

## **H Fai Poon, Ph D 潘洪辉博士**

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### **Education**

M.B.A. Lean Management University of South Florida	December, 2010 Cumulative GPA 3.5/4.0
Ph.D., Biological/Analytical Chemistry, University of Kentucky	June 2005 Cumulative GPA 3.9/4.0
B.S., Chemistry, Minor in Mathematics University of Kentucky	May 2001 Cumulative GPA 3.7/4.0
A.S., Biology Northeastern Okalahoma A&M College	December 1999 Cumulative GPA 3.71/4.0

### **Industrial Experience**

- Chief Scientific Officer Sept 2016 – Present  
Hisun Pharmaceuticals
  - Work with the Executive Team to Create a Scientific Strategy to Successfully Change Scientific Strategy from Biosimilar Centric to Innovative Drug Focus. Prioritized Research Direction In Line with the Commercial Targets to Become the Leader in the Chinese Biopharm Industry.
  - Provide Overall Scientific Leadership Within The Organization; Manage Scientific Development of Key Projects and Drive All Research Activities to Explore New Revenue Opportunities.

- Establish and Maintain Advantageous Partnerships in Academia, Industry and Government by Collaborations with Scientific Partners and Research Institutions to Complete Ambitious Projects
- Identify the Top R&D Talent and Establish a Strong, Cohesive Scientific Team with Define Vision.
- Work with the Executive Team to Direct the Build-out of R&D Infrastructure including New Drug Discovery, Cell Line Engineering, Cell Culture Media Optimization, Process Development, Purification, Chemical Analysis, Biological Analysis, Formulation and Tech Transfer Capabilities.
- Identify, Select and Partner with External Vendors and Scientific Platforms to Maximize Research Capabilities of the R&D Division; Work with Technical Team to Coordinate with Vendors and Integrate Novel Platforms.
- Maintain Current, Expert-level Knowledge of the latest Approaches to, and Science of, Biotherapeutics development, and Awareness of Technological Advances and Industry Trends.

- **Director of Cell Culture**

Aug 2012 – Sept 2016

Hisun Pharmaceuticals

- Provide Senior Representations on Science and Corporate Project Teams to Successfully Reduce Production Cost 5 times of 6 Products.
- Successfully Develop Three Major Technical Platform (Cell Line Engineering, Cell Culture Media and Bioreactor Scale Up) utilizing Internal and External expertise for R&D Efficiency.
- Enhanced Department with New Competencies, Technical and Leadership Depth by Negotiated Two Major in-licensing Deals for Technical Competiveness.
- Developed Networks of Leading Academic and Industrial experts Assisted Business Development Department Accomplish >10 million revenue via such networks.
- Developed “NEXT FIVE YEAR” Pipeline for Biopharm Program of Neurodegenerative Disease, Oncology and Auto-immune disease (Total of 15+ Projects for the next 5 years)
- Realigned R&D Division to developed Coach/Mentor system for Robust Succession Plan.
- Provide CMC Support and Guidance for Process Development.

- Upgrade and Maintain Biologics Laboratory to Meet Highest Standards.
  - Attend external Technical Forums to Remain Current with Technology and Regulatory Guidelines.
  - Served as a Senior Staff and Contribute to the Strategic and Tactical decision, to realign company pipeline to more market and investor friendly.
- **Technical Lead in Asia Pacific Region (Sr Scientist)**      Oct 2009 – Aug 2012  
Sigma-Aldrich Fine Chemicals (SAFC)
    - Developed and Executed Technical Marketing Plan for Asia Pacific Region to achieved average 13.6% Growth of a 25 million USD market in 2010, 2011.
    - Consult in multiple clients, such as SAMSUNG, CELTRON, Kirin etc to Reduce their Production Cost in Cell Culture to more than 5-10 times. Bring in revenue more than 7 million for R&D department.
- **Technical Lead in HTS Development (Sr Scientist)**      Dec 2007 – Aug2019  
Sigma-Aldrich Fine Chemicals (SAFC)
    - Using Matrix management to define metrics and lead multiple projects to improve R&D efficiency 10 times:
      - Lead the High Throughput Label Free Assay Development, Implementation, Troubleshoot and Validation
      - Lead the Development of Laboratory Information system (LIMS) for efficient management of chemical library, assay registration and hit validation
      - Lead Implementation of Laboratory Robotic Automations
    - Implement (Toyota Management System) Lean Management in R&D Lab to Improve Productivity and Efficiency.
- **Scientist**  
Roskamp Institute (Archer Pharma Inc)      June 2005 – Dec 2007
    - Discover and validate potential therapeutic targets, for intellectual properties
    - Lead the Laboratory Information system (LIMS) for experimental data and resource allocation.

