.

肝脾肾三脏同病，正虚与湿浊、血瘀、痰热互见
Simultaneous disease in the liver, spleen and kidney: healthy qi deficiency, turbidity, blood stasis and dry heat
五、2型糖尿病的临床研究证实了这一思路的正确性
4. The clinical research of type 2 diabetes proves the correction of the treatment method

国家中医药管理局课题
An Subject of the State Administration of TCM

中国中西医结合学会广安门医院、北京中医药大学东方医院、北京中医药大学东直门医院、北京西苑医院
Chinese Academy of Medical Sciences, Guang'anmen Hospital,
Beijing University of Chinese Medicine subsidiary Dongfang Hospital,
Dongzhimen Hospital, affiliated to Beijing University of Chinese Medicine
and Beijing Millennium Monument Hospital

共收集265例2型糖尿病病例，观察期：2个月
Correcting 265 cases of type 2 diabetes.
Observation period: 2 months

基本方药1

降糖消渴1方 Formula 1

治则 Therapeutic principle

温补脾肾，气阴两补，以清热消渴
To warm and nourish the spleen and kidney, to invigorate qi and nourish yin, to clear heat and消渴

适应症 Indications

凡以头晕头昏，目干多汗，视力昏花，渴欲引饮或口渴
People can be diagnosed as dual deficiency of qi and yin in both of spleen and kidney
accompanied with exorbitant hyperactivity of liver yang if they have distinct symptoms as follows: 头晕，口渴，目干，多汗，头昏花，渴欲引饮。

基本方药2

降糖消渴2方 Formula 2

治则 Therapeutic principle

疏肝健脾益胃，佐以清热消渴
To disperse the liver, invigorate the spleen and stomach, and to dispel heat消渴

适应症 Indications

凡以情志不舒，胁痛不舒，脾弱胃火，精神萎靡等表现突出者，
People can be diagnosed as liver depression and qi stagnation if they have distinct symptoms as 肝郁，脾弱，胃火，精神萎靡等表现突出者。

证属肝郁气滞为本。
观察指标 Observation index

血糖 Blood sugar

症状积分 Syndrome score

安全性指数 Safety index

每两周监测尿素氮和24小时尿钙。

每两周检测血红蛋白和尿蛋白。

每两周检测总胆固醇、甘油三酯和血压。

每两周总分的症状及尿蛋白、血红蛋白和尿蛋白的变化。

治疗两周后，监测尿素氮和24小时尿钙。

治疗两周后，监测血红蛋白和尿蛋白。

治疗两周后，监测总胆固醇、甘油三酯和血压。

治疗两周后，总分的症状及尿蛋白、血红蛋白和尿蛋白的变化。

结论 Conclusion

1. 通过采用上述临床观察指标的观察，对进一步的治疗和观察有重要的意义。

2. 以上结果表明，该治疗方法在糖尿病的治疗中具有显著的疗效。

3. 该治疗方案在临床实践中的应用，对于改善糖尿病患者的临床状况具有重要的价值。

比较分析 Comparative analysis before and after simultaneous treatment of the liver spleen and kidney

<table>
<thead>
<tr>
<th>公式 1</th>
<th>公式 2</th>
<th>公式 3</th>
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<tbody>
<tr>
<td>P:G</td>
<td>F:G</td>
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<td>72.02%</td>
<td>72.56%</td>
<td>73.59%</td>
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<tr>
<td>74.54%</td>
<td>75.64%</td>
<td>76.93%</td>
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</table>

P < 0.05, significantly different.
Dieter Melchart 教授个人简介

自然疗法和补充替代医学教授（由 Erich Rothenfußer 基金会授予教授职位）。现任补充医学和自然疗法研发中心主任，慕尼黑工业大学临床教学中心（Klinikum rechts der Isar）门诊部以及自然疗法日间护理与健康促进中心主任。自 1991 年以来，Dieter Melchart 一直担任德国第一家中医诊所（Bad Kötzting）的科学委员会的主席。此外，Dieter Melchart 还是苏黎世大学的名誉教授和北京中医药大学的客座教授。他的研究领域主要集中于针灸与中药的临床评定。

Curriculum Vitae of Univ.-Prof. Dr. med. Dieter Melchart

He holds a professorship in naturopathy and complementary medicine (an endowed professorship established by Erich Rothenfußer Foundation). He is the Director of the Competence Centre for Complementary Medicine and Naturopathy (Kompetenzzentrum für Komplementärmedizin und Naturheilkunde) and head of the outpatient department and day-care unit for naturopathy and health promotion at Klinikum rechts der Isar, the university hospital of Technische Universität München (TUM). Since 1991, Dieter Melchart is Chair of the Scientific Board of the first German Clinic for Traditional Chinese Medicine, Bad Kötzting, Germany. Furthermore, Dieter Melchart is a titular professor at the University of Zurich and a visiting professor at Beijing University of Traditional Chinese Medicine. His research interests focus mainly on the clinical evaluation of acupuncture and TCM-drugs.
Metabolic Syndrome – Background and a 5-year research program

Prevention and Intervention of Metabolic Syndrome with Integrative Approaches Beijing 2011

Academic Exchange Agreement (since 2003)
**Pathogenesis**

- Cardiac-vascular disease
- Mortality and morbidity
- Diabetes mellitus
- Glucose tolerance
- Lipid metabolism
- Endothelial function
- Hypertension
- Inflammation
- Fatty liver
- Fatty muscle
- Skeletal muscle
- Heart
- Kidney
- Blood vessels
- Lipolysis, cytokines, leptin, oxidative stress
- Adipose tissue, obesity
- Hypertension

**BMI Trends 1980 - 2008**

- Western Europe
- Men
- Women

**BMI Trends 1980 - 2008: East Asia**

- Men (top left)
- Women (top right)

**World Cancer Research Fund 2007**

- Adults by BMI category
- Type 2 diabetes
- Hypertension
- Hypercholesterolaemia

- 18.5 - 24.9
- 25.0 - 26.9
- 27.0 - 29.5
- 30.0 - 34.9
- 35+
**Conventional Treatment-Program for metabolic syndrome**

- Elevated blood pressure
- Dysglycemia
- Low HDL
- Triglycerides

Train to Target (TNT) 治疗达到目标

Conventional treatment includes:
- Weight loss
- Android fat distribution
- Metformin
- Antihypertensives
- Lowering drugs

**M S-problem cannot be solved by medication alone!**

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<tbody>
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<td>Smoking</td>
<td>20.3%</td>
<td>21.2%</td>
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<tr>
<td>Overweight/sedentary</td>
<td>76.8%</td>
<td>79.9%</td>
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<tr>
<td>Diabetes mellitus</td>
<td>17.4%</td>
<td>20.1%</td>
</tr>
<tr>
<td>Hypertension</td>
<td>58.1%</td>
<td>58.3%</td>
</tr>
<tr>
<td>Elevated cholesterol</td>
<td>94.5%</td>
<td>76.7%</td>
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<tr>
<td>B-blocker/β-blocker</td>
<td>56.0%</td>
<td>60.0%</td>
</tr>
<tr>
<td>Antihypertensives drugs</td>
<td>84.5%</td>
<td>90.6%</td>
</tr>
<tr>
<td>Lipid lowering agents</td>
<td>32.2%</td>
<td>62.7%</td>
</tr>
</tbody>
</table>

**Lifestyle change and risk reduction**

- **Effectiveness of interventions to prevent manifest diabetes in patients with impaired glucose tolerance**
- **Intervention**
  - Risk reduction
  - NNT reduction

- **Lifestyle change (12) risk reduction**
  - Oral antidiabetic drugs: 30% 10.8
  - Oral (2) risk reduction: 56% 5.4

In brackets: number of studies; NNT: number of patients needed to be treated for 5 yrs to inhibit one disease. 

Giles et al. BMJ 2007; doi: 10.1136/bmj.39063.669375.55
**Individual Health Management**

**Health action areas:**
- Body
- Mind
- Job
- Relationships

**Lifestyle change and risk reduction**

Effectiveness of interventions to prevent manifest diabetes in patients with impaired glucose tolerance

- **Intervention**
  - Lifestyle change (12)
  - Oral antidiabetic drugs (if) %
  - Orlistat (2)
  - Chinese herbs

<table>
<thead>
<tr>
<th>Intervention</th>
<th>% Effectiveness</th>
<th>NNT</th>
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</thead>
<tbody>
<tr>
<td>Lifestyle change</td>
<td>-49%</td>
<td>6.4</td>
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<tr>
<td>Oral antidiabetic drugs</td>
<td>-30%</td>
<td>10.8</td>
</tr>
<tr>
<td>Orlistat</td>
<td>-56%</td>
<td>5.4</td>
</tr>
<tr>
<td>Chinese herbs*</td>
<td>-68%</td>
<td>4.0</td>
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</tbody>
</table>

* Jiangtang bushen

In brackets: number of studies; NNT: number of patients needed to be treated for 5 yrs to inhibit one disease death. Study NNT: NNT: Number of patients needed to be treated for 5 yrs to inhibit one disease death.


**Medical Concept of a Sino-European-Prevention-Program (SEPP)**

**Train-To-Target**
- Lifestyle modification: Adjust lifestyle (European - IHM) Sino-Traditional Chinese Medicine
- TCM drugs (polypl) + Western medication (allopurinol)

**Treat-To-Target**
- Modern Prevention Program

**Need:** Modern Prevention Program
Mainstream medicine is also looking for a fixed combination of drugs to seek a new combination method.

The overall goal of the project consists of two parts:

1. Realization and evaluation of the Sino-European PREVENTION Program in metabolic syndrome and stress-induced diseases.
2. Pharnamalogical TREATMENT with appropriate Chinese drugs is to be investigated.
Necessary preclinical studies with TCM-herbal drugs (formula)

- Quality proof (standardization, monographs)
- Toxicological studies
- Pharmacological / molecular biological investigations
- Development of new application forms

Evidence based Medicine - Who does the job?

这是一个关于四个人的故事——他们名字分别叫“每个人”、“某些人”、“任何人”和“没有人”。

有一天，每个人被告知去做一件重要的事情。

“每个人”做，因为“某些人”会做。

“任何人”都可能去做，但是“没有人”去做。

“某些人”生气了，因为这是“每个人”的职责。

“每个人”认为“任何人”都能做。

“没有人”意识到“每个人”都不去做。

最后，“每个人”都指责“某些人”。

而“没有人”做那些“每个人”都可以做的事情。
徐春波简介


1988年硕士毕业后留在山东中医药大学中医文献研究所以从事教育、科研工作多年。先后主讲《中医基础理论》、《中医文献学》、《中医学概论》、《中医康复学》等课程。主持或参与科研课题20余项，如“中医药领域重要基础国际标准研制”、“中医药临床研究的方案优化及质量控制研究”、“名老中医药临床经验学术思想传承研究”、“中医药古籍文献数字化规范研究”、“中医古籍计算机知识表示研究”、“中医理论基础研究模式及平台构建”等。主编或参编学术著作、教材30余部，发表学术论文50余篇。多次获得优秀教学奖、优秀讲课奖、科研成果奖等。历任山东中医药大学中医文献教研室主任、中国中医药教育学会中医文献研究会副秘书长、中医药信息数字化专业委员会常务理事、世界中联临床疗效评价专业委员会副秘书长等职。

2006年调至世界中联，主要从事973计划中医理论基础研究专项、支撑计划中医药项目、名老中医药临床经验学术思想传承研究项目管理工作，中医药国际组织标准研究工作。历任世界中联项目管理部副主任、科技与标准部主任、世界中联秘书长助理等职。

现任世界中医药学会联合会副秘书长，协助秘书长分管学术部、科技与标准部，《世界中医药》杂志社、国际事务服务部等工作。兼任国家中医药管理局支撑计划中医药项目办公室副主任、973计划中医理论专项专家组办公室副主任。

Curriculum Vitae of Professor Xu Chunbo

Professor Xu Chunbo, female, was born in November, 1964. She is a post doctor of medicine, professor and graduate student supervisor. After graduating from Shandong University of Traditional Chinese Medicine in 1988, she chose to work at the university, doing teaching and research work for years. She is author of more than 50 academic articles. 30 academic books and text books are edited by her. Doctor Xu is now the Vice-Secretary-General of World Federation of Chinese Medicine Societies, mainly in charge of national projects management including TCM theory researches of 973 Program, TCM projects of National Science & Technology Pillar Program, programs of continuance of Notable and Senior TCM experts, as well as establishment of TCM international standards. Meanwhile, she is also the vice director of a TCM project sponsored by State Administration of Traditional Chinese Medicine.
中国中医药科研项目部署情况
The Deployment of TCM Research Projects in China

徐春波
Pro. Xu Chunbo
World Federation of Chinese Medicine Societies
July 23, 2011

发展历程
The History of Development

» 1996，启动“中药现代化科技产业行动计划”
1996: "the Modernization Chinese Medicine Research and Industrial Development policy"

» 1997，提出“实现中医药现代化”的战略号召
1997: Appeal of “To realize the modernization of TCM”
(Decisions on Health Reform and Development Made By the Central Committee of The Communist Party of China and State Council)

《中医药创新发展规划纲要》
The Development Plan of Traditional Chinese Medicine Innovation

国家科技计划
China’s National Scientific and Technical Plan

中医药科研项目部署情况
Deployment of TCM research projects

2002，发布《中药现代化发展纲要（2002—2010年）》（第一部中药发展的纲领性文件）中药创新体系：中药标准和规范：开发新产品：形成现代中药产业等

Innovation system of TCM; standardization of Chinese medicine; development of new products; formation of modern TCM industry, etc.
2006-2，国家中医药发展发展规划纲要
（2006-2020年）将“中医药现代化和国际化”列为中国科技发展的重点目标之一
"To promote technology continuance and innovation of Chinese medicine, and to improve the globalization and modernization of TCM" was listed as one of the most important goals.

