

Profile for Professor Wang

Zhili Wang (M.D. PH.D)

Education and Qualification:

1. Fellow of Royal Society of Medicine, UK (1996-present)
2. Postdoctoral of Royal Postgraduate Medical School, UK (1995-1996)
3. Ph.D. of Royal Postgraduate Medical School, UK (1990-1995)
4. Master's Degree in Medicine, Tianjin Medical University, China (1984-1987)
5. Doctor, Physician of Internal Medicine of Tianjin Second Hospital, China (1975-1982)

Titles:

1. Visiting Professor of Division of Clinical Investigation, Diabetes, Endocrinology and Metabolism, Department of Medicine, Imperial College, UK
2. Vice Chairman of Overseas Chinese Federation of Distinguished Experts Committee, China
3. Standing Director of Endocrine Committee of Chinese Medical Doctor Association, China
4. Vice-Chairman of Endocrinology Society of Beijing – Chinese Medical Doctor Association, China
5. Chairman of Diabetes Fund Committee of China Medical Foundation
6. President of Beijing Chaoyang Diabetes Hospital, China
7. Chairman of Board of Academy in Beijing Chaoyang Hospital, China

Introduction of Professor Wang:

In 1990, Professor Wang Zhili had been working in China for 16 years, and was also a medical director in the department of endocrinology. He was invited by Professor Bloom (Chairman of the Society of Endocrinology United Kingdom, Chairman of Department of Endocrinology, Chairman of Royal College of Physicians) to be a senior visiting scholar in Professor Bloom's laboratory at Royal Postgraduate Medical School, London. The same year, he received a full scholarship from the Royal Postgraduate Medical School to pursue his Ph.D. degree (in 1977, the UK Royal Postgraduate Medical School merged with the Faculty of Medicine, Imperial College). Dr. Bloom's laboratory is one of the most advanced laboratories of endocrinology research in the world. Many top-level endocrinologists worldwide have gathered there. Dr. Wang Zhili presented and published 38 papers on scientific journals and international academic conferences in the United State, United Kingdom and Europe. Five of his scientific research successes were known for being pioneer discoveries. Dr. Wang Zhili has found several novel endogenous peptides that regulate pancreatic islet function. This has great value for the development of new diabetes drugs and gene therapy.

Working in the Laboratory of Endocrinology and Metabolism Medicine, the Royal Postgraduate Medical School and Imperial College in the United Kingdom, Dr. Wang Zhili first found that the endogenous glucagon-like peptide -1 (GLP-1) can promote β -cell secretion of insulin, and it can significantly reduce high blood sugar level. This means that instead of exogenous insulin supply, the new internal adjustment mechanism can be an important way to control diabetes mellitus. The first-rate medical periodical Journal of Clinical Investigation (JCI) has published the results with an editorial which highly praised his study:" Wang and co-workers from the same group in London provide an important advance. The present study is an example of the fruits provided by advances in the fields of peptide chemistry and ligand-receptor interaction. We can look forward to more pieces of puzzles falling into

place in the near future". At present, GLP-1 is the basis of some treatments in the United States and a number of European countries as a new approach to the treatment of diabetes.

In July 2003, Dr. Wang Zhili returned to his homeland, and established Asia's largest diabetic hospital in Beijing - Beijing Chaoyang Diabetes Hospital. From then on, he started to put his basic research knowledge to a new clinical practice. Traditional treatment of diabetes is aimed at reducing the patient's blood sugar, and few consider how to improve the target organ function and the status of islet function. To patients with a gradual decline in terms of islet function, long-term oral hypoglycemic agents are as "weary horse whipped", lead to the deterioration of the disease and more complications. Prof. Wang found that once more than 90% of islet cells were damaged in patients with diabetes, the glucose metabolism would be a serious obstacle. But in this situation, some injury but not necrosis of the pancreatic islet cells can be treated by application of certain systematic islet protection and rescue regimen. He drew on international experience in advanced diabetes treatment, combined with traditional Chinese medicine, the modern neuro-endocrine and microcirculation concepts, created a "Comprehensive Therapy of Pancreatic Islet Cells Protection". After this kind of treatment, insulin-secreting function of the pancreatic β -cell is expected to resume to varying degrees.

