CURRICULUM VITAE OF SIU FUNG YU

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Education

obtained: July 1994	**Ph.D.**, Department of Engineering, Cambridge University, UK. (http://www.eng.cam.ac.uk/)
obtained: Aug 1990	**B.Eng.** (Electronics with Optoelectronics), 1st Class honors, Department of Electronic & Electrical Engineering, University College London, UK (http://www.ee.ucl.ac.uk/).

Scholarships, Prizes and Awards

June 2006	Nanyang Award for Research and Innovation (Nanyang Technological University, Singapore) (http://www.ntu.edu.sg/Nanyang-Awards/Recipients/Pages/NanyangAwards2006Winners.aspx) • the highest recognition to individuals and teams who have made outstanding contributions in scientific knowledge through research breakthroughs, and significant technological innovations on the world stage. • jointly received for their contribution to the realization of ZnO based UV laser diodes.
Oct 1990 – Oct 93	Overseas Research Student Award, U.K. government. • to attract high-quality international students to the U.K. to undertake research (http://www.orsas.ac.uk/)
Oct 1991 – Oct 93	Hong Kong Croucher Foundation Scholarship (http://www.croucher.org.hk/).
Oct 1990 – Oct 91	Cambridge Commonwealth Trust Bursary, Cambridge University
Oct 1990	**Departmental Prize** (1st of the class): Awarded by Department of Electronics and Electrical Engineering, University College London, U.K. in the final year Degree Examination.
Oct 1984	**Third Prize** in category of Metal Design, Hong Kong Young Designer of the Year Award Competition, 1984.

Professional Qualification and Affiliation

1991 – 93	Fellow and Honorary Scholar of Cambridge Commonwealth Trust
2003 – Now	Senior Member of IEEE

Employment History

Nov 13 – Oct 16	**Associate Head**, Department of Applied Physics, HKPU, HK.
Oct 10 – now	**Professor**, Department of Applied Physics, Hong Kong Polytechnic University (HKPU), HK. (http://www.polyu.edu.hk/ap)
Mar 08 – Sept 10	**Tenured Associate Professor**, School of EEE, Division of Microelectronics, NTU. Awarded tenure to 65 years of age
Jan 2004 – Sept 10	**Associate Professor**, School of EEE, Division of Microelectronics, NTU. Responsible for teaching undergraduate and postgraduate students, conduct research and services to the industrial communities.
Jul 2001 – Dec 2003	**Assistant Professor**, School of EEE, Division of Microelectronics, Nanyang Technological University (NTU). (http://www.ntu.edu.sg/eee/eee6) Responsible for teaching undergraduate and postgraduate students, conduct research and services to the industrial communities.
Oct 2000 – June 2001	**Member of Technical Staff**, Optoelectronics Center, Lucent Technologies Inc, Breinigsville, PA USA. Responsible for the research and development of high-power (>1 Watt CW) 980 nmAlGaAs/GaAs quantum wells semiconductor lasers.
Sept 1994 – Oct 2000	**Assistant Professor**, Dept of Electrical & Electronics Engineering (EEE), The University of Hong Kong, Hong Kong. (http://www.eee.hku.hk/) Responsible for teaching undergraduate and postgraduate students, conduct research & services to industries.
Dec 1993 – Jul 1994	**Part-time Lecturer**, Dept of Electronic Engineering, Sha Tin Technical Institute, Hong Kong. Responsible for conducting lectures for the diploma and certification courses.
Oct 1990 – May 1993	**Teaching Assistant**, Engineering Dept, University of Cambridge, UK. Responsible for teaching undergraduate tutorials and lab experiments.

Research Interests

Computer Modeling:	Modeling and simulation of nanophotonic and optoelectronic devices.
Material growth :	Fabrication of metal-oxide, nitride and carbon based nanostructured materials.
Devices fabrication :	Design and realization of optoelectronic devices such as semiconductor lasers, modulators and waveguides using novel nano-materials.