一、指导思想、基本原则
I. Guiding ideology & Basic Principles
- Guiding ideology:
  - To improve the service capability of TCM treatment and the technical level of TCM industry through technology innovation;
  - To accelerate the process of TCM modernization and internationalization by enriching the knowledge and perfecting the TCM theoretical system, health care mode
二、战略目标

Strategic Target

- 提高贡献率：对经济、社会发展的贡献
  - To boost contribution: contributions to economy and society
- 重点突破：中医药传承与创新发展的关键问题
  - Key breakthrough: key issues of inheritance and innovation of TCM
- 促进优势互补：东西方医学优势互补
  - To promote complementation: the complementation between TCM and WM
- 推进国际化，服务全人类：应用全球科技资源推进中医药国际化进程，不断扩大中医药在国际医药保健市场中的份额
  - To promote the internationalization and serve the human: to promote the process of TCM globalization by using global technological sources and constantly expand the share of the international mainstream health care market

构建六大体系

Establishment of 6 Major Systems

- 完善中医疾病防治、养生保健和诊疗技术体系
  - To perfect TCM prevention & treatment system, health care and diagnosis & treatment system
- 健全中药现代化产业技术体系
  - To complete modern TCM industry system
- 建立国际认可的中医药标准规范体系
  - To establish internationally recognized TCM standards system

丰富发展中医药理论体系

- To enrich and develop TCM system

构建符合中医药特点的科技创新体系

- To build up scientific innovation system with TCM characteristics

形成国际科技合作的网络体系

- To form network system for international technology cooperation
（三）现代化 Modernization

提高中医药医疗保健服务能力和中药产业技术水
----中医药自身发展的需求

To improve TCM Health Care Services and
the Level of Industrial Technology
----Demands of TCM’s Self-development

1. 深入研究中医药学所蕴含的生命科学问题
   In-depth research on the life sciences problem contained in
   TCM;

2. 对中医药理论进行现代诠释，指导创新药物研
   Modern annotation of TCM theory, instructing the research
   and development of innovative medicine;

3. 探索建立系统性和综合的医学方法学体系，促进两个医学的
   Exploration of the establishment of systemic and
   comprehensive system, promoting the complementation and
   integration of two medicine

4. 研究重大复杂疾病防治及保健、康复作用
   Researches on prevention, treatment and rehabilitation of
   serious and difficult diseases

5. 发展绿色中药材料种植（养殖）业
   Developing the green farming & breeding of Chinese herbal
   medicine

6. 研制适用于中药产业的工程技术及其装备，加强对中药
   commerce及其流通方式的现代化研究
   Developing engineering technology and equipment for
   Chinese medicine industry to improve the modern study on the
   business and circulation of Chinese materia
(四) Internationalization

国际化的实现途径和需求

1. 建立符合中医药特点的标准规范和国际标准
   Establishing standards with Chinese medicine characteristics and international standards

2. 研发符合国际市场需要的新药、保健产品
   Research and development of new drugs and health products that meet the demands of international markets

3. 赢得中医药的合法地位，使其进入西方国家医院、药房和医疗保险体系
   To win over the legal status of Chinese medicine and to get into the hospitals, pharmacies and medical insurance system in Western countries

4. 国际化的中医药研究与人才队伍建设
   To build up an international TCM research and technology platform, information platform and talent team

5. 推进中医药医疗、教学、科研、产业合作与交流
   To advance the cooperation and communication of TCM health care, teaching, research and industry

6. 传播中医药知识与文化
   To spread TCM knowledge and culture to the world

《中医药创新发展规划纲要（2006-2020年）

- 国务院16部委联合制定，共同支持和推进中医药创新发展
  - Conducted by 16 departments of The State Council
  - To support and promote the innovative development of Chinese medicine, which is unprecedented in the history of medicine

- 《纲要》规划了今后15年中医药创新发展的蓝图、战略目标和任务
  - The "Guideline" maps out blueprint, strategic objectives and tasks for the innovative development of Chinese medicine for the next 15 years.

- 这将对中医药现代化和国际化进程，起到极大地推动作用
  - This will play a great role in the process of modernization and internationalization of Chinese medicine.
国家科技计划
China's National Technology Program

- 由科技部归口管理的面向研究开发的国家三大主体科技计划：国家自然科学基金计划（973计划）；国家科技支撑计划（863计划）；国家高技术研究发展计划（863计划）
- 3 main national technology programs aiming at researching and developing and are under centralized management by the Ministry of Science:
  - “Major Projects of Chinese National Programs for Fundamental Research and Development (973 Program)”
  - “Key Projects in the National Science & Technology Pillar Program”
  - “National High Technology Research and Development Program of China (863 Program)”
- 由国家自然科学基金委员会管理的自然基金项目课题
  Projects Supported by National Natural Science Foundation of China

研究重点、项目规模各有不同
Differences on Research Highlights and Project Scales

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<th>立项特点</th>
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<td>Highlights</td>
<td>Funds</td>
<td>Characteristics</td>
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<td>理论研究</td>
<td>数百至数千万</td>
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<td>Millions to tens of billions</td>
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<td>Application research</td>
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<td>Guided by the government</td>
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<td>Natural Science Foundation</td>
<td>Free exploitation</td>
<td>Hundreds of thousands to billions</td>
<td>To Explore freely</td>
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</table>
973计划中医理论专项

Research on TCM Basic Theories of 973 Program

- Main tasks: to solve problems of sustainable development of our economy and society, national public safety and major basic scientific issues in technological development

733计划中医专项

Main tasks:
- To explain the scientific connotation of the traditional theory in modern science
- To propose new ideas, new theories, new theories enrich and develop TCM system

2010年更名“973计划中医理论基础研究专题”

In 2010 changed its name as: “973 Project” on research of fundamental Chinese medicine theories

前六年的部署情况

Deposition in the past 6 years

- 2005-2010: 6 years, 5 aspects, 21 programs

- 2005-2010: 6 years, 5 aspects, 21 programs

- 2005-2010: 5 aspects, 21 programs

- 2005-2010: 5 aspects, 21 programs

- 2005-2010: 5 aspects, 21 programs

- 2005-2010: 5 aspects, 21 programs

中西药基础研究经费明显加大

Funds of Research on TCM Basic Theories increased sharply

- 15 years ago: 1.5 million/year
- 1999-2004: 60 million
- 2005-2010: 361 million
- 2005-2010: 5 aspects, 21 programs
1. 中医理论基础研究
Basic Research on TCM Theory
- 中医理论继承与创新研究
  - Inheritance and innovation of TCM theory
- 病因病机理论研究
  - Pathogenesis theory
- 特色疗法基础理论研究
  - Basic theory of characteristics therapy
- 脉与大肠相表里脏腑相关理论研究
  - Research on related basic theory on the Correlation in Zangfu Organs
- 肾藏精、肝藏血的脏象理论基础研究
  - Basic research of Visceral Picture Theory of kidney storing essence, liver storing blood and governing regulating

2. 中医理论基础研究
Basic Research on Chinese Medicine Theory
- 方剂配伍基本规律研究
  - Basic study on prescription compatibility
- 药性理论研究
  - Theoretical study on drug property
- 性味相关理论研究
  - Theoretical study on nature and flavor of drugs
- 有毒中药科学应用的基础研究
  - Basic research of scientific applications of toxic Chinese medicine
- 中药成分的现代临床与实验研究
  - Modern clinical and experimental research on prescription for Chinese patent drugs
- 以量效关系为主的经典名方相关基础研究
  - Basic study on classic formulas reflecting the dose-effect relationship

3. 针灸理论基础研究
Basic Research on Acupuncture Theory
- 针灸学说与针灸理论研究
  - The theory of acupuncture and acupuncture theory
- 经穴特异性研究
  - Periorbital disease theory and the theory of acupuncture
- 针灸美学理论研究
  - Theory of acupuncture anesthesia and analgesia
- 刺法作用原理与应用规律研究
  - Principle and application of moxibustion
- 有效作用艾灸穴位相关基础研究
  - Basic research of acupoints with definite therapeutic effects
- 针刺对功能性肠道的双向调节效应及其机制
  - The two-way effects and mechanisms of regulation of acupuncture stimulation on functional bowel disorder

4. 疗效评价理论基础研究
Theoretical Studies on Evaluation of Therapeutically Effects
- 中医辨证论治疗效评价方法的基础理论研究
  - Basic research on evaluation of Chinese medicine therapy

5. 中医健康状态辨识理论基础研究
Fundamental Studies on acknowledgement of traditional Chinese medicine theory of health
- 中医原创思维与健康状态辨识方法体系研究
  - Basic research on recognition of health state based on original thinking of Chinese medicine

2005-2010年：
- 立项：21个项目（138个子课题）
- 经费：3.61亿元

2005-2010年：
- Program：21 programs
- (138 projects)
- Funds：361 million
申报立项及运行程序
Project Application & Operation Process
- 1-5月：发布指南→受理申请→组织评审
  - 形式审查→初评（同行评议）→复审答辩（综合评议）
  - January - May: Publishing the guidebook → accepting applications → organizing review
  - format review → preliminary review (peer review) → re-evaluation and defense (synthetically evaluation)
- 6-9月：批准立项→确定任务书、预算书
  - June - September: project approval → confirming the assignment and budget
- 11-12月：运行管理（3+2管理模式）
  - 2年后→中期评估→运行管理（3+2管理模式）
  - 3年后→总结验收
  - November - December: operation management (3+2 management mode)
  - 2 years later → mid-term evaluation (focusing on the state assessment and research prospect)
  - 3 years later → Conclusion

组织管理框架
Management Framework
- 科技部
  - The Administration of Science & Technology
- 中医药管理局
  - State Administration of TCM
- 973专家顾问组
  - 973 Expert Advisory Panel
- 973专家顾问组
  - 973 Expert Advisory Panel
- 项目及课题承担单位
  - institutes that assume the projects
- 中医药项目
  - TCM Projects
- 项目首席科学家负责制
  - Responsible system for Principal Investigator
- 项目专家组、项目办公室
  - Project Panel & Project Office

国家科技支撑计划
National Science & Technology Pillar Program
- 是面向国民经济和社会发展需求，重点解决经济社会发展中的重大科技问题的国家科技计划。
  - National science and technology programs aim at solving the major technical problems in the economic and social development of the country.
- 目标：集成全国优势科技资源，支撑国民经济和社会发展
  - Goal: to integrate outstanding science and technology resources around the country; to support the development of national economy and society


**"十一五"国家科技支撑计划中医药项目**

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<th>项目实施单位</th>
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**National Science & Technology Pillar Program in 11th Five-Year Plan Period**

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<tr>
<th>Project</th>
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<th>Organization</th>
<th>Researcher</th>
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**（一）重大疑难疾病中医药防治研究**

*Researches of Prevention & Treatments of Serious and Difficult Diseases*

- **Research内容:**
  - 心血管疾病、肿瘤、糖尿病、慢性肾病等重大疾病中医药防治研究
  - 重大疾病、慢性病治疗、类风湿关节炎、类风湿性关节炎等重大疾病中医药防治研究

