

CURRICULUM VITAE :

1. Basic Information

Name in Chinese	陳仕宏	Name in English	Chen, Shih-Hung (Last Name)(First Name)(Middle Name)		
Nationality	Taiwan	Sex	<input checked="" type="checkbox"/> male <input type="checkbox"/> female	birth date	<u>9</u> Day <u>9</u> month <u>1967</u> Year
Address	Department of Physics, National Central University No.300, Jhongda Rd., Jhongli City, Taoyuan County 32001, Taiwan				
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2. Education

School	Country	Department/Major	Degree	Dates
National Tsing Hua Univ	ROC	Nuclear Eng.	Ph.D.	1990/09 - 1995/06
National Tsing Hua Univ	ROC	Nuclear Eng.	M.S.	1989/09 - 1990/06
National Tsing Hua Univ	ROC	Nuclear Eng.	B.S.	1985/09 - 1989/06

3. Current position and professional experience

Affiliation	Units/Departments	Post	Dates
Current Position			
National Central University	Department of Physics	Professor	2015/08 - present
Previous Experience			
National Central University	Department of Physics	Associate Professor	2007/02 - 2015/07
National Changhua University of Education	Department of Physics	Associate Professor	2004/02 – 2007/01
Nat'l Center for High-performance Computing and Networking	Research Division	Associate Research Scientist	1995/10 – 2004/01

4. Fields of specialty (Please give fields related to research.)

1.Plasma Physics	2.Computational Physics	3.Microwave Physics
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5. Major awards and honors

- Excellent Ph. D. Thesis Award, the Annual Conference of R.O.C. Chinese Physical Society, 1996.
- Nationally elected youth of scientific talent, Physics Section, National Cultural Association, 1996.

6. Representative publication list

Refereed journal papers in last ten years

- T. H. Chang, C. T. Fan, K. F. Pao, K. R. Chu and S. H. Chen, Appl. Phys. Lett. **90**, 191501 (2007)
- C. T. Fan, T. H. Chang, K. F. Pao, K. R. Chu and S. H. Chen, Phys. Plasmas **14**, 093102 (2007).
- C. S. Liu and S. H. Chen, Int. J. Modern Phys. **B 21**, 269 (2007).
- P. Zhang, W. S. Koh, L. K. Ang and S. H. Chen, Phys. Plasmas **15**, 063105 (2008).
- S. H. Chen, L. C. Tai, C. S. Liu and Y. R. Linliu, Phys. Plasmas. **17**, 063109 (2010).
- C.-H. Pai, Y.-Y. Chang, L.-C. Ha, Z.-H. Xie, M.-W. Lin, J.-M. Lin, Y.-M. Chen, G. Tsaur, H.-H. Chu, S.-H. Chen, J.-Y. Lin, J. Wang, and S.-Y. Chen, Phys. Rev. A **82**,063804 (2010).
- S. H. Chen, L. C. Tai, Y. L. Liu, L. K. Ang and W. S. Koh, Phys. Plasmas **18**, 023105 (2011).
- G. Tsaur, N. H. Kang, Z. H. Xie, S. H. Chen, and J. Wang, Phys, Rev. A **83**, 033801 (2011).
- S. H. Chen and L. Chen, Phys. Plasmas **19**, 023116 (2012).
- Y. Kuramitsu, Y. Sakawa, M Hoshino, S. H. Chen, and H. Takabe, High Density Energy Phys. **8**, 266 (2012).
- T. C. Liu, X. Shao, C. S. Liu, M. He, B. Eliasson, V. Tripathi, J. J. Su, J. Wang and S. H. Chen, New J. Phys. **15**, 025026 (2013).
- T. C. Liu, X. Shao, C. S. Liu, B. Eliasson, J. Wang and S. H. Chen, Phys. Plasmas **20**, 103112 (2013).
- S. H. Chen and L. Chen, Phys. Plasmas **20**, 123108 (2013).
- M. W. Lin, Y. L. Liu, S. H. Chen, and I. Jovanovic, Phys. Plasmas **21**, 093109 (2014).
- T. C. Liu, X. Shao, C. S. Liu, B. Eliasson, J. Wang, and S. H. Chen, Phys. Plasmas **21**, 063102 (2014).
- C. L. Chang, P. Y. Lai, Y. Y. Li, Y. P. Lai, C. W. Huang, S. H. Chen, Y. W. Lee and S. L. Huang, IEEE Photonics Journal **6**, 1500809 (2014).
- C. L. Chang, Y. Y. Lin, P. Y. Lai, Y. Y. Li, S. H. Chen and S. L. Huang, Laser Phys. **24**, 045101 (2014).
- Y. L. Liu, S. H. Chen, W. S. Koh, and L. K. Ang, Phys. Plasmas **21** , 043101 (2014).
- Y. Kuramitsu*, H. H. Chu, L. N. Hau, S. H. Chen, Y. L. Liu, C. Y. Hsieh, Y. Sakawa, T. Hideaki, and J. Wang, High Energy Density Physics (2014).
- P. Y. Lai, T. Y. Lin, Y. R. Lin-Liu, and S. H. Chen, Phys. Plasmas **21**, 122111 (2014).
- T. C. Liu, X. Shao, C. S. Liu, B. Eliasson, W. T. Hill III, Jyhpyng Wang and S. H. Chen, New J. Phys **17**, 023018 (2015).
- Y. L. Liu, P. Zhang, S. H. Chen, and L. K. Ang, Phys. of Plasmas **22**, 084504 (2015).
- P. Y. Lai, L. Chen, Y. R. Lin-Liu, and S. H. Chen, Phys. of Plasmas **22**, 092127 (2015).
- Y. L. Liu, P. Zhang, S. H. Chen, L. K. Ang, Phys. Rev. ST Accel. Beams **18**,

