**AI 人工智慧於骨髓血液細胞分類之運用**

臺大醫院檢驗醫學部
周文堅主任

**Current position and professional experiences：**

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| 1990~1992 | Military service |
| 1992~1995 | Training in general internal medicine in National Taiwan University Hospital |
| 1995~1997 | Training in hematology in National Taiwan University Hospital |
| 1997~1998 | Training in medical oncology in National Taiwan University Hospital |
| 1998~2003 | Government-supported graduate study in the Johns Hopkins University |
| | Ph.D. training in the Human Genetics Program of the Johns Hopkins University |
| 2003/04~ 2003/08 | Post-doctoral fellow in Human Genetics in the Johns Hopkins University April |
| 2003/08~ 2004/07 | Attending physician, Department of Internal Medicine, Yun-Lin Hospital |
| 2004/07~ | Attending physician, Department of Internal Medicine, National Taiwan University Hospital |
| 2007/08~ 2011/07 | Associate professor, Department of Laboratory Medicine, National Taiwan University College of Medicine, |
| 2011/08~ | Professor, Department of Laboratory Medicine and Internal Medicine, National Taiwan University College of Medicine |
| 2017/02~ | Director-in-Chief, Department of Laboratory Medicine, National Taiwan University Hospital and National Taiwan University College of Medicine |

**Education：**

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| 1983~1990 | The National Taiwan University College of Medicine, M.D. (Certificate No.: 020164). |
| 1998~2003 | Human Genetics Program of the Johns Hopkins University, Maryland, USA, Ph.D. |

**Certificate：**

1.  Physician certificate, Taiwan.　(Certificate No.: 020164)
2.  Physician of general Internal Medicine, Taiwan. (Certificate No.: 004282)
3.  Specialist of Hematology/Oncology, Taiwan. (Certificate No.: 87152)
4.  Specialist of Clinical Pathology, Taiwan (Certificate No.: 000139)

**Awards:**

1.  The Research Award for Resident in Training, NTUH, 1996.
2.  The Research Award for Resident in Training, NTUH, 1997.
3.  The Travel Award of 44th Annual Meeting of the American Hematology Society, Philadelphia, 2002.
4.  The First Place Award of the poster session of Graduate Student Association, the Johns Hopkins University, Baltimore, 2003.
5.  2007 Recipient of the Teaching Award for Excellence in Medical Education
6.  2009 Ching-Hsin Medical Award
7.  2011 Distinguished Research Award, National Taiwan University Hospital

**Fields of Study:**

1.  Hematology: acute myeloid leukemia, myelodysplastic syndrome, myeloproliferative neoplasms

**Selected publications (in the recent 5 years)**

1.  Inoue D, Kitaura J, Matsui H, Hou HA, Chou WC, Nagamachi A, Kawabata KC, Togami K, Nagase R, Horikawa S, Saika M, Micol JB, Hayashi Y, Harada Y, Harada H, Inaba T, Tien HF, Abdel-Wahab O, Kitamura T.　SETBP1 mutations drive leukemic transformation in ASXL1-mutated MDS. *Leukemia* 2015 Apr;29(4):847-57.
2.  Chuang MK, Chiu YC, Chou WC, Hou HA, Chuang EY, Tien HF.　A 3-microRNA scoring system for prognostication in de novo acute myeloid leukemia patients. *Leukemia* 2015 May;**29**(5):1051-9.. (corresponding author)
3.  Chiu YC, Tsai MH, Chou WC, Liu YC, Kuo YY, Hou HA, Lu TP, Lai LC, Chen Y, Tien HF, Chuang EY.　Prognostic significance of *NPM1* mutation-modulated microRNA−mRNA regulation in acute myeloid leukemia. *Leukemia* 2016 Feb;**30**(2):274-84. (co-first author)
4.  Chou WC, Huang WH, Wang MC, Chang CS, Yeh SP, Chiou TJ, Chen YC, Lin TH, Shen MC; Taiwan PNH study group. Characteristics of Taiwanese patients of PNH in the international PNH registry. *Thromb J.* 2016 Oct 4;14(Suppl 1):39.
5.  Wilop S, Chou WC, Jost E, Crysandt M, Panse J, Chuang MK, Brümmendorf TH, Wagner W, Tien HF, Kharabi Masouleh B. A three-gene expression-based risk score can refine the European LeukemiaNet AML classification. *J Hematol Oncol.* **2016** Sep 1;**9**(1):78. doi: 10.1186/s13045-016-0308-8.