- **Research涵盖:**
  - 治疗心血管疾病、肿瘤、糖尿病、慢性肾病等重大疾病。
  - 治疗肿瘤、慢性疾病、类风湿关节炎、类风湿性关节炎等重大疾病。
  - 治疗各种疾病。

- **项目设置:** 23大类，共45个课题

- **研究队伍:** 参与单位461个，研究人员2048人

- **研究团队:** 461 Institutes and 2048 researchers.
（二）中医治疗常见病研究
Researches of TCM Treatments for Common Diseases

- 研究内容:
  - 临床治疗方法或方案研究（妇科、儿科、骨科、外科、神经科、血液科、心
    血管科、呼吸科、消化科、内分泌科）
  - 中医药特色治疗技术规范研究
  - 中医治疗常见病临床诊疗规范的示范研究

Research:
- Clinical treatment or schemes (gynecology, pediatrics, orthopedics, surgery, 
  neurology, hematology, cardiovascular, respiratory, gastroenterology, endocrinology)
- Standards of characteristic treatment of TCM
- Models of TCM diagnosis and treatment of common diseases in primary doctors

- 项目设置: 10类64个课题
  Setting: 64 projects from 10 categories
  - 研究队伍: 参研单位312个，研究人员2062人
  - Teams: 312 institutes and 2062 researchers

（三）针灸诊疗方案和评价研究
Researches of Acupuncture Diagnosis & Treatment and its Evaluation

- 研究内容:
  - 针灸适宜病症的研究
  - 针灸治疗方案评价及临床共性技术研究（中风后遗症、面瘫、消化道、咳
    嗽、便秘、糖尿病、睡眠障碍等）

Research:
- Suitable diseases and symptoms of acupuncture
- Optimize program evaluation and clinical common technologies of acupuncture treatment (sequela of stroke, facial paralysis, cervical spondylosis, asthma, constipation, depression, dysmenorrhea, migraine headaches, shingles)

- 项目设置: 7类16个课题
  Setting: 16 projects from 7 categories
  - 研究队伍: 参研单位82个，研究人员446人
  - Teams: 82 institutes and 446 researchers

（四）中医“治未病”及亚健康中医干预研究
Researches of TCM “Preventive Treatment of Disease” and TCM Intervention on Sub-health

- 研究内容:
  - 亚健康状态中医药识别与分类研究
  - 亚健康常见病预防性诊疗研究
  - 亚健康常见病及慢性病临床诊疗模式研究
  - 亚健康人群慢性病预防与健康干预研究
  - 健康管理与健康管理的实践研究

Research:
- Categories of sub-health and evaluation criteria and methods
- Identification and classification of Chinese medicine of sub-health
- TCM intervention and efficacy evaluation of sub-health and demonstration of its methodology
- Basic database of sub-health and common technologies of its data management
- The methods and network of monitoring the people with sub-health
  - Health security and its management and implementation mode

- 项目设置: 7类11个课题
  Setting: 11 projects from 7 categories
  - 研究队伍: 参研单位58个，研究人员388人
  - Teams: 58 institutes and 388 researchers

（五）中医外治特色疗法和外治技术示范研究
Researches of Characteristic External Treatment of TCM &
Demonstration of External Treatment Technology

- 研究内容:
  - 开展中医外治法临床示范性研究
  - 中医外治技术临床规范及外用制剂共性技术研究
  - 中医外治技术临床应用安全性和常用中药外用功能规范研究

Research:
- To carry out demonstrative study on external treatment of TCM
- Study on clinical practice of TCM external treatment technology and generic technology of external preparation
- Normative Study on the security and function of external use of common traditional Chinese medicine

- 项目设置: 9类45个课题
  Setting: 45 projects from 9 categories
  - 研究队伍: 参研单位28个，研究人员714人
  - Teams: 28 institutes and 714 researchers
"十五”名老中医课题验收
10th Five-Year Plan
Inspections of the programs of Notable and Senior TCM experts

2008-9-8：课题验收
通过（科技部和中医院）
2008-9-8：Programs got Inspections and Accepted (Ministry of Science and Technology & Administration of TCM)

"十五"成果：《当代名老中医典型医案集》
Achievements of "the 10th" Five-Year Plan："Collection of Typical Medical Records From Notable and Senior TCM Experts"

内科分册
External Medicine
外科分册
Surgery
儿科分册
Pediatrics
妇科分册
Gynecology
五官分册
Ophthalmalogy
针灸推拿分册
Acupuncture & Moxibustion

294万字
2311典型医案
360余种病症
2.640,000 words
2311 typical medical records
More than 360 diseases
（八）中药资源可持续利用及产业共性技术研发
Researches of Sustainable Utilization and Industrial Generic Technology of TCM Resources

・研究内容:
  - 中药资源开发与利用技术研究
  - 中药材及中成药产业化关键技术研究
  - 中药材资源保护与可持续利用研究
  - 中药材资源分布与生态环境影响研究
  - 中药材资源利用与生态环境保护研究
  - 中药材资源开发与利用研究
  - 中药材资源保护与可持续利用研究

Research:
- Biotechnology and the selection and cultivation of fine breed of Chinese herbal medicine
- Regionalization of famous-region drugs' suitable production areas and their eco-suitability
- Site production for Chinese herbal medicine production restoration techniques of soil micro-ecological environmental
- Technology of prevent and treat plant diseases and insect pests in sections of seed storage, production and cultivation and circulation of commodities, etc.
- Geographic technology in the process of herbal medicine gathering, primary processing and storage
- Processing technology of TCM decoction pieces and related equipment
- Pharmaceutical process of Chinese herbal medicine and generic technology of equipment engineering
- Suitability of application of modern formulations Chinese medicine preparation

・项目设置: Setting: 26 projects from 8 categories
- 研究队伍: 项目单位123个, 研究人员1267人 Teams: 173 institutes and 1267 researchers

（九）民族医药发展关键技术示范研究
Researches of Demonstration of Key Technology in the development of Ethnomedicine

・研究内容:
  - 民族医药理论研究
  - 中医药产业技术研究
  - 中医药产业技术示范研究
  - 中医药产业技术推广研究

Research:
- Clinical efficacy evaluation: Tibetan (rheumatoid, stroke sequelae and atrophic gastritis), Mongolian (yellow water joint disease, anaphylactic purpura and brain concussion), Uighur Medicine (wittigo, urenine hyperplasia)
- Characteristic processing technology and traditional preparation: Tibetan Medicine (Junior too, Calcium, Terminalia), Mongolian Medicine (Acornity, mercury, isolation and identification), Uighur Medicine ointments, powders, tinctures and other traditional preparation
- Standardization and systemization of characteristics of diagnosis and treatment technology in Zhuang, Korean, Yi and other ethnomedicines
- Special processing technology of toxic herbal medicine in Dai, Miao, Tujia and other ethnomedicines
- The salvage of medical techniques and skill s of notable and senior experts of ethnomedicine and 10 unerased ethnomedicines

・项目设置: Setting: 10 projects
- 研究队伍: 项目单位125个, 研究人员987人 Teams: 193 institutes and 987 researchers

（十）医药诊疗与评价技术研究
Researches of Diagnosis and Treatment and Evaluation Technology of TCM

・研究内容:
  - 中医诊疗信息和证侯分类特征信息分析方法研究
  - 中医诊疗信息的临床用途评价方法研究
  - 中药疗效评价和评价方法研究
  - 中药疗效评价和评价方法研究

Research:
- Method of analyzing information from TCM diagnostic methods and information from symptom classification
- Clinical efficacy evaluation methods that is consistent with TCM diagnosis and treatment
- Control and evaluation methods of the quality of TCM compound prescriptions
- Mechanism of Action of TCM compound prescriptions and evaluation methods of the compatibility of TCM prescription
- New technologies and methods of TCM diagnosis and treatment and evaluation

（十一）中药产业区域发展及特色产品研发研究
Researches of Regional Development of TCM Industry and Development of Special Products

・研究内容:
  - 区域性中药共性关键技术研究
  - 区域性中药产业技术研究
  - 区域性中药产业技术研究
  - 区域性中药产业技术研究

Research:
- Study regional key TCM generic technology
- Establish a technical system of regional Chinese herbal medicine production
- Research and secondary development of distinctive national drugs
- Secondary development of new drugs from resources with regional features and major varieties of Chinese patent drug
- Research and development of health care products from resources with regional features
（十二）中医药国际化示范研究

Researches of Demonstration of TCM Internationalization

研究内容：
- 中医药防治重大疾病的国际合作研究
- 中医药防治疑难疾病的国际合作研究
- 推进中医药产品进入北美市场的国际合作研究
- 推进中医药产品进入欧洲和澳洲市场的国际合作研究
- 推进中医药产品进入其他国家市场的国际合作研究
- 中医药标准规范化国际合作研究
- 中医药与现代医学国际合作研究
- 中医药与中药学国际合作研究

Research:
- International cooperation for TCM prevention and treatment of serious diseases
- International cooperation for TCM prevention and treatment of difficult diseases
- International cooperation that will promote TCM products’ entry into the North American market
- International cooperation that will promote TCM products’ entry into European and Australian market
- International cooperation that will promote TCM products’ entry into other overseas markets
- International cooperation of standardization of Chinese medicine
- International cooperation of TCM and metabonomics
- International cooperation of TCM and systematic biology

国家科技重大专项

National Science and Technology Major Project

重大新药创制科技重大专项

Major Scientific and Technological Special Project for “Significant New Drugs Innovation”

- 2008-2020 \( \times \) 350亿 2008-2020 3.5 billion
- 主要任务：针对10类重大疾病的创新药物研究开发：药物大品种技术改造：创新药物研发技术平台建设：企业创新药物研究开发孵化基地建设：新药研发关键技术研究

Main tasks: Research and development of innovative drugs for 10 kinds of serious diseases; Technological transformation of major varieties of drugs; Establishment of technology platform for research and development of innovative drugs; Base construction of new drugs in enterprise; New drug development and key technology research

- 项目：新药研发、药物大品种改造、新药研发平台、新药孵化基地

Projects: Research and development of new drugs; Technological transformation of major varieties of drugs; Research and development platform of innovative drugs; Base construction of new drug; New drug development and key technology research

艾滋病和病毒性肝炎等重大传染病防治专项

Major Projects of “prevention and treatment for major infectious diseases including AIDS and viral hepatitis”

- 2008-2020 \( \times \) 350亿 2008-2020 3.5 billion
- 主要任务：构建艾滋病、病毒性肝炎等重大传染病的防治体系，自主创新研发艾滋病诊断、预防和治疗产品，制定适合我国国情的重痛传染病防治方案和防治技术平台

Main tasks: to set up prevention and treatment system of serious infectious diseases such as AIDS and viral hepatitis; Independent research and development of diagnosis; prevention and treatment products; to set up clinical therapies of serious infectious diseases that are suitable for our country; to establish treatment and diagnosis technology platform which matches to developed countries

- 项目：艾滋病、病毒性肝炎、结核病、能力建设、中医药防治等8个项目

Projects: AIDS, Viral hepatitis, Tuberculosis, Capacity building, TCM prevention and treatment of serious infectious diseases
国家自然科学基金专项
Special Funds of the National Natural Science Foundation of China

- 国家自然科学基金面上项目
  The General Programs of the National Natural Science Foundation of China
- 国家自然科学基金重点项目
  The State Key Program of National Natural Science of China
- 国家自然科学基金重大项目
  The Major Program of the National Natural Science Foundation of China
- 国家杰出青年科学基金项目
  The National Science Foundation for Distinguished Young Scholars of China
- 国家自然科学基金国际（地区）合作研究项目
  The Funds for International Cooperation and Exchange of the National Natural Science Foundation of China

中医临床研究的任务
Tasks of TCM Clinical Research

- 根本任务是提高中医临床疗效
  The Fundamental Task is to improve TCM clinical therapeutic effect
  - 形成更多的研究成果，直接应用于临床，以提高临床疗效
    to gain more research achievements and apply them directly into clinical practice, thus to improve clinical therapeutic effect
  - 中医学的生命力在于临床疗效，提高临床疗效是中医药科学研究和科技工作的最终目标
    The vigor of Chinese medicine lies in its clinical therapeutic effect, and the ultimate goal of TCM research and scientific work is to improve its clinical therapeutic effect

中医临床研究的成果形式
Forms of TCM Clinical Research Achievement

1. 新的治疗方法或技术
   New treatment or technology
2. 新的诊疗方案
   New strategies of diagnosis and treatment
3. 在对病因病机新认识的基础上，在新的治则治法指导下，形成新的方药
   New prescription based on new recognition of the pathogenesis theory and under the guidance of new principle and methods
4. 新的具有中医特点的诊疗设备
   New diagnosis and treatment instrument with TCM characteristics