123402 (2015).

- T. Moritaka, Y. Kuramitsu, Y. L. Liu, S. H. Chen, Phys. Plasmas **23**, 032110 (2016).
- M. W. Lin, C. Y. Hsieh, Y. L. Liu, S. H. Chen, and I. Jovanovic, Phys. Plasmas **23**, 123110 (2016).
- Y. L. Liu, T. Moritaka, Y. Kuramitsu, and S. H. Chen, High Energy Density Physics **22**, 46 (2017).
- Y. Kuramitsu, and S. H. Chen, High Energy Density Physics **23**, 6 (2017).
- Y. Y. Li, Y. W. Lee, T. S. Ho, R. T. Wei, P. Y. Lai, K. S. Jao, I. C. Wu, S. H. Chen, and S. L. Huang, IEEE Photo. J. 9, 3400108 (2017).

Invited papers at international conferences

- *Numerical Thermalization of Two-Dimensional Plasmas in the Presence of Binary Collisions with Particle-in-Cell Method*, W. S. Koh, W. J. Ting, P. Y. Lai, S. H. Chen and Y. R. Linliu, invited talk, The 41st IEEE International Conference on Plasma Science and the 20th International Conference on High-Power Particle Beams (May 2014, Marriott Wardman Park, Washington DC, USA)
- *Theoretical Study of the Nonstationary Behaviors of Gyrotron Backward Wave Oscillators*, S. H. Chen and L. Chen, invited talk, Fall Meeting of China Physical Society 2011 (Sep. 2011, Zhejiang, China).
- *Theoretical Study of the Nonstationary Behaviors of Gyrotron Backward Wave Oscillators*, S. H. Chen and L. Chen, invited talk, The 7th joint meeting of Chinese physicists worldwide (OCPA7) - International Conference on Physics Education and Frontier Physics (August , 2011, Kaohsiung, Taiwan).
- *Investigation of the Gyrotron Oscillator as a Nonlinear Electrodynamical System*, K. R. Chu, S. H. Chen, T. H. Chang, K. F. Pao, and C. T. Fan, Plenary Talks on 4th IEEE International Vacuum Electronics Conference (2003).
- *Non-stationary Behavior in Gyrotron Oscillators*, T. H. Chang, S. H. Chen, L. R. Barnett, and K. R. Chu, invited talk, International Conference on Plasma Science (June 2001, Las Vegas, Nevada, USA).
- *Theory and Experiment of Ultra-high Gain Gyrotron Traveling-wave Amplifier*, K. R. Chu, T. H. Chang, L. R. Barnett, and S. H. Chen, invited talk, RF 2001 Workshop (October 2001, Snowbird, Utah, USA).
- *Nonlinear Contraction of Field Profile in the Gyro-BWO and Its Effect on Frequency Tuning*, T. H. Chang, S. H. Chen, and K. R. Chu, invited talk, International Conference on Plasma Science (June 2000, New Orleans, Louisiana, USA).