Research Highlight

Previous studies in computer simulation of semiconductor lasers (1994 – 2003):

- Developed computer simulators for optoelectronic devices including long-wavelength distributed feedback and vertical-cavity surface-emitting lasers, modulators etc for telecommunication applications.
- His work (i.e., IEEE JQE, 30, pp.1389-1395, 1994) had been adopted to develop laser simulator namely 'LASER PLUS' in Lucent Technologies Inc. USA to study the transient response of distributed feedback lasers.
- He also contributed to the understanding on the modulation response of vertical-cavity surface-emitting lasers (VCSELs). His understanding and knowledge in VCSELs had been summarized in form of a text book.

Previous studies in ultraviolet light-emitting devices and lasers using metal-oxide based nanomaterials (2001 – 2010):

- Demonstrate the realization of high-efficiency light-emitting devices using nanostructured ZnO, ZnMgO, SnO_2, $InSnO_2$, AlN etc as the active media.
- Fabrication of room-temperature ultraviolet lasers by using ZnO based materials. The problems of inefficiency confinement of light and carriers had been solved for the realization of world-first ZnO based random laser diodes.
- His work in ZnO lasers has been highlighted in the 'Newsbreaks' of the February 2004 issue (Vol. 40, No. 2) of Laser Focus World.
- Again, his ZnO lasers work was reviewed by Laser Focus World on December 2008 issue in the article 'PHOTONIC FRONTIERS: SEMICONDUCTOR UV LASERS: Materials are a tough challenge for ultraviolet diode lasers'.
- Nanyang Technological University recognized his contribution on the realization of ZnO based laser diodes and awarded him and his collaborator a Nanyang Award for Research & Innovation in 2006.

Research activities in photonic devices (2010 – now):

- His current research activities involved the design, analysis and realization of lasers, plasmonic waveguides, solar cells, etc using metal-oxide and carbon based nanowires and nano-dots materials.
- He has developed computer simulators to study the optical properties of plasmonic waveguides and lasers.
- He has contributed to the design and fabrication of narrow-beam high-power THz quantum cascade lasers (QCLs). As none of the currently available THz QCLs can achieve such a high quality beam control, our work published in 2013 APL was highlighted in the "research highlights" of the April 2013 issue of Nature Photonics.
- He has demonstrated for the first time the lasing emission from carbon-nanodots dispersed in solvents.
- He has realized ~300 nm emission from SnO_2 nanodots which can be used to fabricate deep UV-photonics.
- First demonstration of deep UV (~310 nm) upconversion nanoparticles laser under 980 nm excitation.

Recent development of large equipment and facility for the Department and University (2011 – now):

- Femtosecond pump-probe spectroscopy for time-resolved probe of structural dynamics of organic and inorganic materials.
- Integration of the near-field scanning optical microscope with the femtosecond pump-probe spectroscopy for the optical studies (Raman/ photoluminescence) of nanostructure materials.
- Realization of sub-micron fluorescence imaging with wavelength from deep UV (200 nm) to visible and to infrared (2.5 mm) regimes.
- Involved in the establishment of the first university cleanroom including class 100, 1000 and 10,000 regions with total area of ~500 m2 for the nanomaterials fabrication and characterization.

5 Recent Publications

1. X. Chen, L.M. Jin, W. Kong, T.Y. Sun, W.F. Zhang, X.H. Liu, J. Fan, **S.F. Yu**, F. Wang, Confining energy migration in upconversion nanoparticles towards deep ultraviolet lasing, *Nat. Commun.* 7:10304 doi: 10.1038/ncomms10304 (2016).
2. H. Zhu, X. Chen, L.M. Jin, Q.J. Wang, F. Wang, and **S.F. Yu**,' Amplified Spontaneous Emission and Lasing from Lanthanide-Doped Up-Conversion Nanocrystals', *ACS Nano*, 2013 (DOI: 10.1021/nn405387t).
3. H.L. Wen, H. Zhu, X. Chen, T.F. Hung, B.L. Wang, G.Y. Zhu, **S.F. Yu**, F. Wang,' Upconverting Near-Infrared Light through Energy Management in Core−Shell−Shell Nanoparticles', *Angew. Chem., Int. Ed.*, 2013 (DOI: 10.1002/anie.201306811).
4. H.Y. Yang, Z.J. Han, **S.F. Yu**, K.L. Pey, K. Ostrikov, R. Karnik,' Carbon nanotube membranes with ultrahigh specific adsorption capacity for water desalination and purification', *Nat. Commun*. 4:2220 doi:10.1038/ncomms3220 , 2013.
5. W.F. Zhang, H. Zhu, **S.F. Yu**, H.Y. Yang,' Observation of lasing emission from carbon nano-dots in organic solvents', *Adv. Mater.*, 24, 2263-2267, 2012.