2008-12-30
发改委、中医局
National Development and Revolution Commission & State Administration of TCM

国家科技计划

国家自然科学基金国际合作与发展论坛
Hildebert Wagner 教授简介

Hildebert Wagner 教授担任生物医药部门主席直至 2010 年。1956 年于德国慕尼黑大学获博士学位。曾被评为生药学正教授和慕尼黑药用生物研究所主任至 1999 年。其研究领域涵盖分离、结构鉴定、合成与分析药用植物的药理活性成分。1995 年，他的机构在巴伐利亚政府的认可下建立了一家现代化研究室，以鉴定进口中草药的质量，从而在德国 Bad Kötzting 建立了第一家符合欧洲药品监督管理局要求的中医医院。

Curriculum Vitae of Hildebert Wagner

Professor Dr. Hildebert Wagner, emeritus, held till 2010 the chair of the Department of Pharmaceutical Biologist. He obtained 1956 the Ph.D. from the University of Munich, Germany. He was full Professor of Pharmacognosy and Director of the Institute of Pharmaceutical Biology, Munich till 1999. He spent one year of his sabatical as Distinguished Visiting Professor in the Department of Pharmacy Columbus/Ohio, USA and several months on the Institute of Org. Chemistry of the University of Budapest (Hungary) and the Department of Pharmacognosy in Chicago, he was Dean of the Faculty of Chemistry/Pharmacy 1981-1983 and obtained the Ph.D. honoris causae (h.c.) from the Universities of Budapest and Debrecen (Hungary) 1989, Dijon (France), Helsinki (Finland) 1997 and Iași (Romania) 2004. He is Honorary Professor of the Medicinal Chinese University of Beijing and a member of the Hungarian Academy of Science, branch Org. Chemistry. He holds the membership of Editorial/Advisory Boards of the International Journals: Phytochemistry, Ethnopharmacology and Natural Products and is since 1995 Editor in chief of the International Journal of Phytomedicine. His research areas cover isolation, structure determination, synthesis and analysis of pharmacologically active compounds of medicinal plants, particularly in the fields of alkaloids, heartglycosides, flavonoids lignans and polysaccharides with antiviral, anti-asthmatic, antiphlogistic, immunostimulating and adaptogenic activity. Since 1990 his topic research work was concentrated on the analysis and standardisation of Chinese Drugs to develop New Analytical Monographs of Chinese Drugs which are now published in 2 volumes by Springer Publ. Comp. Wien in July 2011. The main topic of his chemical pharmacological and therapy relevant investigations of Natural Products is to develop new pytopharmaceuticals for Phyto-firms. In 1995 his institution has obtained from the Bavarian Government the Commission to build up a modern laboratory for the quality proof of imported Chinese Herbal Drugs for the first Chinese Hospital in Germany in Bad Kötzting which meets the requirements of the European Regulatory Drug Authority. In cooperation with molecularbiologists and clinicians his present interest focuses on preclinical investigations for the development of new Chinese Phytopharmaceuticals for the prevention of the Cardiovascular Metabolic Syndrom in the framework of a Sino-German Joint Venture cooperation. His publication list counts 900 original papers, 30 review articles and 10 books among them “Immunomodulatory Agents from Plants (Birkhäuser Pub. Com.), Plant Drug Analysis (Springer Pub. Comp.) and Progress in Economic and Medicinal Plant Research Vol. I – VI Academic Res. Oxford.
Development of fixed Chinese drug combinations for the treatment of Metabolic Syndrome in TCM (MetS)

Part I: New Analytical Monographs of Chinese Drugs

First part: New Chinese drug analysis

Prof. H. Wagner
Center of Pharma Research – University of Munich – Germany

E-mail: wagner@cup.uni-muenchen.de

Requirements for the Integration of TCM Herbal Drugs into Western Medicine

According to the high standards of the European regulatory drug authority

Quality 质量
Safety 安全
Efficacy 有效

New Chromatographs analytical monographs
New Phytopharmaceuticals for evidence and rational based therapy

Traditional Chinese Medicine

The worldwide richest source of Chinese Drugs documented in the Chinese Pharmacopeias

From 1146 monographs 506 Herbal Drugs in the Chinese Pharmacopeias 2005

Camptotheca acuminate → Topotecan
cancer therapy

Artemisia annua → Artesunate
malaria therapy

Ginkgo and Ginseng Herbal Drugs known worldwide as the most famous Chinese Drugs
Experimental Challenges

- Uncertain botanical nomenclature
- Great species diversity
- Detection of falsifications and adulterations
- Lacking of Marker compounds
- Processed Herbal Drugs
- Investigation which extracts and procedures are optimal

Example I 例一:
Species diversity

Example II 例二
Falsification 伪造
Substitution 替代

HPTLC and HPLC Proof of the presence of Aristolochic acids
薄层和高效液相色谱法证明马兜铃酸的存在

References:
Example III: TLC – analysis of *Acorus calamus* and *Acorus tatarinowii* essential oils

TLC of the essential oil from *Acorus calamus* (1) and *Acorus tatarinowii* (2) boiled with water under reflux (1a + 2a) and normal (1b + 2b) conditions.

### Chromatographic Data

<table>
<thead>
<tr>
<th>Plant Species</th>
<th>Origin</th>
<th>% Essential Oil</th>
<th>% g - Acorin Content</th>
</tr>
</thead>
<tbody>
<tr>
<td>var. americanus WOLFF</td>
<td>USA</td>
<td>2-6</td>
<td>0-0.5</td>
</tr>
<tr>
<td>var. calamus L.</td>
<td>Europe</td>
<td>2-6</td>
<td>3-13</td>
</tr>
<tr>
<td>var. angustata ENGLER</td>
<td>East Asia</td>
<td>Tetraploid</td>
<td>-7</td>
</tr>
</tbody>
</table>

Example IV: Processing of roots of *Aconitum lateralis* 乌头侧根的加工

### Processing Comparison

<table>
<thead>
<tr>
<th>Group</th>
<th>Aconitine (mg kg⁻¹)</th>
<th>LSD (p = 0.05)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fresh (600 mg kg⁻¹)</td>
<td>25.2 ± 0.2</td>
<td>14 ± 3.2</td>
</tr>
<tr>
<td>Yunnan: Georgia (600 mg kg⁻¹)</td>
<td>3.4 ± 0.3</td>
<td>9.9 ± 4.3</td>
</tr>
<tr>
<td>Hebei: Yulin (600 mg kg⁻¹)</td>
<td>1.4 ± 0.2</td>
<td>10.7 ± 5.2</td>
</tr>
<tr>
<td>Shanxi: Pingliang (600 mg kg⁻¹)</td>
<td>1.1 ± 0.1</td>
<td>20.3 ± 5.2</td>
</tr>
</tbody>
</table>

Example V: Processing of the herb of *Pinellia rhizom* 半夏的加工

### Processing Comparison

1. Protein Pinellin possesses abortive properties, destroyed by alkali treatment. 能引起口腔粘膜炎的特性，被碱处理破坏。
2. Polyphenolics possess skin irritant properties, destroyed by cooking. 能引起皮肤过敏，烹饪破坏。

Example VI: Which extraction method provides optimal efficacy? 那种提取方式效果最佳?

**Example:** *Salvia miltiorrhiza* 丹参

<table>
<thead>
<tr>
<th>Extraction Method</th>
<th>Tanshinones</th>
<th>Salvinolic acids</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ether soluble</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Water soluble</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Alcohol solubility</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Optimal</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Conclusion

The new Analytical Monographs of Chinese Herbal Drugs provide the first important requirement for the future integration of new Phytopharmaceuticals derived from TCM into Western Medicine.
Part II: Chemopharmacological Approach

Chemosynthetic Western standard therapy for MetS chemical synthesis. The Western standard therapy

Diabetic syndrome (MetS) medicinal features of the metabolic syndrome (MetS) chemical synthesis.

Diabetes mellitus

Medicinal features of the metabolic syndrome (MetS) chemical synthesis.

Hypertension

Stroke

Heart attack

Heart failure
**Novel strategy for the selection of Chinese Drugs for MetS**

治疗代谢综合征中药选药新策略

**Step 1: Traditional Chinese Patent Medicines**

第一步：中医药筛选

**Step 2: Intergovernmental Chinese doctors in China and Germany**

第二步：中医药国际合作

**Step 3: Chemoprophylactic approach**

第三步：预防性化学方法

- Maintenance of the Multidrug combination (at most three Chinese drugs for each new formula) 联合多药结合（一个新方中最多三种中药）

- Synergy effect / multigain approach 协同效应/多目标方式

---


第一步：2005年中国药典中成药（337–791页）

**Hypertension**

118 Chinese drugs 118种中借用

**Step 2: Examples of Patent Medicines**

第一步：中成药举例

**Hypertension**

28 fixed combinations 28个固定复方

**Hypertension: 13 Chinese drugs**

1. Ephedrae Herba 0.6g 艾叶
2. Abdominal pressure 腹压
3. p. 037, Sheng Qu Jin Yin

**Hypertension: 6 Chinese drugs**

1. Abdominal pressure 腹痛
2. Biggest Zhi Qu Yin

**Diabetes: 6 Chinese drugs**

1. Abdominal pressure 腹痛
2. p. 019, Zhi Qu Jin Yin

**Diabetes: 11 Chinese drugs**

1. Abdominal pressure 腹痛
2. p. 019, Zhi Qu Jin Yin
Step 1 + Step 2 approach

**For cardiovascular events**
- Cuscuta tinctoria (JueMingZi)
- Carthamus tinctorius (Honghua)
- Salvia miltiorrhiza (GanCao)
- Panax notoginseng (Sanzha)
- Phytolacca americana (FuZi)
- Gailardia paradoxa (ChaoZao)
- Paeonia lactiflora (Paeonia)
- Stephania tetrandra (PengKu)
- Eupatorium capillifolium (MaoHuang)

**Hyperlipidemia**
- Aloe arborescens (ZhaLao)
- Gleditsia japonica (DuZha)
- Eleutherococcus senticosus (BaiJi)
- Lycium barbarum (KuanJia)
- Dioscorea opposita (ShanZha)
- Akebia quinata (ZhiCao)
- Coriandrum sativum (LiChang)
- Astragalus membranaceus (HuangQi)
- Gynostemma pentaphyllum (JinYe)

**Diabetes**
- Bambusa bambos (ShuiXiaoCa)

---

Step 3: Chemopharmacological approach

**For cardiovascular events**
- Cuscuta tinctoria (JueMingZi)
- Panax notoginseng (Sanzha)
- Carthamus tinctorius (Honghua)

**Hyperlipidemia**
- Dioscorea opposita (ShanZha)
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- Akebia quinata (ZhiCao)
- Coriandrum sativum (LiChang)
- Astragalus membranaceus (HuangQi)
- Gynostemma pentaphyllum (JinYe)

**Diabetes**
- Bambusa bambos (ShuiXiaoCa)
- Panax notoginseng (Sanzha)

---

Main chemical structures types of the selected Chinese Drugs X, Y, Z for Hypertension / Hyperlipidemia / Hyperglycemia – I

**Polysaccharides**

- D-Galp
- D-Galp
- L-Rhap
- D-Galp
- D-Galp

**Terpenoids**

- Triterpenoids
- Sesquiterpenoids
- Diterpenoids

---

Main chemical structures types of the selected Chinese Drugs X, Y, Z for Hypertension / Hyperlipidemia / Hyperglycemia – II

**Polysaccharides**

- D-Galp
- L-Rhap
- D-Galp
- D-Galp
- D-Galp
Günther Heubl 教授个人简介

Günther Heubl 1997 年成为慕尼黑大学系统植物学教授。1994 年-1997 年间，他被科布伦茨-兰道大学聘为正教授。其主要研究领域为生物分类学，显花植物的进化（侧重于研究利用分子生物技术来建立类群之间的亲缘关系）。此外，他还对利用显微镜和 DNA 条形码技术鉴定中医药用植物的研究十分感兴趣。在这一领域，他在全世界倡导，通过短而标准化的 DNA 序列，为中医中用到的天然药材提供一个快捷、有效、经济的鉴定工具。