- Perform High throughput screening of compound libraries with cellular and biochemical assays for intellectual property commercialization.
- Analyze, interpret and present data to management for strategic planning.
- Evaluate new technology and existing process to provide solution to internal customers.
- Analyze samples of potential drug and drug metabolites using HPLC, LC-MS/MS, MALDI etc.
- Develop analytical methods for QC and validation of chemical compounds.
- Supervise Lab technicians for daily HPLC, GC etc activities to maintain laboratory records.
- Writing business proposal for rising venture capital and grant for research funding.
- Steering the strategic plans for transferring the intellectual properties into potentially profitable products.
- Develop and execute strategic plan to start the company.

## **Academic Experience**

- **Research Assistant** Advisor: Prof. Allan Butterfield  
University of Kentucky May 2001 – June 2005
    - Implemented new technology and image analysis to improve productivity 10 folds
    - Manage project analyses to investigate of oxidative stress in transgenic mouse models (SOD1, Parkin, SAMP8), using indices of oxidative stress and proteomics.
    - Using mass spectrometry (LC-MS/MS, MALDI etc) to identify proteins from human, rodent origins.
    - Using separation technique (2D Gel, HPLC, LC etc) to facilitate quantitative analysis of post-transnational modifications on proteins.
  
- **Lab Technician** Advisor: Dr. Macros Oliveria  
University of Kentucky May 2000 – May 2001
    - Performed purification and crystallization of Acetyl-CoA decarboxylase and Quaking protein.
  
- **Undergraduate Research Assistant** Advisor: Dr. David Atwood

University of Kentucky

May 1998 – September 1998

- Assisted in the synthesis and characterization of a new series of aluminum alkoxide molecules that are unimolecular precursors of Al<sub>2</sub>O<sub>3</sub>.

• **Laboratory Assistant**

Professor: Mr. Randy Jones

Northeastern Oklahoma A&M College

August 1997 - December 1998

- Prepared chemicals used in General Chemistry laboratory experiments

**Professional Activity**

- Member, Young Investigator Awards (YIA) committee, The Society for Free Radical Biology and Medicine 13th Annual Meeting (2006)
- Judges, The Society for Free Radical Biology and Medicine 13th Annual Meeting Abstract (2006)
- Reviewer, *Neuroscience letters* (2005 - 2008)
- Reviewer, *Brain research*, (2005 - 2008)
- Reviewer, *Scientific Journal International*, (2007 - Present)
- Member, Editorial Review Board, *Scientific Journal International*, (2007-Present)
- Reviewer, *Journal of Free Radicals in Biology and Medicine*, (2006 – Present)
- Consultant, Reuter Insight Expert, (2007- Present)
- Technical Advisor, Biocompare.com, (2007- Present)
- Associate Editor, *Journal of Chemistry, Biochemistry and Molecular Biology* (2009-Present)
- Associate Editor-in-Chief *International Journal of Biometrics and Bioinformatics* (2009-Present)

**Funding**

1. Role: Co- Principal Investigator (2005 - 2006)  
Title: Proteomic Detection of Alzheimer's Disease Biomarkers in Serum  
Funding Agency: Johnnie B. Byrd, Sr. Alzheimer's Center & Research Institute
2. Role: Co-Principal Investigator (2006 - 2008)  
Title: Proteomic Study of Gulf War Syndrome  
Funding Agency: Department of Defense
3. Role: Investigator (2005 – 2008)

Title: Investigation of central nervous system.