Supervision of M. Phil. students

Hong Kong University, Department of Electrical & Electronics Engineering

W.M. Man (1998 – 00)	Thesis: Modeling of VCSELs. He is now an electronic engineer, HK.
C.W. Lo (1997 – 99)	Thesis: Interdiffusion QW semiconductor lasers. He is now a system engineer, HK Telecom.

Supervision of Ph.D. students

Hong Kong Polytechnic University, Department of Applied Physics

Yang De Cheng (2015 – now)	He is our 1st year PhD student.
Chun Kit SIU (2014 – now)	He is now a 2nd year PhD student.
Lin Min JIN (2012 – now)	She has submitted her thesis in Nov 2015 and waiting for oral examination.
Wenfei ZHANG (2010 – 2014)	Thesis title: Carbon nanodots lasers. He obtained his Ph.D. degree in 2014 and now working as a research associate in HKPU.

Nanyang Technological University, School of Electrical & Electronics Engineering

Liang Hou Kun (2007 – 2011)	Thesis title : Design and fabrication of Ultraviolet metal-oxide light-emitting devices Achieve : Design & fabricate single-mode high-power ZnO random laser diodes He is now working in a research institute in Singapore.
Tsang Hon Siu (2006 – 2010)	Thesis title : Design and Fabrication of Ultraviolet Optoelectronic Devices with Multilayer Structure He is now a research assistant in NTU, School of EEE.
Ashwani Kumar (2004 – 2009)	Thesis title : Design, analysis and realization of active Plasmonic devices. Achieve: demonstration of plasmonic waveguide lasers He is now a research fellow in University of Southern Denmark.
Mote Rakesh Ganpat (2004 – 2009)	Thesis title : Study of sub-wavelength structures for optical beam focusing and laser cavity Achieve : design and fabrication of subwavelength lens. He is now the research fellow in ASTAR institute, Singapore.
Agus Putu Abiyasa (2004 – 2008)	Thesis title: Investigation of excitonic recombination and its influence on random lasing phenomenon in ZnO semiconductors. Achieve: Development of optical gain model for ZnO random lasers. He is now a research scientist in Bosch – photovoltaic research centre, Singapore.
Nanshu Chen (2003 – 2008)	Thesis title : Design and Analysis of Antiresonant Reflecting Optical Waveguide Vertical Cavity Surface Emitting Lasers and Amplifiers. Achieve: Development of laser models for the study of ARROW type VCSELs and VCSOAs. He is now a senior engineer in Charter Semiconductor, Singapore.
Eunice S.P. Leong	Thesis title : Nanocrystals Semiconductor Lasers.

(2003 – 2007)	Achieve: Realization of the 'World's First' electrical pumped ZnO semiconductor lasers. She is now a project manager of IME, Singapore.
Clement Yuen (2003 – 2007)	Thesis title: Zinc Oxide Ultraviolet Light-emitting Devices: Design and Fabrication. Achieve: Demonstrated ZnO Light emitting diodes. He is now a Lee Kuan Yew fellow in NTU, Singapore.

Supervision of Research Fellows

Hong Kong Polytechnic University, Department of Applied Physics

X.H. XU (2015 – 17)	Research topic: Li^{3+} doped nanocrystals, supported by Hong Kong Scholars Program.
S.S. Pan (02 – 14)	Research topic: SnO_2 nanoparticles LED, supported by Hong Kong Scholars Program.
H. Zhu (01 – 13)	Research topic: ZnO random laser diodes, supported by University Central Research Grant.