Curriculum Vitae of Prof. Dr. Günther Heubl

Günther Heubl is Professor of Systematic Botany at the Ludwig-Maximilians-University Munich (LMU), where he has been since 1997. During 1994-1997 he had a full professorship at the University of Koblenz. He received his diploma at the LMU in 1979 and his PhD in 1984. His main research interests are biosystematics and evolution of flowering plants focusing on the use of molecular techniques to establish phylogenetic relationships among taxa. However, also traditional tools are used to address systematic questions; they include electron microscopy, morphometrics, phytochemistry, and biogeographical approaches. Based on DNA sequence information, morphology, and fossils he reconstructs the phylogeny of plant groups, tests hypotheses on spatial and temporal diversification and key innovations of several angiosperm groups. One current focus is on parasitic and carnivorous plants. Here evolution of host preferences and trapping devices, chromosomal and morphological evolution, ecological shifts, dispersal events, the evolutionary importance of hybridization, and the observed nuclear genome miniaturization are among the main research topics. Further current work concentrates on adaptive radiation on the archipelagos of the Canary Islands, which are excellent systems where both patterns of speciation, dispersal and natural selection can be more easily examined than in most continental regions. Additional research interests are in the authentication of Chinese medicinal plants using microscopic and DNA-Barcoding techniques. In this field he contributes to a global initiative to provide the tools for a rapid and cost effective identification of crude drugs used in Traditional Chinese Medicine (TCM) based on short, standardised DNA sequences.
DNA-based Authentication of TCM-plants

Flora of China

Confusion of species

Substitutes and adulterants of herbal products in Taiwanese market

Examples - "Fang Ji" and "Mu Tong" 此類易混淆的中藥名稱

DNA为基的中藥鉴别

USA/Kanada 17,000 species in the same area Germany only ca. 2500 species of vascular plants (trees and seed plants) 此區有17,000種物種，而德國僅有2,500種

Medicinal animals for animals 1,581 西藥動物

Medicinal minerals for minerals 80 西藥礦物

Fungi for fungi 252 真菌

Flora of China

Wu & Ding 1999: a national project spanning 10 years (1990-1999)

China with diverse diversity of ecosystems and habitats

China with diverse diversity of ecosystems and habitats

 variation in ecological, climatological and topographical features

Substitutes and adulterants of herbal products in Taiwanese market

Taiwanese market的替代品和假冒品的製品

Screening of 230 pharmacies (stores) in 21 cities 實行21個城市中的230家藥房

In 33 stores toxic Aristolochia maharishi done was sold instead of Clematis armandii 為了在33個藥房中販售毒性Aristolochia maharishi

Aristolochia fangchi contains aristocratic acid which is highly toxic and the incorrect identification and misuse of this species has resulted in severe intoxications 花千霜含有的獨特毒性，誤用後會誤確診

Substitution with A. maharishi done caused rain failure 為了Aristolochia maharishi的誤用造成失敗

Mutianyu 400m, 2007 年
Substitutes and adulterants

Classic example is Cordyceps sinensis (Ophiocordyceps sinensis), a fungus parasitising the larvae of some species of insects and dead caterpillars. One of the best-known traditional Chinese medicinal products, very scarce with a huge economic value. Many species are now in endangered status.

The consequences of counterfeit medicinal plants are enormous. DNA-based identification methods are available, such as PCR, and can be used to verify the authenticity of medicinal plants.

Advantages of DNA-based analyses

- Direct analysis of the genotype (DNA)
- Analysis is independent from physical conditions
- Age and stage of development
- Environmental factors
- Cultivation area
- Harvesting period
- Drying and storage conditions
- DNA in all parts of the plant available
- A small amount of plant sample is sufficient
- Fresh, dried, or even processed material can be used for analysis
- For most analyses, amplification of DNA via PCR is necessary

DNA analysis in plants

DNA occurs in 3 compartments of a plant cell:

- Mitochondria
- Chloroplasts
- Nucleus

Conserved DNA sequence

Polymorphic DNA sequence

Phenotypic sequence variability

DNA-Sequencing DNA analysis
DNA-fingerprinting DNA analysis

Macromolecular chemistry

Phytochemical plant chemistry

Molecular species

Leaves, flowers, fruits, seeds, pollen, crystals, etc.

Chemical profiling

DNA-Polymerase DNA analysis

DNA-fingerprinting DNA analysis

Consequences

Correct authentication of Chinese medicinal plants is essential to ensure safety, herbal drug quality, and consumer confidence. It guarantees reliable results from experimental studies and clinical trials.

DNA methods are able to achieve such high accuracy that DNA can be used to identify the species in the laboratory.
PCR – Polymerase chain reaction

PCR: Polymerase Chain Reaction

- Minute amounts of DNA can be copied very rapidly.
- Fundamental for analysis of DNA-region.
- DNA with a little DNA can be amplified in a cycle.
- Process involves 3 steps: denaturation, annealing, and elongation.
- Specific Primers (ca. 20 nucleotides) are used to amplify the DNA.
- In the amplification process, the DNA-region of interest is amplified using the primers.
- The amplified DNA is then sequenced.

RAPD – Analysis (Randomly Amplified Polymorphic DNA)

- No sequence information necessary, commercial primer-kits available.
- Highly sensitive, simple, fast, low costs, basic equipment.
- Problem: reproducibility, contaminant DNA.
- Solution: use of different primers.

RAPD + SCAR – Analyse (Sequence Characterised Amplified Region)

- DNA Fragment Amplified
- Cloning in bacteria
- Transformation
- Sequencing of fragment
- Specific Fragments

Polymerase Chain Reaction

- Principle of a PCR-Reaction
- Denaturation
- Annealing
- Elongation
Gudrun Ulrich-Merzenich 博士个人简介

德国，波恩大学

Curriculum Vitae of Gudrun Ulrich-Merzenich

Gudrun Ulrich-Merzenich, PhD
Medical Policlinic and Clinic III,
Universitätsklinikum Bonn
Friedrich-Wilhelms University Bonn, Germany

Gudrun Ulrich-Merzenich studied Biology and graduated 1990 at the University of Bochum in Germany. Her first international assignment was as UNV in the United Nations Development Programme from 1981 to 1983. From 1990 to 1995 she held scholarships from the German Academic Exchange Service and the Indian Council for Cultural Relations in India at the Benares Hindu University, the National Centre for Cell Science (Institution of the Department of Biotechnology), the Bharati Vidyapeeth College of Ayurveda and the Sane Guruji Pune hospital organizing joint research on Ayurvedic herbal treatment for rheumatoid arthritis with special emphasis on the glycosaminoglycan metabolism. As visiting scientist at the Children’s Hospital, Harvard Medical School, she worked on the Mannose-binding protein in rheumatoid arthritis. In 1998 she obtained her PhD in Natural Science (Dr. rer. nat.). Since then she works at the Medical Policlinic and Clinic III as senior scientist and since 2008 as Assistant Professor for Experimental Medicine in the Medical Faculty of the University of Bonn. Her major focus of research is the application of the “omic”-technologies in phyto- and nutritional medicine in autoimmune and cardiovascular diseases. Since 2007 she is co-editor of the journal Phytomedicine.

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Molecular Targets of the Metabolic Syndrome

Dr. Gudrun Ulrich-Herzenrich
Asst. Professor for Experimental Medicine
Medical Polyticas (Clin III)
Klinikum, Friedrich-Wilhelms-Universität Bonn
Germany

Metabolic Syndrome

Cluster of risk factors for cardiovascular disease and type 2 diabetes
- Hyperglycemia
- Obesity
- Dyslipidemia (raised triglycerides, lowered high density lipoprotein)
- Elevated blood pressure
- Insulin resistance

Risk factors: (clinical symptoms + biochemical parameters)
- Hyperlipidemia
- Hypertension
- Hyperglycemia
- Atherosclerosis
- Hyperuricemia

Pathophysiological Processes on the Molecular Level

Pathophysiology

Endothelial dysfunction:
- Process of atherosclerosis
- Hyperlipidemia
- Hyperglycemia
- Hypertension
- Age

Energy imbalance:
- Obesity
- Fatty acid intake/metabolism
- Insulin resistance

Dyslipidemia:
- Liver dysfunction
- Urea cycle dysfunction

Process of Atherosclerosis

Plaque Development

Robbins Pathologic Basis of Disease, 8th Ed. 1999
Molecular Targets: Selection

Adiponectin: a Link between Insulin Resistance and Obesity

- Highly expressed in adipose tissue
- Involved in metabolic and other functions
- Plasma levels: 5–30 mg/L in lean subjects
- Three forms: trimers, hexamers, high-molecular weight
- Adipose tissue, muscle, liver
- Obesity, DM2: Adiponectin levels decrease

Functions:
- Enhancement of insulin sensitivity
- Inhibition of inflammation
- Hepatic glucose production

Modulation:
- Adhesive molecules (endothelial cells)
- Smooth muscle cell proliferation

TNF-alpha and IL-6

- TNF-alpha: correlation between TNF-alpha / insulin resistance (1.36 pg/ml) in obese subjects (Tanaka, 2018)
- TNF-alpha antagonist: Glucagon-like peptide 1 (GLP-1)
- Only low production of TNF-alpha in human adipocytes
- IL-6 production in visceral adipose tissue
- Decreased insulin signaling in the presence of cytokines
- Chronic IL-6 level, TNF-alpha - insulin resistance

IL-6 as Target / Marker

- IL-6 in endothelial cells
- MAPK-Activation by ROS in Endothelial Cells
- Mechanism: MAPK, PI3K

Mitogen-activated Protein Kinases (MAPKs)
Thank You for Your Attention
Yanqing Wellenhofer-Li 教授个人简介

Yanqing Wellenhofer-Li 教授，补充和自然医学研究中心以及慕尼黑工业大学临床教学中心（Klinikum rechts der Isar）医生以及研究人员。
其研究主要集中于以下领域：
1. 中医、针灸、气功、营养学等；
2. 个人健康管理
发表著作：
1. 《中医舌诊中对形态特征描述的可靠性》。2009
2. 《可靠性研究——评估中医舌诊中对形态特征的描述》。2007
3. 《关于胃以及腹部疾病的针灸临床研究和经验》。2005

Curriculum Vitae of Dr. Yanqing Wellenhofer-Li

Physician and researcher, at Competence Center for Complementary Medicine and Naturopathy, University hospital “Klinikum rechts der Isar”, Technical University Munich. Her research interests focus mainly on the two clinical fields:
1. TCM, acupuncture, Qi Gong, Diätetik and so on.
2. Individual Health Management.

Her Publications are:
1. The reliability of the description of morphological characteristics in the traditional Chinese tongue diagnosis. 2009;
Risk: morbidity and mortality
风险：发病率和死亡率

Germany
70% of all men and 54% of all women are overweight or obese.
66% of men and 64% of women meet 3 criteria of metabolic syndrome.
Messori et al. Cardiovascular Diabetology 2010

China
30 million people in Germany currently suffer from metabolic syndrome.
One person dies of cardiovascular disease every 12 seconds today.

Financial burden on society
社会的财务负担

Health fund expenses rise inexorably. Conventional prevention and treatment have so far failed to counter this trend in a significant manner.
Healthcare expenditure has been rising rapidly.
China
Expenses resulting from cardiovascular diseases: 130.117 billion RMB (approx. 16 billion euros).
This accounts to 22.65% of the total healthcare costs in China.

Source: Ministry of Health of People's Republic of China
2011

Healthcare system needs changes!
医疗保健系统急需改进！

Healthcare system needs changes!
医疗保健系统急需改进！

Principle of solidarity must be complemented by principle of self-responsibility
以团结为原则，辅以自我负责的原则

Civil empowerment as the primary goal of health policy
以公民权为卫生政策的首要目标

More emphasis on health research and education
要加强健康研究和教育

2005 USA AHA/NHLBI: Lifestyle intervention is first-line treatment for metabolic syndrome.
2005年美国的AHA/NHLBI学术文件：生活方式干预是代谢综合症的一线治疗。
代谢综合征 - 治疗

代谢综合征 - 治疗

代谢综合征 - 治疗

代谢综合征 - 治疗
Metabolic syndrome – Treatment

Self-help techniques 自助技巧

- tips against ravenous appetite
- breathing relaxation
- hydrotherapy

HIM 个人健康管理

TCM 中医

Treatment goals 治疗目标

IHIM 个人健康管理

TCM 中医

Improve physical functions 提高身体机能
- nutrition 营养
- movement 运动
- thermoregulation 体温调节

Relieve stress 减轻压力
- affected functions 受影响的机能
- expulsion pathogenic factors 驱除病邪

Improved cognitive functions 改善认知功能
- stress management 压力管理
- relaxation 放松

Case example 1: "increased risk of hypertension"

Fasting blood glucose: 134 mg/dL, BMI: 29.4, blood pressure: 150 / 90 mmHg

IHIM recommendations IHIM建议:

Targets 目标:
- Reduce systolic blood pressure (upper value) by 5 mmHg and/or normalize body weight

Remedies 疗法:
- 7,000 regular steps + 3,000 steps for endurance every day

Power exercise 力量训练:
- 2 to 3 minutes every week

Nutrition 饮食:
- 4 days carbohydrate reduction / avoidance
- 1 day cleansing

in addition: dietary fibers

Case example 2: "moderate overweight"

BMI: 27.0

Targets 目标:
- Reduce BMI by 2 kg/m² and/or reduce body weight by 10% (of current weight)

Remedies 疗法:
- 5,000 regular steps + 4,000 steps for endurance every day

Power exercise 力量训练:
- 2 to 3 minutes every week

Relaxation 放松:
- specific relaxation techniques, daily retrospective

Nutrition 饮食:
- 4 days carbohydrate reduction / avoidance
- 1 day cleansing

in addition: dietary fibers

Überblick zur Lebensstil-Empfehlungen "richtiges Übergewicht"
Conclusion

IRIHM and TCM aim at causal treatment of metabolic syndrome by attempting to:

1. Eliminate the triggering factors, and
2. Strengthen the functions that are important for health and (metabolic) regulation.