Book chapters

- *Physics and Technology Issues of the Gyrotron Traveling Wave Amplifier*, K.R. Chu, T.H.

Chang, H.Y. Chen, C.L. Hung, L.R. Barnett, S.H. Chen, and T.T. Yang, Strong Microwaves in Plasmas, edited by A.G. Litvak, Nizhny Novgorod. pp. 718-727, (2000).

7. List of integrated research projects executed in last five years

- Co-Investigator, "Development of the High Brightness 13.5-nm EUV light sources," supported by the "National Program on Nano Technology," of National Science Council (2010-2013). NT\$ 28,000,000
- Co-Investigator (succeeded President Chuan Sheng Liu as the principal investigator since Apr. 2006) of sub-project 4, "Computational and theoretical studies on relativistic laser-plasma interactions and atomic transitions," which is subjected to the project entitled by "Relativistic quantum electronics and laser-wakefield electron acceleration driven by 100-terawatt laser pulses", supported by the "Program for Promoting Academic Excellence of Universities" of National Science Council. (2005-2009) NT\$ 4,158,000

8. List of projects currently or previously executed in last five years

Jul. 2007 - Nov. 2010	Theoretical Study of Relativistic Effects in Plasmas (NSC 96-2112-M-008-011-MY3)
Aug. 2009 - Jul. 2012	Computational Study of Maser/Laser Plasmas Physics (NSC 98-2112-M-008-006-MY3)
Aug. 2012 - Sep. 2013	Study of the dynamical interaction between the electromagnetic wave and plasma (NSC 101-2112-M-008-012-)
Aug. 2013 - Jul. 2014	Study of the nonlinear dynamics of interactions between the intense electromagnetic wave and plasma (NSC 102-2112-M-008-013-)
Aug. 2014 - Jul. 2015	Simulation and theoretical studies of interactions between the intense electromagnetic wave and overdense plasmas (MOST 103-2112-M-008-004-)
Aug. 2015 - Jul. 2018	Theoretical and Computational Study of Collisional Plasmas (MOST 104-2112-M-008 -013 -MY3)

Shih-Hung Chen was born in Taiwan, R.O.C., in 1967. He received the B.S. and Ph.D. degrees from the Department of Nuclear Engineering, National Tsing Hua University, R.O.C., in 1989 and 1995, respectively. From 1990 to 1995, he conducted Ph.D. research on gyrotron devices in the High Frequency Electromagnetic Laboratory of the Department of Physics, National Tsing Hua University. He was nationally elected youth of scientific talent (Physics Section) in Taiwan and was the recipient of the Ph. D. Thesis Award from the Chinese Physical Society in 1996. He joined the National Center for High-performance Computing as Associate Research Scientist on October 1995.

Since spring 2004, he has been Associate Professor of Physics in National Changhua University of Education, Taiwan, R.O.C. He is currently the faculty of Department of Physics in National Central University for the management and execution of the integrated project, which is related to the study of laser plasma interaction by computer simulation. Since 2010 he has been a member of the IEEE EDS Vacuum Electronics Committee has served in the International Vacuum Electronics Devices Meeting. His current research interests include computational plasma physics, laser plasma physics, high power microwave sources, and electron optics.

His current research interests include computational plasma physics, laser plasma physics, high power microwave sources, and electron optics. During the past ten years, he has been devoted on the development and application of large-scale computer simulation on the high-power microwave sources, intense laser-plasma interactions and the high-power fiber laser amplifiers etc. The simulation works help promote the related researches in the development and application of the 100-TW laser system at NCU and the development of the high-power fiber laser amplifier (MOPA) and laser-produced plasma EUV light source at NTU. Now his group is still working on the development of a complete numerical framework for the study of the laser-produced plasma system.