Nanyang Technological University, School of Electrical & Electronics Engineering

H.Y. Yang (08 – 10)	Research topic: Spintronics and growth of novel material, supported by Lee Kuan Yew Postdoctoral Fellowship. Now: Assistant Professor, Singapore University of Technology and Design, Singapore.
W.L. Zhang (08 – 10)	Research topic: Surface emitting lasers supported by university manpower (RGM) grant. Now: Associate Professor, University of Electronics Science and Technology of China, China.
X.J. Xu (2007 – 08)	Research topic: plasmonic polariton lasers supported by Ministry of Education tier 2 grant. Now: Research fellow in Japan.
X.F. Li (2007 – 10)	Research topic: vertical-cavity surface-emitting quantum cascade lasers supported by US DARPA grant. Now: Professor in Institute of Modern Optical Technologies, Soochow University, China.
H.D. Li (2004 – 06)	Research topic: ZnO semiconductor lasers supported by ASTAR grant. Now: Professor in Jilin University, China.
F. Gao (2002 – 04)	Research topic: InP photon detectors supported by DSO grant, Singapore. Now: Research scientist in photovoltaics center of University of New South Wales.
P. Thilakan (2001 – 02)	Research topic: InP photon detectors supported by DSO grant. Now: Professor in ValliammaiEngineering College, India.

Funded Research Projects

Hong Kong Polytechnic University, Department of Applied Physics

1. S.F. Yu, Principal Investigator (2015 – 2017), University Grant Council–Research Grants Council, Five-photon up-conversion lasing from lanthanide-doped nanocrystals microcavities', (grant number: PolyU 153036/14P for HK$ 560,650) – **On-going.**
2. S.F. Yu, Principal Investigator (2014 – 2017), National Natural Science Foundation of China, entitled " Study of high luminescent graphene quantum dots for the realization of white-light emitting devices', (grant number: 61378071 for RMB 800,000) – ***On-going***.
3. S.F. Yu, Principal Investigator (2013 – 2015), of a Hong Kong Polytechnic University Central Research Grant, entitled "Carbon Nanodot White-light Emitting Devices", (grant number: G-YN01 for HK$105,000) – ***On-going***.
4. S.F. Yu, Principal Investigator (2012 – 2014), of a Hong Kong Polytechnic University Central Research Grant, entitled "Electronically Pumped Low-coherence Semiconductor Random Lasers", (grant number: G-YJ73 for HK$105,000) – ***On-going***.
5. S.F. Yu, Principal Investigator (2011 – 2013), of a Hong Kong Scholars Program, Mainland – HK Joint Postdoctoral Fellows Program, entitled "Design and Fabrication of Hybrid tin oxide Nanowires-based Light-emitting Diodes", (grant number: G-YZ01 for HK$315,000) – ***Completed***.
6. S.F. Yu, Principal Investigator (2011 – 2013), of a Hong Kong Polytechnic University Central Research Grant, entitled "Design and Realization of High-power Zinc-oxide Random Laser Diodes", (grant number: G-YX4P for HK$624,000) – ***Completed***.
7. S.F. Yu, Principal Investigator (2010 – 2012), of a Hong Kong Polytechnic University block Grant, entitled " Design and Fabrication of Hybrid SnO_2 Nanowires-based Light-emitting Diodes", (grant number : 1-ZV6X for HK$ 500,000) – ***Completed***.

Nanyang Technological University, School of Electrical & Electronics Engineering

8. S.F. Yu (PI), H.Y. Yang (Co-PI), France: Christophe Couteau (PI), Gilles L érondel (Co-PI), Renaud Bachelot (Co-PI), Roy Aad (Co-PI), (2010 – 2012)' Lasing in QUAsi-random Zinc oxide nanostructures array for sensING', Merlion2009 programme, (Dossier No.: 2.04.09 for S$30,000×2) – ***Completed***.
9. S.F. Yu, Co-Principal Investigator with Principal Investigator H.Y. Yang (2009 – 2011), NTU URC-SUG startup grant, entitled "Spin-polarized light-emitting devices created from Nanostructure', (grant number : LKYPDF 2/08 for S$200,000) – ***Completed***.
10. S.F. Yu, Principal Investigator (2008 – 2011) with co-principal investigator S.P. Lau and collaborator H.C. Liu of a Research Grant from Science and Engineering Research Council, entitled "Design & realization of surface emitting quantum cascade lasers with beam focusing structure", (grant number : 082-101-0016 for S$517,890) – ***Completed.***
11. S.F. Yu, Principal Investigator (2007 – 2010) University Grant (Research Grant Manpower) co-funding, Nanyang Technological University, entitled "Design and analysis

of microcavity semiconductor lasers', (Grant Number: RG40/06 for S$ 120,000). – ***Completed***.