加强对健康以及（代谢）调节十分重要的机能
黄继儿个人简介

黄继儿，香港特别行政区政府驻柏林经济贸易办事处主任。香港特别行政区政府驻柏林经济贸易办事处于2009年3月9日正式成立，黄继儿先生为办事处主任，主要职责包括代表香港特别行政区政府处理与东欧商务关系及有关经贸的事宜，并与各国经济特区、文化机构、企业、院校、智库及媒体建立联系，工作目标为推动香港在该地区的商业及整体形象。


黄先生毕业于香港大学（经济及国际贸易学士），并于伦敦政治经济学院取得知识产权法及民事诉讼法律硕士学位。他是执业大律师，亦为香港仲裁司学会资深会员及伦敦专家学会合资格纠纷调解员。此外，黄先生亦曾在香港两所法律学院担任论述及客席教授。

Introduction to Stephen Kai Wong

Mr. Stephen Kai Wong is the head of the Hong Kong Economic and Trade Office based in Berlin set up in March 2009. His main responsibilities include representing the Government of the Hong Kong Special Administrative Region in commercial relations and other economic and trade matters, as well as establishing and developing contacts with the governments, politicians, trade organizations and business corporations, academia, think-tanks and media representatives in Germany, the Czech Republic, Austria, Switzerland, Slovenia, Hungary, the Slovak Republic and Poland. He is tasked with promoting Hong Kong’s trade interests and overall image in the region.

In 1983, Mr. Wong was awarded a Government Legal Scholarship to pursue legal studies and professional qualifications in England. He returned to Hong Kong to take up the post of Crown Counsel in 1986 in the Prosecutions Division of the Attorney General’s Chambers. In 1991, he was posted to the United Nations Centre for Human Rights in Geneva as an associate expert under the auspices of the UK Permanent Mission. As the Deputy Solicitor-General during the period 1996-2007, he was responsible for promoting and proposed amendments to legislation relating to the working of the constitutional principle “One Country; Two Systems”, WTO issues, civil and commercial dispute resolutions mechanisms. He also led delegations reporting to various international human rights monitoring bodies, and headed special committees in the reform of the Arbitration Law, and the consultation with Mainland China’s authorities on the drafting and implementation of various trade related legal issues, including the Closer Economic Partnership Arrangement (CEPA) in legal services, the Arrangements on Reciprocal Enforcement of Arbitral Awards, and of Court Judgments in Civil and Commercial Matters. He had also continued to appear as an advocate in judicial reviews, criminal trials and appeals, in particular those relating to the Basic Law till he left Hong Kong for Brussels in April 2007 to prepare for the setting up of the Berlin Office.

Mr Wong holds a Bachelor degree in Economics and International Trade from the University of Hong Kong and a Master of Laws degree in Intellectual Property Law and Maritime Law from the London School of Economics. He is a barrister, a fellow of the Hong Kong Institute of Arbitrators and a Qualified Dispute Resolver of the Academy of Experts based in London. He also served as an advocacy examiner and adjunct professor at two law schools in Hong Kong.
The Basic Law of the Hong Kong Special Administrative Region of the People's Republic of China

1 July 1997 - Hong Kong Special Administrative Region

"One country, Two systems" own legal system
own financial system
own economic system
own social system
own political system

High degree of autonomy

The Basic Law of the Hong Kong Special Administrative Region of the People's Republic of China

- Article 135 of the Basic Law

"The Government of the Hong Kong Special Administrative Region shall, on its own, formulate policies to develop western and traditional Chinese medicine and to improve medical and health services. Community organizations and individuals may provide various medical and health services in accordance with law."

Hong Kong's Health Care System

- Primary health care service:
  - Public (29%)
  - Department of Health (4%)
  - Hospital Authority (25%)
  - Private (71%)
  - Private practitioner (57%)
  - Chinese medicine practitioner (15%)

*Figure** based on number of attendees (Thematic Household Survey No. 5, 2010)
CM Development in HK

Background
- An integral part of the Chinese culture, has made significant contribution to the public health.
- Usage of prevention and treatment of diseases as well as health maintenance.
- Being popular in Hong Kong for it has been used in the community for many years.
- At present, about 20% of the medical consultations in Hong Kong are currently provided by Chinese medicine practitioners.

Policy and Regulatory Structure
- Policy Address (1997 and 1998)
  - To establish a statutory framework to regulate the practice as well as the teaching, manufacturing and sale of Chinese medicines.
  - To develop Hong Kong into an international centre of Chinese medicine.
- 1997
  - Establishment of Chinese Medicine Division under the Department of Health.
- July 1999
  - Enactment of the Chinese Medicine Ordinance (Cap.549).
- September 1999
  - Establishment of the Chinese Medicine Council of Hong Kong.
- 2004
  - The first public Chinese medicine out-patient clinic was established in 2004.

CM Development In HK: Organizations and Mechanisms
- Chinese Medicine Division
  - Department of Health, HK SAR
  - The enforcement of the Chinese Medicine Ordinance.
  - Listing with local and overseas institutions and government departments for information about Chinese medicine.
  - Establishing the Hong Kong Chinese Materia Medica Standards Office to manage and co-ordinate the project.
  - Providing identification services of Chinese medicines to other government departments.

Regulatory Structure

Statutory regulatory body ➔ Chinese Medicine Council of Hong Kong

Government ➔ Food and Health Bureau ➔ Department of Health ➔ Hospital Authority ➔ Public Chinese medicine clinics

Regulatory Means
- Registration of Chinese medicine practitioners
  - Commenced since 2002
- Mandatory continuing education in Chinese medicine
  - Must meet requirements on continuing education before renewal of practising certificate every 3 years.
- Disciplinary system
  - Chinese Medicine Practitioners (Discipline) Regulations and Code of Practice for Registered Chinese Medicine Practitioners.
Regulation of Chinese Medicines

**Regulatory Means**

- Licensing of Chinese medicines traders
- Control distribution and sale of Chinese herbal medicines
- 4 types of traders must apply for a licence

**Registration of proprietary Chinese medicines**
- Ensure safety, quality and efficacy of products
- All proprietary Chinese medicines manufactured or sold in Hong Kong must be registered

**Monitoring system for the safety of Chinese medicines**
- Obtain samples from market regularly to ensure the safety and quality of Chinese medicinal products for sale in the market

**Import and export control of Chinese medicines**
- Import and export proprietary Chinese medicines and 16 types of Chinese herbal medicines must apply for licence

CM Development in HK: Organizations and Mechanisms

- Chinese Medicine Council of Hong Kong
  - Regulatory body comprises practicing Chinese medicine practitioners, members of the trade of Chinese medicines, academics, lay persons and government officials.
  - Registration of Chinese medicine practitioners under the transitional arrangements
  - Formulation of detailed measures on the examination and discipline of Chinese medicine practitioners
  - Implement the licensing system of Chinese medicines traders and the registration system of proprietary Chinese medicines by phases
  - Assessment of the safety, efficacy and quality of proprietary Chinese medicines will be implemented before the products being allowed to be registered

Picture of the Chinese Medicine Council of Hong Kong

- Chinese Medicine Council of Hong Kong
- Chinese Medicine Practitioners Board
- Chinese Medicines Board
- Registration Committee
- Examination Committee
- Disciplinary Committee
- Committee on Assessment of Chinese Medicine Degree Courses
- Ethics Committee
- Chinese Medicine Committee
- Chinese Medicine Traders Committee
- Regulatory Committee of Chinese Medicine Traders

CM Development in HK

**Medical Services: One of The Six New Growth Industries**

- No one in Hong Kong is deprived of medical care because of lack of means. Overall health expenditure is increasing each year due to pressures caused by a variety of factors, such as Hong Kong’s ageing population, rising expectations of healthcare and spiraling medical costs.

- The Government has pledged to increase Healthcare spending from 15 per cent of recurrent expenditure to 17 per cent by 2012.
- Medical Services is one of the six new growth industries in Hong Kong, and the Government is facilitating the development of Chinese Medicine and medicine products.

CM Development in HK

**Medical Services: One of The Six New Growth Industries**

- The Hospital Authority is testing different models of Chinese and Western medicines’ shared-care services in various hospitals, with a view to provide CM services on a larger scale.
- Kwong Wah Hospital: Proposed Chinese Medicine Building
- An international Advisory Board has been established for the HKCMMS.
Development of Standards for Chinese Herbs

- **Hong Kong Chinese Materia Medica Standards project (HKCMMS project)**
  - Commissioned by the Department of Health in 2001 to provide safety and quality reference standards for commonly used Chinese herbs in Hong Kong.

- **2009-10 Policy Address**
  - To facilitate the development of Chinese medicine, the Government will expedite the setting of standards for Chinese herbal medicines commonly used in Hong Kong. We aim to extend our coverage from the current 65 herbal medicines to about 260 by 2012.

The Good Manufacturing Practice (GMP) for Proprietary Chinese Medicine

- **2010-11 Policy Address**
  - To work out a blueprint for mandatory compliance with the Good Manufacturing Practice for the manufacture of proprietary Chinese medicines.
  - Guideline has been published to traders for reference.
  - Number of GMP certificate holders: 8

CM Development in HK: Education

- **Three local universities have provided full-time degree courses on Chinese medicine.**

- **In the long run, the local education institutions could produce an adequate pool of high calibre professionals to support Hong Kong’s development as an international centre for Chinese medicine.**

CM Development in HK Education

- **School of Chinese Medicine, The University of Hong Kong:**
  - Established in 2008 focusing on Chinese Medicine courses, while complemented by biomedical science courses.
  - Institute of Chinese Medicine, School of Chinese Medicine, The Chinese University of Hong Kong:
    - Established in 2006, with a view to facilitating the cooperation between traditional and western medicine, dedicated to authenticating, quality control, safety assurance and drug development research.
  - Project “Chinese Medicine Research and Further Development” was selected as an “Area of Excellence” by the University Grants Committee (UGC) in 2011.
  - School of Chinese Medicine, Hong Kong Baptist University:
    - The first Bachelor of Chinese Medicine and Bachelor of Science (Honours) in Biomedical Science programme was launched in 1999. More emphasis on academic research and technology development which enables their research in Chinese medicine to gain among the best in the world.
CM Development in HK: International Collaboration
- Maintained
  - MOU to enhance health and medical cooperation (2007)
  - Cooperation agreement on Chinese medicine (2007)
  - Cooperation agreement on control of drugs and medical device (2010)
- Health Canada
  - Plan of Action for Regulatory Cooperation on Natural Health Products (2008)

CM Development in HK: International Collaboration
- World Health Organization
  - Participated meetings of International Regulatory Cooperation for Herbal Medicines
  - Hosted three WHO Meetings on the International Classification of Traditional Medicine since 2009
  - Hosted the Expert Consultation Meeting on the Regional Strategy for Traditional Medicine in the Western Pacific Region in 2010
- Forum on Harmonization of Herbal Medicines
  - As current chairman of Standing Committee

CM Development in HK: More Government Policy
- Creation of a network of institutions of high standing for research and development work
- Development of new drugs for enhancement of the competitiveness of the Chinese medicine industry

CM Development in HK: More Government Policy
- Setting up of research funds for support of research in Chinese medicine
- Development of centres for evaluation of health benefits derived from Chinese medicine-based products through clinical trials and research