"Comprehensive Therapy of Pancreatic Islet Cells Protection" is characterized by: in short terms (that is, generally speaking 2-3weeks), the adjustment of the patient's high blood sugar to normal level, can rapidly reduce the toxicity of high blood sugar and as well as the damage to microcirculation, enhance the biological activity of insulin receptor, repair the nerve fibers, resulting in the function of islet cells resume and production of high-quality endogenous insulin. It makes patients not only have stable glucose control, but also have a good metabolic environment, and slows down or avoids the occurrence and development of complications, thereby laying a solid

foundation for high-quality life. Over the past ten years, patients from China, the United Kingdom, the United States, France, Switzerland, Canada, Japan, the Middle East and Southeast Asian countries, have received more than 400,000 person-times of Comprehensive Therapy of Pancreatic Islet Cells Protection. Around them, government officers, bankers, senior doctors, lawyers, accountants and experienced professionals, such as American -Chinese Nobel Laureate of physics, Dr. Daniel Tsui traveled long distances to visit the hospital especially for the treatment and experienced, through first-hand experience, the skilled and magical charm of Chinese medicine. After the treatment, over 90% of the patients can keep very good control of the disease. Some of the patients' glucose levels already reached normal range only with diet and exercise, instead of insulin or various oral hypoglycemic agents. They highly praised the amazing effect from the treatment.

Professor Sir Stephen Bloom, an internationally famous endocrinologist, came to visit Beijing Chaoyang Diabetes Hospital in February 2009. He said: "A series of regimen for obesity and diabetes control in the hospital represent the advanced, systematic and scientific treatment program. The concept of pancreatic islet cell protection is being applied worldwide. The experiences here of insulin pump utilization in respect of quantity and quality are already ahead of many European diabetic hospitals. It can of course be regarded as one of the international highest-level diabetes specialized hospitals."

Publication:

1. **Z.L.Wang**, Renming Wang, Ali A. Owji, David M. Smith, Mohammad A. Ghatei and Stephen R. Bloom,
Glucagon-like peptide-1 is a physiological incretin in rat.
The Journal of Clinical Investigation 1995; 95:417-421.
2. **Z.L.Wang**, Bennet W.M., Wang R. M., Ghatei M.A., and S.R. Bloom,
Evidence of a paracrine role of neuropeptide Y in the regulation of insulin release from pancreatic islets of normal and dexamethasone treated rats.
Endocrinology 1994; 135: 200-206.
3. **Z.L.Wang**, Bennet W.M., Ghatei M.A., Byfield P.G., Smith D.M., S.R. Bloom,
Influence of islet amyloid polypeptide and the 8-37 fragment of islet amyloid polypeptide on insulin release from perfused rat islets.
Diabetes 1992; 42:330-335.
4. Gar Lo, Steve Legon, Carol Austin, Simon Wallis, **Zhili Wang**, and S.R. Bloom,
Characterization of complementary DNA encoding the rat neuromedin U precursor.
Molecular Endocrinology 1992; 6(10) 1538-1544.
5. Rohit N. Kulkarni, **Zhili Wang**, Karen O. Akinsanya, William M. Bennet, Ren-Ming Wang, David M. Smith, Mohammad A. Ghatei, Peter Byfield, and S.R. Bloom,
Pyroglutamyl-phenylalanine-proline amide attenuates TRH-stimulated insulin secretion in perfused rat islets and insulin-secreting clonal β -cell lines.
Endocrinology 1995;136:5155-5164.
6. K.O. Akinsanya, A.J. Griffiths, **Z.L. Wang**, D. Wynick and S.R. Bloom,
Paracrine control of the islet and pituitary-A model system for regulatory peptides.
In *Gastrointestinal tract and endocrine system* P95-112.
Edited by M.V. Singer and R. Ziegler. Dordrecht/Boston/London. 1994
7. **Z.L. Wang**, Renming Wang, Ali A. Owji, David M. Smith, Mohammad A. Ghatei,

and S.R. Bloom,

The role of GLP-1 (7-36) in control of insulin secretion investigated using the receptor antagonist, exendin(9-39).

Clinical Science 1995; 89 (Supply) 33:2P-M5.

(**Oral presentation** in the European Society of Clinical Investigation and the British Medical Research Society 1995 Meeting) 2.4.1995 Cambridge, UK.