12. S.F. Yu, Principal Investigator with co-principal investigators W.J. Fan, X.H. Tang and M.K. Chin (2006 – 2008) The Defense Advanced Research Projects Agency (DARPA) grant from Department of The NAVY, USA,entitled,"High-power long-wavelength Quantum Cascade Vertical-Cavity Surface-Emitting Lasers', (Grant Number : HR0011-07-2-0002 for US$200,000) – ***Completed***.
13. S.F. Yu, Principal Investigator with Co- principal investigators Lau Shu Ping and Zhou Wei (2006 – 2009) ARC grant from Ministry of Education, Singapore, entitled, "Microcavity Polariton lasers", (Grant Number : ARC 2/06 for S$660,570) – ***Completed***.
14. S.F. Yu, Principal Investigator (2004 – 2008) University Grant (Research Grant Manpower), Nanyang Technological University, entitled "Fabrication and Characterization of Carbon Nanocomposite Based Field Emission X-Ray Devices.", (grant number : RGM 17/04 for S$280,000) – ***Completed***.
15. S.F. Yu, Principal Investigator (2007-2008) University Supplementary Equipment Purchase Project, entitled 'Room temperature fabrication of ultraviolet light emitting diodes', (Grant Number : RG89/06 for S$ 78,458.50). –***Completed***.
16. S.F. Yu, Principal Investigator (2006 – 2007) of a University AcRF Grant, Nanyang Technological University, entitled "Ultraviolet ZnO laser diodes on Si substrate", (Grant Number : RG15/06 for S$ 55,580) – ***Completed.***
17. S.F. Yu, Principal Investigator (2005 – 2006) Nano seed fund, Nanocluster NTU, entitled,' Electrical pumped ZnO nanocavity lasers', for S$20,000 – ***Completed***.
18. S.F. Yu, Co-Principal Investigator with Principal Investigator T. Mei and Co-Principal Investigators M.K. Chin and X.H. Tang (2005–2007) ARC grant from Ministry of Education, Singapore, entitled "Bandgap technology and process development for generic InP monolithic integration', (Grant Number : 042-101-0087 for S$627,744) – ***Completed***.
19. S.F. Yu, Co-Principal Investigator with Principal Investigator T.P. Chen and Co-Principal Investigators O.K. Tan, M.S. Tse and K. Pita (2004–2006) ARC grant from Ministry of Education, Singapore, entitled "Investigation of light emission mechanism in Si-nanocrystals embedded in SiO_2 matrix', (Grant Number : ARC 1/04 for S$807,500) – ***Completed.***
20. S.F. Yu, Principal Investigator with co-principle investigator Masaki Tanemura (2004 – 2005) Nippon Sheet Glass Foundation for Materials Science and Engineering, Japan, entitled "Design and fabrication of Zinc Oxide Thin Film Ultraviolet Lasers on Silicon substrate', (grant number : M48040000 for US$10,000) – ***Completed***.
21. S.F. Yu, Principal Investigator (2003 – 2006) University Grant (Research Grant Manpower) co-funding, Nanyang Technological University, entitled "Nanostructured Zinc oxide films for UV photonic devices", (grant number : RGM 18/02 for S$126,820) – ***Completed***.
22. S.F. Yu, Principal Investigator with co-principle investigators S.P. Lau, C.K. Chen and H.H. Hg (2002 –2005) of a Research Grant from Science and Engineering Research

Council, entitled “Quantum Confined Zinc Oxide Thin Film for UV lasers applications”, (grant number : 022-101-0033 for S$344,040) – ***Completed.***