The Hong Kong Economic and Trade Office, Berlin
- First overseas Government representative office after the reunification
- To provide you with:
  - Information
  - Support
  - Practical Assistance
- Continues to promote the interest of Hong Kong with Hong Kong Tourism Board and Hong Kong Trade Development Council

For more information
Hong Kong Economic & Trade Office, Berlin,
The Government of the Hong Kong Special Administrative Region,
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10117 Berlin, Germany
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Website: www.hkmb.com
W. Weidenhammer 个人简介


Curriculum Vitae of W. Weidenhammer

W. Weidenhammer was born in Erlangen, Germany, in 1952. After high school he finished his education as psychologist in 1979 at University Erlangen with diploma. In 1987, he was awarded a Doctorate in Human Biology (Dr. rer. biol. hum.) at medical faculty of University Munich, and a Doctorate in Philosophy (Dr. phil.) at department of psychology, University Koblenz-Landau in 2005. Since 1994, W Weidenhammer holds the position as Academic researcher at Competence Centre for Complementary Medicine and Naturopathy, University hospital “Klinikum rechts der Isar”, Technische Universität, Munich. Formerly, he was Academic researcher at Division of Medical Psychology, Psychiatric university hospital Erlangen, and was employed for several years as bio-statistician in different CROs for clinical research. Memberships include Deutsche Gesellschaft für Medizinische Informatik, Biometrie und Epidemiologie (gmds), International Society for Quality of Life Research, and International Society for Complementary Medicine Research ISCMR. W Weidenhammer is member of the steering group of the European chapter within ISCMR and has been member of the steering group of ‘Forum universitärer Arbeitsgruppen für Naturheilverfahren und Komplementärmedizin’ from Germany, Austria and Switzerland. He is member of the Scientific Board of the European Information Centre for CAM (EICCAM) and member of various scientific boards for CAM oriented peer-reviewed journals. He is author of more than 150 articles and book chapters published since 1980. Currently he is coordinating a European CAM project funded by the European Union.
Conclusions

Quality profiling proves successful as a tool

- To describe the practice of care dramatic differences
- To identify areas for improvement in patient care episodes
- To investigate potential risks within specific areas
- To help assure and improve the quality of care in terms of patient care episodes

It is not appropriate or sufficient for the following points:

- Estimating the cost-effectiveness ratio
- Exploring causal effects under specified conditions

Patient Care Evaluation Program - TUM Hospital Bad Kissingen
Rudolf Bauer 教授个人简介


Curriculum Vitae of Rudolf Bauer

Professor Dr. Rudolf Bauer studied pharmacy 1976-1980 at the University of Munich; 1984 graduation as Ph.D. at the Institute of Pharmaceutical Biology, University of Munich, under the supervision of Prof. Dr. H. Wagner; 1993 – 2002 Associate Professor at the Institute of Pharmaceutical Biology, University of Düsseldorf; since 2002 he is full professor of pharmacognosy at University of Graz, Austria, and since 2004 he is Head of the Institute of Pharmaceutical Sciences at University of Graz. He has long experience in natural product chemistry, analysis and the bioassay-guided isolation of constituents from medicinal plants. He has published more than 270 research papers. He is past president of the Society for Medicinal Plant and Natural Product Research (GA) and Editor of Planta Medica. Prof Bauer has been active in the development methods for quality control of Chinese herbs for 20 years. He is member of the expert group 13A and of the working group on TCM of the European Pharmacopoeia Commission; he is actively involved in the development of monographs of Chinese herbs for the European Pharmacopoeia; he is also member of the TAM Advisory Board of the Austrian Minister of Health. Together with Professor Litscher (Medical University of Graz) he is heading the TCM Research Center Graz.
Definition of (Herbal) Medicinal Products

- (a) Any substance or combination of substances presented as having properties for treating or preventing disease in human beings; or
- (b) Any substance or combination of substances which may be used in or admitted to human beings either with a view to restoring, correcting or modifying physiological functions by exerting a pharmacological, immunological or metabolic action, or to making a medicinal diagnosis.

Directives 2001/38/EC and 2001/83/EC Article 1

Needs for drug approval (of herbal medicine)
(草药医药的) 药品审批需要

- Proof of quality 质量认证
- Proof of efficacy 效率认证
- Proof of safety 安全认证

“The Scientific Rationale of Drug Approval” 科学的理论药品批准

European quality guidelines for drug approval of herbal products
欧洲中药的药物审批质量指南

- Public Statement on Good Agricultural and Collection Practice for starting materials of herbal origin (GACP)
- Good Agricultural and Collection Practice (GACP)
- Guideline on Quality of Herbal Medicinal Products / Traditional Herbal Medicinal Products
- 药产品的质量控制和传统中药的指导方针
- Guideline on Specifications: Test procedures and Acceptance Criteria for Herbal Drugs, Herbal Drug Preparations and Herbal Medicinal Products / Traditional Herbal Medicinal Products
- 使用指南；草药药物的测试程序和可接受标准
- Guideline on Stability Testing: Stability Testing of Existing Active Substances and Related Finished Products (CPMP/QWP/122/02)
- 稳定性测试的指导方针：现有活性物质和相关的成品的稳定性实验

Pharmacopoeia monographs: The legal basis for quality control of TCM herbs

http://www.ema.europa.eu
A4-0075/97

8. Incorporating non-conventional medical remedies to the European Pharmacopoeia

The European Pharmacopoeia, as drawn up by the Council of Europe, needs to be opened up to other pharmacopoeiae particularly the medicinal plants listed in Chinese medicine.

European Medicines by the European Pharmacopeia, needs to be opened up to other pharmacopoeiae particularly the medicinal plants listed in Chinese medicine.

Elaboration of Monographs for TCM herbs for the European Pharmacopoeia

European Pharmacopoeia (3rd ed.), 1993

Monographs on the Pharmacopoeia: 27 monographs adopted by the Pharmacopoeia Commission of the 3rd edition of the Pharmacopoeia Europaeuropa

Chapter 9: Monographs for General Methods

Test for Aristolochic acids: published with special methods of detection

Monographs published in Pharmeuropa

Members and Observers of the European Pharmacopoeia

European Medicines by the European Pharmacopoeia

Aspects of pharmaceutical quality control of herbal medicinal products

Clear botanical definition

Tests for identification

Tests for purity and related substances

Foreign materials and impurities

Heavy metal and residue

Pesticides and residual solvents

Fumigation and microbial contamination

Residual solvents and pesticide residues

Assay for constituents of known therapeutic activity or for (active) markers
Establishment of Monographs on Efficacy and Safety of HMPs

Committee on Herbal Medicinal Products (HMPC) at the European Medicines Agency (EMA)

- Prepares a draft list of herbal substances, preparations and combinations ("European positive list")
- Establishes Community monographs for traditional and well-established herbal medicinal products.

So far no Chinese herbs considered!

Criteria for "traditional" herbal medicinal products according to EU Directive 2004/24/EC

- Limited indications ("OTC II")
- Specified strength and posology
- Oral, external or inhalation preparation
- Period of traditional use has elapsed at least 30 years (out of which at least 15 in the European Union)
- Sufficient data on traditional use

EU Directive 2004/24/EC on Traditional Herbal Medicinal Products

- Facilitates the legal marketing for OTC use
- It does not cover the treatment of severe diseases
- Efforts on quality are still high
- Does not allow innovative products (IPR difficult)

For modernized TCM, it is better to develop products for "well established" use or "new" products

Joint Research Project of the TCM Research Cluster Austria with the Sinof-Austrian Collaborating Centre for Chinese Medical Sciences

TCM and Age Related Diseases

DCM extracts of Notopterygium radix showed strong anti-inflammatory activity:

- Activation of PPAR-gamma
- Inhibition of LPS/TNF induced expression of IL-8 and E-selectin in HUVEC-tert
- Inhibition of NO production in RAW264.7 macrophages
Summary and Conclusions

- In the European Union, precise regulations are existing for the approval of Chinese herbal drugs as medicinal products.
- Approval is possible as new, well established, or traditional products.
- In order to guarantee safety and efficacy, all Chinese herbal medicinal products must undergo serious quality control.
- For well established and traditional herbal medicinal products, proof of efficacy and safety can be based on bibliographic data, and corresponding monographs should be established.
- More research is necessary to improve clinical evidence and our knowledge on relevant constituents and mechanism of action.

谢谢
Thank you very much!

13th International Congress
of the Society for Ethnopharmacology
in Graz, September 2. - 5. 2012
"Ethnopharmacology along the Silk Road"

Welcome to Graz! 格拉茨欢迎你
王宁教授个人简介

王宁博士为卢森堡国家健康研究中心资深教授，卢森堡国家健康研究中心中医药研究室负责人，欧盟医药健康类项目评审专家，多年来一直为中医药事业走向世界而奔波。

Curriculum Vitae of Dr. Wang Ning

Dr. Wang Ning is a senior professor in CRP-Santé, Luxembourg. She takes charge of TCM research room of CRP-Santé. Doctor Wang is an evaluation expert of medicine project in European Union. Doctor Wang devoted herself to the dissemination and globalization of Chinese medicine.
Sino-Europe Collaboration on TCM Research — New Drug Development

Dr. Ning Wang
CRP-Santé, Luxembourg

Main policy drivers:
- Improving health of European citizens
- Improving competitiveness of European health-related industries and businesses
- Addressing global health issues, including emerging epidemics

Budget:
€1.5 billion over 7 years (2007-2013)

EU-China Scientific Agreement

Current topics proposed:
- Infectious diseases
- Diabetes
- TCM including anti-microbial resistance
- Proteomics
- Translational science and translational medicine

Evaluators:
China / EU
Balanced consortiums are expected

Traditional Chinese Medicine (TCM) in the Post-genomic Era

TCM in Cancer

Seventh Framework Programme

Partners:

CRP-Santé Luxembourg (Co-ordinator)
University of Bergen Norway
Modern Research Center for Traditional Chinese Medicine Shanghai
Institute of Medicinal Plant Development Beijing
Aims 目标

1. Select a number of purified and chemically defined compounds.
   选择一批纯化和化学定义的化合物。

2. Using high throughput screening technologies together with state of the art prediction models, identify a set of lead candidate compounds with anti-fungal activity.
   使用高通量筛选技术结合最先进的预测模型，识别具有抗真菌活性的一组候选化合物。

3. Determine their novel as putative therapeutic compounds.
   确定其作为潜在的治疗性化合物。

4. Determine their mechanism of action at the genetic level.
   确定其在基因水平上的作用机制。

5. Determine their toxicology profile and pharmacological parameters.
   确定其毒理学特征和药理参数。

6. Determine their absorption mechanism and pharmacokinetic properties.
   确定其吸收机制和药动学特性。

Cell IQ ChipMan Technologies 细胞智能高通量技术

- Cell Morphology studies 细胞形态学研究
- Proliferation studies 生长研究
- Apoptosis studies 凋亡研究
- Cell Cycle Inhibitor Studies 细胞周期抑制剂研究
- Cell Viability studies 细胞活性研究
- Toxicity Assays 毒性检测
- Cytotoxicity of cancer drugs 抗癌药物的细胞毒性

Transfer of knowledge 学术交流

Scientists from China to CRP-Sarlé (Luxembourg)
从中国科学家到CRP-Sarlé（卢森堡）

High-throughput screening of compounds in established cancer cell lines and spheroids.
使用高通量筛选技术在已建立的癌细胞系和球体中筛选化合物。

Established a pharmacology and genomics screening system for TCM.
建立了一种用于TCM药理学和基因组学筛选的系统。

Established the research cooperation with the University of Bern (Switzerland).
与伯尔尼大学建立研究合作。

Exchanges in 2009 (1) 交换（1）

2 PhD Students from IMPLAD-PUMC, Beijing visited CRP-Sarlé in 2009
2009年北京协和医科大学2位博士生访问CRP-Sarlé

Screened 24 purified plant compounds for anticancer activity in different cancer cell lines.
在不同癌症细胞系中筛选24种纯化植物化合物。

Eight of the compounds had very strong effects on at least one cell line.
这8种化合物对至少一种细胞系有显著影响。

One compound showed very high cytotoxicity to all 5 cell lines tested (including a control sargoside cell line).
一种化合物对所有5种细胞系（包括对照沙古糖细胞系）均有极高的细胞毒性。

Exchanges in 2009 (2) 交换（2）

2 Associate-Professors from MRCTCM-SMMU, Shanghai visited CRP-Sarlé in 2009
2009年上海中医药大学2位副教授访问CRP-Sarlé

24 compounds isolated from five different Alocia plants were investigated for anti-cancer activity.
从5种不同的Alocia植物中分离出24种化合物，用于抗肿瘤活性研究。

One compound displayed a potential anti-proliferative effect against breast cancer and colon cancer cells but didn’t show cytotoxicity to normal control cells.
一种化合物对乳腺癌和结肠癌细胞具有潜在的抗增殖作用，但未对正常对照细胞表现出细胞毒性。
**Exchanges in 2010**

Two scientists from IMPLAD (Beijing) presently visiting CRP-Santé

Two scientists from CRP-Santé presently visiting MRCTCM (Shanghai)

**Perspectives**

- Further screening of purified compounds as well as of extracts from local (European) medicinal plants for novel biactive compounds
- Determine the types of bioactivities (anti-cancer, etc.)
- Identify the primary targets in the membrane
- Identify the early steps leading to apoptosis
- Determine the pathways affected (apoptosis, etc.)
- Identify the primary targets in the membrane
- Identify the early steps leading to apoptosis
- Determine the pathways affected (apoptosis, etc.)