8. **Z.L. Wang**, Rohit N. Kulkarni, Bennet W.M., Renming Wang, David M. Smith, Mohammad A. Ghatei, and Stephen R. Bloom,

Evidence for the presence of a galanin-like hormone within pancreatic islets.

Diabetes 1995;44(Supply 1) 249 A: 917.

9. Renming Wang, **Z.L. Wang**, Ali A. Owji, David M. Smith, Mohammad A. Ghatei, and S.R. Bloom,

Endogenous GLP-1 (7-36) amide in the regulation of insulin and glucagon secretion.

Diabetes 1995; 44 (Supply 1) 86A:323.

10. **Z.L. Wang**, Bennet W.M, Ghatei M.A., Bloom S.R,

Evidence that islet amyloid polypeptide regulates insulin secretion by an intra-islet paracrine action.

Diabetic Medicine 1992; 9; (Supply) 2:S13; A10.

(**Oral presentation** at the British Diabetes Association Medical & Scientific Meeting 3rd – 4th September 1992. UK).

11. **Z.L. Wang**, Bennet W.M., R.M.Wang, Akinsanya K., Ghatei M.A., and Bloom S.R.,

Contrasting effects of TRH and EFP, a newly discovered TRH-like peptide, on insulin secretion from perfused islets.

Clinical Science 1993; 85:3 (Supply) 1p-2p.

(**Oral presentation** at the British Medical Research Society Meeting 1993 London, UK).

12. **Z.L. Wang**, Bennet W.M., R.M.Wang, Nandha K.A., Ghatei M.A., Bloom S.R.,

Glucose-stimulated neuropeptide Y secretion from pancreatic islets is 7-fold

increased by prior dexamethasone treatment.

Clinical Science 1993; 84 (Supply) 34P:123.

13. **Z.L. Wang**, Bennet W.M., Ghatei M.A., Bloom S.R.,
Inhibition by islet amyloid polypeptide of insulin release from isolated perfused rat islets.
Regulatory peptides 1992; 39 (Supply) 249.
14. **Z.L. Wang**, Bennet W.M., R.M. Wang, Ghatei M.A., Bloom S.R.,
Powerful increase of islet β -cell NPY by dexamethasone.
Diabetic Medicine 1993; 10;1 (Supply) S48-P137.
(**Oral presentation** in the Medical & Scientific Meeting of British Diabetic Association, 1st – 2nd April 1993. UK).
15. Bennet W.M., **Z.L. Wang**, Bloom S.R.,
Islet expression of the powerful paracrine regulator, neuropeptide Y, is 14-fold elevated by dexamethasone, insulin obliterates this change.
Diabetic Medicine 1992; 9 (Supply) S27: P19.
16. L. Zhao, **Z.L. Wang**, M.A. Ghatei, J.M.B. Hughes, and R.J.D. Winter,
Increased cardiac synthesis and secretion of brain natriuretic peptide during hypoxic pulmonary remodelling in rats.
The European respiratory Journal 1993; 6: (Supply 17) 191s, P 350.
17. Bennet W.M., **Z.L. Wang**, Bretherton-Watt D., Ghatei M.A., and Bloom S.R.,
Dexamethasone effects on rat islet calcitonin Gene-related peptide.
J Endocrinology 1991; 131 (Supply); 25:62.
18. W.M. Bennet, **Z.L. Wang**, J.N.P. Wilding, S.G. Gilbey, M.A. Ghatei and S.R. Bloom,
Unaltered islet regulatory peptides in the islets of rats with dietary-induced obesity.
Regulatory peptide 1991; 35:22:225 (Supply).
19. W.M. Bennet, **Z.L. Wang**, J. Byrne, S. Hearn, M.A. Ghatei and S.R. Bloom,
Increased vasoactive intestinal polypeptide in islets from obese Zucker rats.
Diabetologia 1991; 34 (Supply 2):A77:305.