23. S.F. Yu, Principal Investigator (2002 –2004) of a University Startup Grant, Nanyang Technological University, entitled “Real time fabrication system for the design and fabrication of semiconductor lasers”, (*grant number* : SUG 9/02 for S$87,300) – ***Completed***.
24. S.F. Yu, co-principal investigator (2000–2003) with principal investigator S.C. Tjin and co-principal investigator T. Mei and K. Radhakrishnan of a DSO National Laboratories funding (DSO), entitled ”Development of Photonic True-Time-Delay Units for Phased-Array Antennas”. (grant number DSO/C/00/23/L for S$1.5 millions) – ***Completed***.

The University of Hong Kong, Department of Electrical & Electronics Engineering

25. S.F. Yu, co-principal investigator (2000–2001) with principal investigators W.K. Chan and co-principal investigator E.H. Li of a University Grant Council–Research Grants Council, entitled “Electronic and optical properties of polymers based on transition metal complexes”. (*grant number* HKU7096/00P for HK$350,000)– ***Completed***.
26. S.F. Yu, principal investigator (2000–2001) of a University Grant Council–Research Grants Council, entitled “Analysis and design of vertical cavity surface emitting lasers for self-sustained pulsation”. (*grant number*HKU705625/00E 10203146 for HK$437,817)– ***Completed***.
27. S.F. Yu, co-principal investigator (1999–2000) with Principal Investigators E.H. Li and co-principal investigator W.K. Chan of a University Research Grant of the University Research Committee, The University of Hong Kong, entitled “Light emission from photonic crystals with organic materials”. (*grant* for HK$72,000)– ***Completed***.
28. S.F. Yu, Principal Investigator (1999–2000) of a University Research Grant of the University Research Committee, The University of Hong Kong, entitled “Integration of electrical pumped organic laser and modulator”. (*grant number* 10202745/23505/14300/301/01 for HK$72,000)– ***Completed***.
29. S.F. Yu, Principal Investigator (1999–2000) of a University Grant Council–Research Grants Council, entitled “Simulator Model of Semiconductor Lasers using Diffused Quantum Well Structure”. (*grant number* HKU7125/99E 10202854 for HK$450,000)– ***Completed***.
30. S.F. Yu, Principal Investigator (1998–1999) of a University Grant Council–Research Grants Council, entitled “Computer Simulator of Vertical Cavity Surface Emitting Lasers”. *(grant number HKU7059/98E 10202317 for HK$430,000)* – ***Completed***.
31. S.F. Yu, co-principal investigator (1998–1999) with principal investigator Mr. P.C. Chui & co-principal investigator Prof. C.C. Chan of a University of Hong Kong Committee on Research and Conference Grant, entitled “Object Oriented Programming for CAD Tools for the Design of Optoelectronic Devices and Systems”. *(for HK$65,000)* – ***Completed***.
32. S.F. Yu, Principal Investigator (1998–1999) of a University of Hong Kong Committee on Research and Conference Grant, entitled “High Speed Vertical Cavity Surface Emitting

Lasers with Diffused Quantum Wells Structure". *(grant number 10201986/23505/14300/301/01 for HK$120,000)* – ***Completed***.