**Screening of anticancer activities in plant extracts (local)**

- 30 extracts were obtained from leaves, stems, flowers and roots of 11 flowering plants as well as 5 ferns
- From 11 flowering plants and 5 ferns, 30 extracts were obtained

**5 extracts exhibit anti-cancer activity**

- **MTT assay after 48h**

- Jurkat cells: T cell line from leukemia
- PBMC: Peripheral blood mononuclear cells

- In vitro assays on cell viability
Conclusions:

- 5 extracts from local European plants tested exhibit anticancer effects.
- Extract 18 shows a relatively strong and specific effect on leukemia cell lines.
- Extract 18 induced apoptosis on leukemia cells involves the mitochondrial signal transduction pathway, including imbalance of Bax/Bcl-2 ratio, the disruption of mitochondrial membrane potential, release of cytochrome C, and the activation of caspase-9, 3.
- Extract 18 was tested in peripheral blood leukemia cells, with the identified effect on leukemia cell function and caspase-9, 3 activity.
Perspectives 研究内容

- To purify and identify the component(s) responsible for these cytotoxic effects.
- 提纯和确定主导细胞毒性作用的成分
- To identify the primary target(s) in the cell membrane and proteins involved in the early stages of apoptosis.
- 在细胞膜和蛋白质参与细胞凋亡的早期阶段确定主要目标
- To investigate the cell death pathways using a variety of experimental approaches.
- 通过一系列实验手段研究细胞死亡途径

EU research欧盟研究: http://ec.europa.eu/research
Seventh Framework Programme 第七框架计划: http://ec.europa.eu/research/fp7/
Information on research programmes and projects 研究方案和项目的信息:
http://cordis.europa.eu/
http://ec.europa.eu/research/research-eu/
Information requests 信息需求:
http://ec.europa.eu/research/enquiries/
钟漘教授个人简介


2003年作为人才引进调入成都中医药大学附属医院副院长。在此期间，系统学习了中西理论，并在繁忙的工作之余，虚心向老中医学习，其中包括首四名中医，糖尿病专家吴康衡教授。很快他在临床形成了自己的中西医结合风格，强调标本兼治，注重中医扶正固本与西医抗病毒结合，于治疗慢性乙肝，丙肝，脂肪肝，重症肝炎，肝硬化，肝癌方面疗效较好。此外，还擅长治疗各种不明原因的发热，艾滋，丙肝，肺结核等感染性疾病。

现为成都中医药大学附属医院院长，感染科教授，博士生导师。四川省学术和技术带头人，享受国务院特殊津贴专家。中国中西医结合学会传染病、肝病专业委员会委员，四川省中西医结合学会肝病专业委员会副主任委员、防病协会副会长兼、感染病学专业委员会常务委员。

Curriculum Vitae of Zhong Sen

Dr. Zhong Sen, male, born in Xi'an, graduated from Luzhou Medical College, Jinan University in Guangdong Province and Chongqing Medical University; there he received his Bachelor’s, Master’s and doctorate degree in 1962, 1983, 1989 and 1994 respectively. He was promoted to associate professor and professor of epidemiology in 1995 and 1998 due to his prominent performance and was regarded as academic and technology leaders officially in Sichuan Province in 2002.

He used to serve as director of infectious diseases department in Affiliated Hospital of Luzhou Medical College, director of Teaching and Research Office Research Office of epidemiology, Hospital Vice President, Deputy Director of the Department of Clinical Medicine etc. He was transferred to the Teaching Hospital of Chengdu University of Traditional Chinese Medicine through the talent introduction project and was appointed as vice president in 2003. There he learnt Traditional Chinese Medicine systematically with the TCM masters both from theory and practice. Despite his busy work in clinic and scientific research, he made great efforts to follow many old TCM professionals; one of them was Dr Kangheng Wu, a specialist in both pediatrician and epidemiology, one of the 10 most famous doctors within Sichuan Province. Soon he has formed his own therapeutic features through clinical practice by applying integrated TCM and Western medicine methods. He is specialized in treating infectious diseases including AIDS, Chronic hepatitis B, Hepatitis C, Fatty liver, liver cirrhosis, liver cancer, pulmonary tuberculosis, fever with unknown reason.
etc. especially when treating chronic hepatitis B, he emphasizes on the importance of integrated traditional Chinese and Western medicine method with Chinese herbs to strength the vital qi or balance the immunity and Western antiviral agents to combat HBV the use of which depend on the viral load. This integrated method is proved to be effective and better than single method. The corresponding mechanism is under laboratory research right now.

He is now president of Teaching Hospital of Chengdu University of TCM, professor and doctoral advisor in hepatology department, one of the academic and technical leaders in Sichuan Province, clinical expert enjoying special allowance from the State Council, committee member of hepatology and infectious diseases department of China integrated Chinese and Western medicine association, vice director member of hepatology vice chairman of the Professional Anti-TB Association, member of the infectious diseases association in Sichuan Association of Integrated Chinese and Western medicine.
**Chinese herbs of Cold and Hot property in the treatment of type 2 diabetes mellitus**

*Teaching Hospital of Chengdu University of Traditional Chinese Medicine*

*Jul 2011*

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In TCM basic theory, diabetes mellitus is caused by the deficiency of Qi and Yin. When the balance of Yin and Yang is impaired, Yang will become excessive relative to the deficiency of Yin, which can cause deficient-hot symptoms.

中医理论认为，糖尿病是由于气阴不足导致的。当阴阳平衡被打破，阴气不足会导致阳气相对亢盛，这可以导致虚热症状。

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Therefore, we can use Chinese herbs of Cold and Hot property in the treatment of diabetes. In fact, we use Chinese herbs of Yin or Yang property to correct the balance of Yin and Yang in humans.

因此，我们可以采用寒温并用的方法来治疗糖尿病。事实上，这种方法是采用具有阴阳属性的植物来纠正人体内的阴阳平衡。

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For the management of diabetes, the herbs of Cold property may include herbs such as coptis, rehmanniae, etc. and herbs of hot property may include herbs such as astragalus.

用于糖尿病治疗的寒性植物可以包括黄连、生地等等，热性植物可以包括黄芪等等。
Coptis is one of the most famous bitter-taste herbs in China. It is especially effective for the management of diabetes. We have known that coptis is rich in berberine and this herb has been studies extensively worldwide. We noted that berberine may play some interesting roles for diabetes.

We recently performed a systematic review for randomised controlled trials to evaluate the effect of berberine plus oral hypoglycemic agents on lowering blood glucose. The systematic review procedure was guided by the PRISMA 2009 Checklist.

Briefly, we searched Chinese, English and Japanese databases. Two reviewers independently selected studies, extracted data, assessed the methodology of included studies. The discrepancies were resolved by consensus.

The inclusion and exclusion criteria for the participants being studied by the review are as follows:

Inclusion criteria: Type 2 diabetes mellitus. The diabetes mellitus is defined according to the China Guideline for Diabetes Prevention and Treatment:

Exclusion criteria: Participants who had severe cardiovascular events, disorders which can affect the glucose metabolism such as thyroid disease and adrenal disorders. People who are allergic or hypersensitive to berberine, to plants that contain berberine. Participants whose renal function and liver function are out of normal range will also be excluded.

Incidence criteria: Type 2 diabetes mellitus. The diabetes mellitus is defined according to the China Guideline for Diabetes Prevention and Treatment:
The nature of the interventions or the exposures to be reviewed is as follows:
Inclusion criteria: The active controlled group should use oral hypoglycaemia agents identical to those used in the berberine-treated group.
Exclusion criteria: Trials where insulin was used will be excluded.

The review has been registered in the PROSPERO, an international prospective register of systematic reviews under National Institute for Health Research. We are conducting the review process step by step and may present our results at the forum, if PROSPERO agreed.

干预措施的纳入或者排除标准如下：
纳入标准：阳性对照组为口服降糖药（与黄连素联用口服降糖药组一致）
排除标准：使用了胰岛素的试验将被排除。

Furthermore, we are conducting a randomised controlled trial to evaluate the efficacy of Chinese herbs with Hot and Cold property for the management of type 2 diabetes.

二甲双胍作为阳性对照药物。样本量为60例病人。治疗组和对照组各30例病人。

The randomization sequence was generated by SAS software package and masked by the sealed opaque envelopes in order to adequately concealed the allocation. The trial duration was 12 weeks.

随机序列由SAS软件包产生，序列号封入不透明的信封中，以确保分配隐藏的充分实施。治疗时间为12周。

53 patients have been recruited and the trial is in progress. Our preliminary results showed that the fasting plasma glucose level decreased about 3 mmol/L. The trial may complete in Sep or Oct. We will present our preliminary results on the forum.

试验已经纳入53例病人；整个试验目前进展顺利。我们的初步结果显示禁食期血糖可将空腹血糖下降大(++3mmol/L；整个试验可能在九月或者十月完成。我们将在论坛上报告我们的初步结果。
高益民教授个人简介

高益民，首都医科大学中医药学院主任医师、教授。1932 年 3 月 1 日生，汉族，中共党员。1955 年 9 月毕业于山东医学院，1962 年毕业于北京市第一届西医离职学习中医班。曾任中国医学科学院药物研究所、中国中医研究院中药研究所顾问，中国针灸学会北京分会副会长，北京市中西医结合研究会理事。现任国家药典会第七届委员会委员—中医专业委员会副主任，中国老教授协会、医药专业委员会理事。北京佰瑞福盛世联国际中医药研究中心主任，北京四大名医学术研究中心主任。

Curriculum Vitae of Professor Gao Yimin

Mr. Gao Yimin, MD, professor and director of School of Traditional Chinese Medicine at Capital Medical University. He graduated from Shandong University School of Medicine in 1955. He worked as adviser for Institute of Materia Medica (IMM), Chinese Academy of Medical Sciences & Peking Union Medical College, and Pharmaceutical Research Institute of China Academy of Traditional Chinese Medicine, vice president of Beijing Branch of China Association of Acupuncture-Moxibustion, councilman of Beijing Association of Integrative Medicine. He now works as a commissioner of the 7th Chinese Pharmacopoeia Commission, Councilman of China Senior Professors Association and Pharmaceutical Association. He is also the Director of Beijing Bonafolk World Alliance International Chinese Medicine Research Centre and Beijing Research Center of Four Famous Doctors.
首届中欧中医药合作与发展论坛

- 中医药强调人体整体阴阳平衡的调节，也强调因人而异的辨证论治。
  TCM emphasizes the regulation of yin-yang balance of human body and also focuses on the individualized treatment.

- 中医强调“天人合一”论与现代医学科学的结合，十分相似。
  中医强调“天人合一”，与现代医学科学的结合十分相似。

- TCM emphasizes "treatment according to syndrome differentiation" to find out the most suitable medicine for each patient, which is similar to pharmacogenetics in modern medicine.
Studies the discipline that studies life phenomena is called life sciences. Since the human civilization, people have started to describe and record life phenomena as well as reflect on the profoundness.
Organised by: World Federation of Chinese Medicine Societies

Hosted by: TCM Klinik Bad Koetzting of Beijing University of Chinese Medicine
Sino-European Research Centre of Traditional Chinese Medicine, Munich

Co-hosted by: Beijing University of Chinese Medicine
Munich Technical University, Competence Centre for Complementary Medicine and Naturopathy

Supported by: State Administration of Traditional Chinese Medicine of China
Bavarian State Ministry of the Environment and Public Health