20. Bennet W.M., **Z.L. Wang**, Bretherton-Watt D., Khandan-Nia N., Ghatei M.A., and Bloom S.R.,
Elevated regulatory peptides in the islet during fasting.
Diabetic Medicine 1991; 8(Supply 1):10A-A36.
21. H. Jamal, K.A. Nandha, M.A. Ghatei, Z.L. Wang, and S.R. Bloom,
Peptides in isolated rat islets of Langerhans: lack of effect of mifepristone (Ru486). A novel antigluocorticoid.
Regulatory peptides 1992; 39:2-3;249 (Supply).
22. **Z.L. Wang**, W.M. Bennet, R.M.Wang, and S.R. Bloom,
Co-release of neuropeptide Y with insulin following dexamethasone.
Endocrinology 1993; 180:518B. for 75th Annual Meeting of the Endocrine Society, Program and abstracts, Las Vegas, USA. June, 1993.
23. **Z.L. Wang**, W.M. Bennet, R.M.Wang, M.A. Ghatei, S.R. Bloom,
Neuropeptide Y is a paracrine regulator of insulin release.
Diabetic Medicine 1993; 10:3 (Supply)A4-S11.
(**Oral presentation** at the British Diabetic Association. Medical and Scientific Meeting. 23-24th September 1993, Southampton, UK).
24. **Z.L. Wang**, W.M. Bennet, R.M.Wang, M.A. Ghatei, S.R. Bloom,
Pancreatic islet neuropeptide Y tonically restrains insulin release; Evidence from immunoneutralisation studies.
Conference of NPY, Cambridge, UK. 1993.
25. **Z.L. Wang**, W.M. Bennet, R.M.Wang, M.A. Ghatei, S.R. Bloom,
Isolated islet stimulation of insulin release by a galanin antagonist (galspantide) possible evidence for a novel islet galanin-like peptide.
Diabetic Medicine 1994; 11: (Supply): A30-S11.
(**Oral presentation** at the Medical and Scientific Meeting of British Diabetic Association. 24th-25th March 1994, Bournemouth, UK).
26. R.M. Wang, **Z.L. Wang**, Bennet W.M., Ghatei M.A., S.R. Bloom,
NPY release from perfused rat islet of normal and dexamethasone treated rat is differentially modulated by glucose.

- European Journal of Endocrinology* 1994; 130 (Supply 2) P2.058.
27. **Z.L. Wang**, R.M. Wang, W.M. Bennet., M.A. Ghatei, S.R. Bloom,
Role of endogenous NPY in insulin secretion from perfused rat islets.
European Journal of Endocrinology 1994;130 (Supply 2) S06.03
(**Oral presentation** at the 3rd European Congress of Endocrinology, 17th-23th
July, 1994. Amsterdam).
28. R.N. Kulkarni, **Z.L. Wang**, R.M. Wang, D.M. Smith, M.A. Ghatei & S.R. Bloom,
Use of exendin (9-39) amide in defining the in vivo and in vitro roles of GLP-1
(7-36) amide in the regulation of insulin secretion.
Bayliss & Starling Society Meeting, Cambridge, July 1995.
29. W.M. Bennet, **Z.L. Wang**, P.M. Jones, R.M. Wang, R.F. James, N.J. London,
M.A. Ghatei, and S.R. Bloom,
Presence of Neuropeptide Y and its messenger ribonucleic acid in human islets;
-evidence for a possible paracrine role.
Journal of Clinical Metabolic Endocrinology, 1996, 81; 2117-2120;
30. **Wang, Z.L.**, P.M. Jones, R.M. Wang, W.M. Bennet, R.F. James, N.J. London,
D.M. Smith, M.A. Ghatei and S.R. Bloom,
Antagonist effect of exendin 9-36 on GLP-1 stimulated insulin gene expression
and secretion from human islet.
1996; P96: OR28-5. (**Oral presentation** at the 10th International Congress of
Endocrinology, 12th-15th June, 1996. San Francisco, USA).
31. **Wang, Z.L.**, R.M. Wang, R. Kulkarni, J.J. Ma, K. Meeran, W.M. Bennet,
D.M. Smith, M.A. Ghatei and S.R. Bloom,
Regulation of neuropeptide Y release is modulated by noradrenaline in both
dexamethasone treated and control rat islets.
1996; P358: PI-895, (Presentation at the 10th International Congress of
Endocrinology, 12th-15th June, 1996. San Francisco, USA).
32. K.O. Akinsanya, **Wang Z.L.**, M.A. Ghatei and S.R. Bloom,
Effects of dexamethasone on pyroglutamyl-glutamyl-proline amide-and
thyrotropin-releasing hormone-like peptide concentrations in the rat adrenal and

thyroid glands.