6. Lin CC, Hsu YC, Li YH, Kuo YY, Hou HA, Lan KH, Chen TC, Tzeng YS, Kuo YY, Kao CJ, Chuang PH, Tseng MH, Chiu YC, Chou WC, and Tien HF. Higher *HOPX* Expression is Associated with Distinct Clinical and Biological Features and Predicts Poor Prognosis in *de novo* Acute Myeloid Leukemia. *Haematologica* 2017; Jun;102(6):1044-1053. (corresponding author)

7. Hsu YC, Chiu YC, Lin CC, Kuo YY, Hou HA, Tzeng YS, Kao CJ, Chuang PH, Tseng MH, Hsiao TH, Chou WC, Tien HF. The distinct biological implications of Asxl1 mutation and its roles in leukemogenesis revealed by a knock-in mouse model. *J Hematol Oncol.* 2017 Jul 11;10(1):139. (corresponding author)

8. Yao CY, Chen CH, Huang HH, Hou HH, Lin CC, Tseng MH, Kao CJ, Lu TP, Chou WC, Tien HF. A 4-lncRNA scoring system for prognostication of adult myelodysplastic syndromes. *Blood Adv.* 2017 1(19): 1505-1516. (corresponding author)

9. Wei TW, Wu PY, Wu TJ, Hou HA, Chou WC, Teng CJ, Lin CR, Chen JM, Lin TY, Su HC, Huang CF, Yu CR, Hsu SL, Tien HF, Tsai MD. Aurora A and NF-κB Survival Pathway Drive Chemoresistance in Acute Myeloid Leukemia via the TRAF-Interacting Protein TIFA. *Cancer Res.* 2017 Jan 15;77(2):494-508.

10. Yang YT, Chiu YC, Kao CJ, Hou HA, Lin CC, Tsai CH, Tseng MH, Chou WC, Tien HF. The prognostic significance of global aberrant alternative splicing in patients with myelodysplastic syndrome. *Blood Cancer J.* 2018 Aug 13;8(8):78. (corresponding author)

11. Christen F, Hoyer K, Yoshida K, Hou HA, Waldhueter N, Heuser M, Hills RK, Chan W, Hablesreiter R, Blau O, Ochi Y, Klement P, Chou WC, Blau IW, Tang JL, Zemojtel T, Shiraishi Y, Shiozawa Y, Thol F, Ganser A, Löwenberg B, Linch DC, Bullinger L, Valk PJM, Tien HF, Gale RE, Ogawa S, Damm F. Genomic landscape and clonal evolution of acute myeloid leukemia with t(8;21): an international study on 331 patients. *Blood* 2019 Mar 7;133(10):1140-1151.

12. Hsu YC, Chen TC, Lin CC, Yuan CT, Hsu CL, Hou HA, Kao CJ, Chuang PH, Chen YR, Chou WC, Tien HF. Phf6-null hematopoietic stem cells have enhanced self-renewal capacity and oncogenic potentials. *Blood Adv.* 2019 Aug 13;3(15):2355-2367. (corresponding author)

13. Gilteritinib or Chemotherapy for Relapsed or Refractory *FLT3*-Mutated AML. Perl AE, Martinelli G, Cortes JE, Neubauer A, Berman E, Paolini S, et al. *N Engl J Med* 2019; 381:1728-1740.

14. Wang YH, Lin CC, Yao CY, Hsu CL, Hou HA, Tsai CH, Chou WC, Tien HF. A 4-gene leukemic stem cell score can independently predict the prognosis of myelodysplastic syndrome patients. *Blood Adv.* 2020 Feb 25;4(4):644-654. (corresponding author)

15. Knock-out of *Hopx* disrupts stemness and quiescence of hematopoietic stem cells in mice. Lin CC, Yao CY, Hsu YC, Hou HA, Yuan CT, Li YH, Kao CJ, Chuang PH, Chiu YC, Chen Y, Chou WC, Tien HF. *Oncogene* 2020, in press. (corresponding author)

**Patents:**

1. **I531655** Prognosis Prediction For Acute Myeloid Leukemia By A 3-Microrna Scoring System
2. **I612140** Using A 4-lncRNA Scoring System for Prognostication of Myelodysplastic Syndromes