33. S.F. Yu, Principal Investigator (1997–1998) of a University of Hong Kong Committee on Research and Conference Grant, entitled "Integrated Semiconductor Laser Simulators". *(grant number 337/062/0045 for HK$130,000)* –***Completed***.
34. S.F. Yu, co-principal investigator (1997–1998) with principal investigators Dr. E.H. Li and co-principal investigator Dr. C. Jagadish (Department of Electronic Materials Engineering, Australian National University) of a University Grant Council–Research Grants Council, entitled "Photonics integration & device performance enhancement using interdiffusion quantum wells". *(grant number HKU 7045/97E for HK$523,600)* – ***Completed***.
35. S.F. Yu, co-principal investigator (1996–1997) with principal investigator Dr. T.I. Yuk of a University of Hong Kong Committee on Research and Conference Grant, entitled "Fiber Soliton Lasers". *(grant number 335/062/0062 for HK$75,000)* – ***Completed***.
36. S.F. Yu, Principal Investigator (1996–1997) of a University of Hong Kong Committee on Research and Conference Grant, entitled "Modeling of Vertical Cavity Surface Emitting Lasers". *(grant number 337/062/0035 for HK$120,000)* – ***Completed***.
37. S.F. Yu, co-principal investigator (1995–1997) with principal investigators Dr. E.H. Li and co-principal investigator Professor B.L. Weiss of a University Grant Council–Research Grants Council, entitled "High Performance Acousto-optics Devices in III–V Semiconductor QW Structures for Signal Processing Application in Communication". *(grant number HKU 300/95E for HK$496,000)* – ***Completed***.
38. S.F. Yu, Principal Investigator (1994–1996) with co-principal investigator Dr. E.H. Li of a University of Hong Kong Committee on Research and Conference Grant, entitled "High Power Semiconductor Lasers". *(grant number 337/062/0023 for HK$117,500)* – ***Completed***.

Invited Speaker in International Conferences

1. S.F. Yu, 'Carbon and graphene nanodots lasers', 5th IEEE International Nanoelectronics Conference (INEC 2013) to be held in Singapore from 2 to 4 January 2013 at Resorts World Sentosa.
2. S.F. Yu,' Randomly assembled nanowires for light-emitting diodes and lasers applications', 2012 MRS fall meeting, 26 to 30 November 2012 Boston USA.
3. S.F. Yu,' ZnO thin film laser fabricated by filtered cathodic vacuum arc technique', International Conference on Electroceramics (ICE2011), 12-16 Dec 2011, Sydney, Australia.
4. S.F. Yu, 'Randomly Distributed Nanostructured Semiconductor Lasers', (session G3-1), International conference on Materials for Advanced Technologies, 26 Jun to 1 July 2011, Suntec, Singapore.
5. S.F. Yu,' Realization of high performance random laser diodes', (session W3), APS American Physical Society March Meeting, 21-25 March 2011 in Dallas, Texas, USA.

6. S.F. Yu, ‘ZnO thin film random laser diodes fabricated by filtered cathodic vacuum arc technique’, invited talk at 2010 Taiwan Association for Coatings and Thin Films Technology Conference, 10 -11 Dec, 2010, Ming Dao University, Taiwan.
7. S.F. Yu, ‘Design and realization of high performance ZnO random laser diodes’, invited talk at ZnO Workshop: Perspectives on ZnO Materials and Devices for Optoelectronics, University of California, Riverside, July 7-9, 2010.
8. S.F. Yu, ’Make random lasers useful for practical applications’, invited talk at The 2008 OSA Frontiers in Optics conference, October 19 – 23, 2008 Rochester, NY, USA.
9. S.F. Yu, ’Ultraviolet ZnO laser diodes’, invited talk at 2007 MRS fall meeting, 26 to 30 November 2007 Boston USA.
10. S.F. Yu, ’UV Random Lasers Using ZnO‘, invited talk at The 13th International Symposium on the Physics of Semiconducotors and Applications, "Nanoscale Semiconductor Physics and Device Applications”, August 22 – 25, 2006, Ramada Plaze Jeju Hotel, Jeju, Korea.
11. S.F. Yu, Eunice S.P. Leong, S.P. Lau and Clement Yuen,’ Formation of Random Laser Action in ZnO Thin Films’, invited talk at the 5th International Conference on Thin Film Physics and Application (TFPA2004) May 31-June 2 (2004) Shanghai, China.
12. S.F. Yu,’Modal characteristics of Anti-reflection Reflecting Optical Waveguide Vertical Cavity Surface Emitting Lasers’, invited talk at the IEEE/LEOS International Conference on "Numerical Simulation of Semiconductor Optoelectronic Devices (NUSOD)", Komaba Campus, the University of Tokyo, Tokyo, Japan, October 13-16, 2003.
13. S.F. Yu, ‘Analysis of the dynamic behavior of vertical cavity surface emitting lasers by using time domain transfer matrix method’, (Invited) The 5th IUMRS International Conference on Advanced Materials, Beijing, China, (13-18) June, 1999.
14. S.F. Yu, ‘Dynamic modeling of vertical cavity surface emitting lasers using modified time domain traveling-wave algorithm’, (Invited) PHOTONICS-98, International Conference on Fiber Optics and Photonics, Indian Institute of Technology Delhi, New Delhi, India, December 14-18, 1998.
15. S.F. Yu,’ Analysis and design of high-power single-mode double tapered waveguide DFB lasers’, (invited) Progress in Electromagnetics Research Symposium (PIERS’97), January 6-9, 1997, City University of Hong Kong.