Funding Agency: Roskamp Foundation

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**Language:** Fluent in English and Cantonese, Mandarin

### **Awards and Scholarships**

- Zhejiang Province 1000 Talent Program Expert (浙江省千人计划)
- Hangzhou Innovative Lab Leader (杭州创新实验室领军人物)
- Fuyang City 5110 Expert Award (富阳市 5110 引进人才)
- Sophomore Scholarship (Northeast Oklahoma A&M College)
- NEO A&M College Development Foundation Scholarship
- President's Honor Roll of Northeastern Oklahoma A&M College (two semesters)
- Dean's List ( five semesters) (University of Kentucky)
- Franklin Tuttle Fellowship (University of Kentucky)
- Kentucky Graduate Scholarship (University of Kentucky)
- Research Challenge Trust Fund Fellowship (University of Kentucky)
- Graduate School Academic Non-service Fellowship (University of Kentucky)
- Air Force ROTC Scientific Research Fellowship (University of Kentucky)

### **Community Service**

- Volunteer, Hospital Hospitality House, Lexington, Kentucky (2001-2003)
- Member, Undergraduate Advisory Committee, University of Kentucky (2003-2004)
- Chemistry and Mathematics Tutor: Free Tutoring for undergraduate chemistry students (2002-2004)
- Representative, Hong Kong Students Association (1999-2000)
- Player, International Intramural Basketball Tournament (2000-Present)
- Certified Lifeguard (1998-2001)

### **Affiliations**

- Member of Science Advisory Board (2007-Present)
- Member of Bioinformatics Organization (2006-Present)
- Member of Golden Key National Honor Society (2001-Present)
- Member of Society for Neuroscience (2002-2007)
- Member of Free Radical in Biology and Medicine (2005-2007)

## Business Publication List

1. **H. Fai Poon**, Susan Debusca, (2007) *A Well-Defined Vision: The Key to Drive A Hybrid Laboratory To Success*, Lab Manager. 2: 17-19
2. **H. Fai Poon**, (2009) *A Biotechnology Start-up by a Global Team: A Case Study of International Human Resource Management*. The Management Case Study Journal, Submitted.

## Scientific Publication List

### Journal Articles

3. Susan A. Farr, **H. Fai Poon**, Dilek Dogrukol-Ak, Jennifer Drake, William A. Banks, Edward Eyerman, D. Allan Butterfield and John E. Morley, (2003) *The antioxidants alpha-lipoic acid and N-acetylcysteine reverse memory impairment and brain oxidative stress in aged SAMP8 mice*. Journal of Neurochemistry. 84:1173-83.
4. **H. Fai Poon**, Alessandra Castegna, Susan A Farr, Visith Thongboonkerd, Bert C. Lynn, William A. Banks, John E. Morley, Jon B. Klein and D. Allan Butterfield, (2004) *Quantitative proteomics analysis of specific proteins expression and oxidative modification in aged SAMP8 mice brain*. Neuroscience. 126:915-26.
5. **H. Fai Poon**, Gururaj Joshi, Rukhsana Sultana, Susan A Farr, William A. Banks, John E. Morley, Vittorio Calabrese and D. Allan Butterfield, (2004) *Antisense directed at the A $\beta$  region of APP decreases brain oxidative markers in aged senescence accelerated mice*. Brain Research. 1018:86-96.
6. **H. Fai Poon**, Susan A Farr, Visith Thongboonkerd, Bert C. Lynn, William A. Banks, John E. Morley, Jon B. Klein and D. Allan Butterfield, (2005) *Proteomic analysis of specific proteins in aged SAMP8 mice treated with alpha-lipoic acid: implications for aging and age-related neurodegenerative disorders*, Neurochemistry International. 46:159-168.
7. **H. Fai Poon**, Mark Frasier, Ben Wolozin and D. Allan Butterfield, (2005)