1996; P397:PI-1051, (presentation at the 10th International Congress of Endocrinology, 12th-15th June, 1996. San Francisco, USA).

33. **Wang Z.L.**, P.M. Jones, R.M. Wang, W.M. Bennet, R.F. James, N.J. London, D.M. Smith, M.A. Ghattei and S.R. Bloom,
Exendin (9-36) antagonizes GLP-1 induced amylin release from static cultures of isolated human islets.

1996; P419: P2-60. (Presentation at the 10th International Congress of Endocrinology, 12th- 15th June, 1996. San Francisco, USA).

34. R. Kulkarn, **Zhili Wang**, Ren-Ming Wang, James D. Hurley, David M. Smith, Mohammad A. Ghattei, Dominic J. Withers, James V. Gardine, Cliff J. Bailey, and Stephen R. Bloom,
Leptin rapidly suppresses insulin release from insulinoma cells, rat and Human islets and in vivo, in mice.

The Journal of Clinical Investigation 1997; 100:2729-2736.

35. **Zhili Wang**, Rohit N. Kulkarn, Ren-Ming Wang, David M. Smith, Mohammad A. Ghattei, Peter G.H.Byfield, William M. Bennet and Stephen R. Bloom,
Possible evidence for endogenous production of a novel galanin-like peptide.

The Journal of Clinical Investigation 1997; 100:189-196.

36. **Zhili Wang**, Ren-Ming Wang, David M. Smith, Mohammad A. Ghattei, and Stephen R. Bloom,
Possible evidence for endogenous, novel, galanin-like peptide in islets of Langerhans.

Platform presentation at the **Bayliss & Starling Society Meeting**, 7th-10th September 1997. Liverpool UK.

37. D.G. Morgan, R.N.Kulkarni, J.D. Hurley, **Z.L. Wang**, R.M. Wang, M.A. Ghattei, A.E. Karlsen, S.R. Bloom, D.M. Smith,
Inhibition of glucose stimulated insulin secretion by neuropeptide Y is mediated via the Y1 receptor and inhibition of adenylyl cyclase in RIN 5AH rat insulinoma cells.

- Diabetologia* 1998; 41: 1482-1491.
38. C. Mark, B. Edwards, Jeannie F. Todd, Mehdi Mahmoudi, **Zhili Wang**, Ren Ming Wang, Mohammad A. Ghatei, and Stephen R. Bloom,
Glucagon-like Peptide 1 Has a Physiological Role in the Control of Postprandial Glucose in Humans Studies With the Antagonist Exendin 9-39.
Diabetes 1999; 48: 86-93.
39. R.N. Kulkarni, **Z-L Wang**, R-M Wang, D.M. Smith, M.A. Ghatei and S.R. Bloom,
Glibenclamide but not other sulphonylureas stimulates release of neuropeptide Y from perfused rat islets and hamster insulinoma cells.
Journal of Endocrinology 2000; 165: 509-518 (**In China**).
40. **Z.L. Wang**, W. Yin, Z. Liu,
Relation between amino acids metabolism and blood viscosity platelet aggregation, PGI₂, TXB₂, triglyceride in NIDDM.
Diabetes Research and Clinical Practice 1987; 13:58 (Supple).
41. **Z.L. Wang**, D.M. Yu,
Effect of glibornuride on blood viscosity platelet aggregation, TXB₂, PGI₂, and the ratio of TXB₂ to PGI₂ in NIDDM.
Diabetes Research and Clinical Practice (supple) 1987; 13:18.
42. **Z.L. Wang**, W. Yin,
Effect of sulphonylureas administration on insulin, C-peptide, glucagon secretion in NIDDM.
Diabetes Research and Clinical Practice (supple) 1987; 13:80.
43. W. Yin, **Z.L. Wang**,
Glibornuride in the treatment of NIDDM.
Chinese Journal of Endocrinology and Metabolism 1989; 3:99-108.
44. **Z.L. Wang**, W. Yin,
The Clinical study and method of urine C-peptide assay by solid phase RIA. Diabetes mellitus in east asia.
Elsevier Science Publishers B.V. (Biomedical Division) 1988; 293-295.