- Mitochondrial associated metabolic proteins are selectively oxidized in A30P  $\alpha$ -synuclein transgenic mice – a model of familial Parkinson's disease.* Neurobiology of Disease. 18:492-498.
8. **H. Fai Poon**, Susan A Farr, William A. Banks, John E. Morley, William Pierce, Jon Klein and D. Allan Butterfield, (2005) *Proteomics identification of less oxidized brain protein in aged senescence accelerated mice treated with antisense directed at the A $\beta$  region of APP.* Molecular Brain Research. 138:8-16
  9. **H. Fai Poon**, Radhika A. Vaishnav, Thomas V. Getchell, Marilyn L. Getchell and D. Allan Butterfield, (2005) *Proteomic identification of differentially expressed proteins in the aging murine olfactory system and transcriptional analysis of the associated genes.* Journal of Neurochemistry. 94:280-92
  10. **H. Fai Poon**, Kenneth Hensley, Visith Thongboonkerd, Bert C. Lynn, William A. Banks, John E. Morley, Jon B. Klein and D. Allan Butterfield, (2005) *Redox proteomics analysis of oxidatively modified proteins in G93A-SOD1 transgenic mice – A model of familial amyotrophic lateral sclerosis.* Free Radical Biology & Medicine. 39:453-62
  11. Chava B Pocernich, Debra Boyd-Kimball, **H. Fai Poon**, Visith Thongboonkerd, Bert C. Lynn, Jon B Klein, Vittorio Calabrese, Avindra Nath and D Allan Butterfield, (2005) *Proteomics analysis of human astrocytes expressing the HIV protein Tat.* Molecular Brain Research. 133:307-316.
  12. Chava B Pocernich, C.B., **H. Fai Poon**, Debra Boyd-Kimball, Bert C. Lynn, Avindra Nath, Jon B Klein and D Allan Butterfield, (2005) *Proteomic analysis of oxidatively modified proteins induced by the mitochondrial toxin 3-nitropropionic acid in human astrocytes expressing the HIV protein Tat.* Molecular Brain Research. 133:299-206.
  13. Marzia Perluigi, **H. Fai Poon**, Kenneth Hensley, William M. Pierce, Jon B. Klein, Vittorio Calabrese, Carlo De Marco and D. Allan Butterfield, (2005) *Proteomic analysis of HNE-modified proteins in G93A-SOD1 transgenic mice - a model of familial amyotrophic lateral sclerosis,* Free Radicals Biology & Medicine. 38: 960-968.
  14. Debra Boyd-Kimball, Rukhsana Sultana, **H. Fai Poon**, Halfiz Abdul-Mohammad,

- Bert C. Lynn, Jon B. Klein and D. Allan Butterfield, (2005)  *$\gamma$ -Glutamyl cysteine ethyl ester protection of proteins from  $A\beta(1-42)$ -mediated oxidative stress in neuronal cell culture: a proteomics approach*. J Neuroscience Research. 79:707-713.
15. Debra Boyd-Kimball, Alessandra Castegna, Robin Petroze, **H. Fai Poon**, Rukhsana Sultana, Bert C. Lynn, Jon B. Klein and D. Allan Butterfield, (2005) *Proteomic identification of protein oxidized by  $A\beta(1-42)$  in synaptosomes: Implications of Alzheimer's disease*. Brain Research. 1044:15-26.
  16. Debra Boyd-Kimball, **H. Fai Poon**, Giancarlo Pepeu and Fiorella Casamenti and D. Allan Butterfield, (2005) *Proteomic identification of proteins specifically oxidized by intracerebral injection of  $A\beta(1-42)$  into rat brain*. Neuroscience. 232:313-324.
  17. Marzia Perluigi, **H. Fai Poon**, William Maragos, William M. Pierce, Jon B. Klein, Vittorio Calabrese, Carlo De Marco and D. Allan Butterfield, (2005) *Proteomic analysis of protein expression and oxidative modification in R6/2 transgenic mice – a model of Huntington's disease*. Molecular Cell Proteomics. 4:1849-1861.
  18. Allan Butterfield, **H. Fai Poon**, , Daret St. Clair, and Jeffery N. Keller William M Pierce , Jon B Klein and William R Markesbery (2006) *Redox proteomics identification of oxidatively modified hippocampal proteins in mild cognitive impairment: Insights into the development of Alzheimer's disease*. Neurobiology of Disease. 22:223-232.
  19. Ruksana Sultana, **H. Fai Poon**, Jian Cai, William M. Pierce, Michael Merchant, Jon B Klein, William R Markesbery, D. Allan Butterfield, (2006) *Identification of nitrated proteins in Alzheimer's disease brain using a redox proteomics approach*. Neurobiology of Disease. 22:76-87.
  20. **H. Fai Poon**, Vittorio Calabrese, Menotti Calvani and D. Allan Butterfield, (2006) *Redox proteomics analysis of specific protein oxidation in aged rat brain and its modulation by L-acetylcarnitine: insights into the mechanisms of action of this proposed therapeutic agent for CNS disorders associated with oxidative stress*. Antioxidant and Redox Signaling. 8:381-394.
  21. **H. Fai Poon**, Holly Shepherd, Tanea Reed, Vittorio Calabrese, Jain Cai, William

- Pierce, Jon Klein and D. Allan Butterfield, (2006) *Proteomics analysis provide insight into caloric restriction mediated oxidation and expression of brain proteins associated with age-related impaired cellular processes: mitochondrial dysfunction, glutamate dysregulation and impaired protein synthesis*. *Neurobiology of Aging*. 27:1020-1034.
- 22. H. Fai Poon**, Radhika A. Vaishnav, Thomas V. Getchell, Marilyn L. Getchell and D. Alan Butterfield, (2006) *Quantitative proteomics analysis of specific protein expression and oxidative modification in aged mice brain – insight into the mechanism of compensation of activity lost by oxidative modification*. *Neurobiology of Aging*. 27:1010-19.
- 23.** Rukhsana Sultana, Debra Boyd-Kimball, **H. Fai Poon**, Jain Cai, William M. Pierce, John B. Klein, William R Markesbery and D. Allan Butterfield, (2006) *Oxidative modification and down-regulation of PIN-1 in Alzheimer's disease: a redox proteomics analysis*. *Neurobiology of Aging*. 27:918-925.
- 24.** Andre Langer, **H. Fai Poon**, Gerald Munch, Bert C. Lynn, Thomas Arendt, and D. Allan Butterfield, (2006) *Identification of AGE-Modified Proteins in SH-SY5Y and OLN-93 Cells*. *Neurotoxicity Research*. 9:255-268.
- 25.** Debra Boyd-Kimball, **H. Fai Poon**, Jon B. Klein, Christopher D. Link and D. Allan Butterfield, (2006) *Proteomic identification of proteins specifically oxidized in C. elegans expressing human A $\beta$ (1-42)*. *Neurobiology of Aging*. 27, 1239-1249.
- 26.** Rukhsana Sultana, Debra Boyd-Kimball, **H. Fai Poon**, Jain Cai, William M. Pierce, Jon B. Klein and D. Allan Butterfield, (2006) *Regional redox proteomics to identify oxidized proteins in Alzheimer's disease brain: an approach to understand pathological and biochemical alterations in AD*. *Neurobiology of Aging*. 27, 1564-1576.
- 27. H. Fai Poon**, Laila Abdullah, Myles A. Mullan, Michael J. Mullan, Fiona C. Crawford, (2007) *Cocaine-Induced Oxidative Stress Precedes Cell Death in Human Neuronal Progenitor Cells*. *Neurochemistry International*. 50, 69-73.
- 28.** Radhika Vaishnav, Marilyn Getchell, **H. Fai Poon**, Kara Barnett, Samuel Hunter, William Pierce, Jon Klein, D. Allan Butterfield, Thomas Getchell, (2007) *Oxidative Stress in the Aging Murine Olfactory Bulb: Redox Proteomics and*

*Cellular Localization*. Journal of Neuroscience Research. 85, 373-385.