45. D.M. Yu, **Z.L. Wang**,
Sacharoprotein determination in evaluation of therapeutic results of NIDDM.
Tianjin Medical Journal 1988; 16:20-22.
46. **Z.L. Wang**, Z.Y. Yin,
Effect of “Ke, Tang Ling“ (Chinese Herbal Medicine) administration on the
function of pancreatic islet α , β cells.
Chinese Journal of Integrated Traditional and Western Medicine 1990; 10(3):
137 140.
47. B.H. Du, **Z.L. Wang**,
Repurification of radioactive iodine labelled six gastroenteric hormones.
Chinese Journal of medical Laboratory Technology 1987; 10(6):332-333.
48. Z.Liu, **Z.L. Wang**,
Observations on secretory function of pancreatic islet α , and β cells in children
with simple obesity.
Chinese Journal of Paediatrics 1988; 26(3):138-140.
49. J.C. Wang, **Z.L. Wang**,
Pancreatic islet transplantation in treatment of IDDM.
Tianjin Medical Journal 1987; 15 (5) : 281-284.
50. D.M. Yu, **Z.L. Wang**,
Plasma amino acid levels in Type 2 diabetes.
Tianjin Medical Journal 1987; 15(12):738-741.
51. D.M. Yu, **Z.L. Wang**,
Preliminary observation of human fetal pancreatic islet α , β cells function and
morphology.
*Proceedings of the Chinese Academy of Medical Science and the Peking Union
Medical College* 1988;3:89.
52. **Z.L. Wang**,
The Special heart disease during diabetes patients.
Foreign Countries Medical Journal Section of Endocrinology 1983;2:112-114.
53. **Z.L. Wang**,

Prevention of insulin dependent diabetes mellitus.

Foreign Countries Medical Journal Section: Endocrinology 1984; 4:219-220.

54. **Z.L. Wang**, C.S.Xun, X. Wu,
Serum oestrogen and testosterone in relation to the clinical course of acute myocardial infarction.
Journal of Clinical Medicine 1985;5:47-48.
55. X.Wu, **Z.L. Wang**, S.X. Chen,
Acute myocardial infarction and platelet aggregation.
Tianjin medical Journal 1985; 13:707-710.
56. **Z.L. Wang**, Z.Y. Zhang,
Evaluation of the effect of GIK solution on acute myocardial infarction- Analysis of 506 cases.
Tianjin Medical Journal 1983;9:560-562.
57. X.Wu, **Z.L. Wang**,
Acute myocardial infarction and blood viscosity.
Tianjin Medical Journal 1985;13:555-558.
58. S.X.Chen, **Z.L. Wang**,
Preliminary study of the relationship between acute myocardial infarction and thyroid hormone.
Chinese Journal of Internal Medicine. 1988;27(6):339-340.
59. **Z.L. Wang**, Yin Wei, Yude Min, Jiachi Wang, Zhi Zhang, Chongyi Wang, Xiang Pang, Shi M. Xu, Zhiyuan Yin, Xinzhi Rui, Jinqi Ma,
The effects of huamn fetal islet transplantation on islet α - and β -cell functin in type 1 diabetes.
Chinese conference on Diabetes Integrating Western and Chinese Medicine. 1990: (8); P39-42.
60. **Z.L. Wang**, Zhi Zhang, Congyi Wang, B.F. Wang, S.Y. Gao, J.W. Huang, Xiang Pang, Shi M. Xu, Zhiyuan Yin, Xinzhi Rui, Jinqi Ma, H. Yang, S.F. Zhang,
Effects of KE Tang Ling on Type 2 Diabetes patients.
Chinese Conference on Diabetes Integrating Western and Chinese Medicine.

1990: (8); P50-53.

61. **Z.L. Wang**, S.B. Xiao, Zhi Zhang, J.F. Duan, Congyi Wang, S.R. Gao, Qin Lio, G.Q. Wang, B.F. Wang, J.W. Huang, Xiang Pang, Shi M. Xu, C.Z. Shao,
Synthesis of anti-arrythmia peptide and its like peptide.

National conference of Chinese Medical Association (Endocrinology) 1990;
10: (187); 164.