29. D. Allan Butterfield, Ana Gnjec, **H. Fai Poon**, Alessandra Castegna, William M. Pierce, Jon B. Klein, Ralph N Martins, (2007) *Redox Proteomics Identification of Oxidatively Modified Brain Proteins in Inherited Alzheimer's Disease: An Initial Assessment*. Journal of Alzheimer's Disease. 10, 391-397.
30. **H. Fai Poon**, Laila Abdullah, Jon Reed, Sarah M. Doore, Cyndi Laird, Venkat Mathura, Michael Mullan, Fiona Crawford, (2007), *Improving Image Analysis in 2DGE-based Redox Proteomics by Labeling Protein Carbonyl with Fluorescent Hydroxylamine*, Biological Procedure Online, 9, 65-72.
31. Li Fan, YaYa Liu, WeiYan Zhang, XianCun Deng, **H. Fai Poon**, Wen-Song Tan, Xu-Ping Liu (2015) *Chinese hamster ovary cell performance enhanced by a rational divide-and-conquer strategy for chemically defined medium development*. Journal of Bioscience Bioengineering. 120,690-6.
32. Jintao Liu, Yaya Liu, Li Fan, Xinning Chen, Dongdong Hu, Xiancun Deng, Liang Zhao, H.Fai Poon, Haibin Wang, Xuping Liu, Wen-Song Tan,(2015), *Galactose supplementation enhance sialylation of recombinant Fc-fusion protein in CHO cell: an insight into the role of galactosylation in sialylation*. World Journal of Microbiology & Biotechnology. 31,1147-56.
33. Lijuan Shen<sup>a</sup>, Xu Yan<sup>a</sup>, Lei Nie<sup>a</sup>, Wenyan Xu<sup>b</sup>, Shiwei Miao<sup>b</sup>, Haibin Wang<sup>b</sup>, H. Fai Poon<sup>b</sup>, Haibin Qu, *Chemometric identification of canonical metabolites during process parameters optimization of Chinese hamster ovary (CHO) cell culture* (submitted)

## Reviews

1. **H. Fai Poon**, Vittorio Calabrese, Givovanni Scapagnini, and D. Allan Butterfield, (2004) *Free Radicals: Key to Brain Aging and Heme Oxygenase as a Cellular Response to Oxidative Stress*. Clinics Geriatric Medicine. 20:329-59.
2. **H. Fai Poon**, Vittorio Calabrese, Giovanni Scapagnini and D. Allan Butterfield, (2004) *Free Radicals: Key to Brain Aging?* Journal of Gerontology, Part A Biological Science Medical Science. 59:478-93.

3. D. Allan Butterfield, **H. Fai Poon**, (2005) *The senescence-accelerated prone mouse (SAMP8): A model of age-related cognitive decline with relevance to alterations of the gene expression and protein abnormalities in Alzheimer's disease*, *Experimental Gerontology*. 40:774-83.

### **Book Chapters**

4. D. Allan Butterfield, **H. Fai Poon**, Rukhsana Sultana, (2005) *Proteomics Identification of Oxidatively Modified Proteins in Alzheimer's Disease and Models Thereof: Insights into potential mechanism of neurodegeneration*. In: *Oxidative stress and Age-related Neurodegeneration*, (Edit by Y. Luo and L. Parker), Taylor & Francis Group, LLC., Florida. **ISBN: 978-0-849-33725-3**
5. D. Allan Butterfield, Rukhsana Sultana, **H. Fai Poon**, (2005) *Redox Proteomics: A New Approach to Investigate Oxidative Stress in Alzheimer's Disease* In: *Redox Proteomics: From Protein Modifications to Cellular Dysfunction and Diseases*, (Edit by I. Delle-Donne, A. Scaloni and D.A. Butterfield) Wiley, New York. **ISBN: 978-0-471-72345-5**
6. **H. Fai Poon**, Sara C. Doore, (2007) *Oxidative Damage in Age-Related Neurodegenerative Diseases and Interventions: Progress in Stem Cell Applications*, (Edit by Allen V. Faraday and Jonathon T. Dyer) Nova Science, New York. **ISBN: 978-1-60456-316-0**
7. D. Allan Butterfield, **H. Fai Poon**, Rukhsana Sultana, (2007) *Redox Proteomics Identification of Oxidatively Modified Proteins in Alzheimer's Disease Brain and in Brain from a Rodent Model of Familial Parkinson's Disease: Insights into potential mechanism of neurodegeneration*. In: *Advances in Alzheimer's and Parkinson's Disease: Insights, Progress, and Perspectives* (Edited by Abraham Fisher, Maurizio Memo, Fabrizio Stocchi) Springer, New York. **ISBN: 978-0-387-72074-6**
8. **H. Fai Poon**, **Venkataraman S. Mathura**, (2008) *Introduction to Proteomics, In: Bioinformatics: A Concept-Based Introduction*, (Edit by Venkataraman S. Mathura and Pandjassaram Kanguene), Springer, New York. **ISBN: 978-0-387-84869-3**