Organization of Conferences

2016	**Secretary,** 2016 IEEE International Conference on Electron Devices and Solid-State Circuits (EDSSC'16), HKU, Hong Kong, August 3-5, 2016.
2014	**Program committee,** 14th IEEE/LEOS Conference, Numerical Simulation of Optoelectronic Devices, Balearic Islands University, Spain, 1-4 September 2014.
2013	**Co-Chairman**, Symposium E, Devices for light emission and detection using nanostructured materials, International Conference on Materials for

Advanced Technologies (ICMAT 2013), Singapore.

2012 **Chair, Local Committee,**' International Symposium on Integrated Functionalities', June 18-21, 2012**,** Hong Kong, China (ISIF 2012).

2012 **Program committee,** 12th IEEE/LEOS Conference, Numerical Simulation of Optoelectronic Devices, Chinese Academy of Science in Shanghai, China, Aug., 28 – 31, 2012.

2011 **Program committee,** 11th IEEE/LEOS Conference, Numerical Simulation of Optoelectronic Devices, Pontifical University of Saint Thomas Aquinas, Rome, Italy, Sept., 5 – 8, 2011.

2010 **Program committee,** 10th IEEE/LEOS Conference, Numerical Simulation of Optoelectronic Devices, Georgia Tech in Atlanta, Sept. 6 – 9, 2010, USA.

2009 **Program committee,** 9th IEEE/LEOS Conference, Numerical Simulation of Optoelectronic Devices, Gwangju Institute of Science and Technology, Korea, 14 – 18 September, 2009.

2008 **Program committee**, IEEE PhotonicsGlobal@Singapore 2008, 8–11 December 2008, SMU conference centre, Singapore.

2008 **Committee member**, 8th IEEE/LEOS Conference, Numerical Simulation of Optoelectronic Devices, University of Nottingham, United Kingdom, 1 - 5 September 2008.

2008 **Session Chair**, IEEE International Nanoelectronics Conference 2008, 24-27 March 2008, Shanghai, China.

2007 **Committee member**, 7th IEEE/LEOS Conference, Numerical Simulation of Optoelectronic Devices, University of Delaware, USA, 24 – 27 September 2007.

2006 **Session Chair**: IEEE Conference on Emerging Technology – Nanoelectronics 2006, 10 – 13 January, Singapore.

2006 **Conference chairman**, 6th IEEE/LEOS Conference, Numerical Simulation of Optoelectronic Devices, September 11-14, 2006, Nanyang Technology University, Singapore.

2005 **Co-Chairman**, Symposium N: ZnO and related materials, 3rd International Conference on Materials for Advanced Technologies (ICMAT 2005), 3 - 8 July 2005, Singapore.

2005 **Committee member**, 5th IEEE/LEOS Conference, Numerical Simulation of Optoelectronic Devices, Berlin, Germany, 19 – 22 September 2005.

2004 **Session Chair**, 5th International Conference on Thin Film Physics and Application (TFPA2004) May 31-June 2 (2004) Shanghai, China.

2004 **Committee member**, 4th IEEE/LEOS Conference, Numerical Simulation of Optoelectronic Devices, August 24-26, 2004, University of California at Santa Barbara, USA.

1998 **Member**, Publication Committee of IEEE Engineering in Medicine and

	Biology Society, 1998 annual meeting, Hong Kong, October 29, 1998.
1998	**Session Chair**, PHOTONICS-98, International Conference on Fiber Optics & Photonics, New Delhi, December 14-18, 1998.
1998 – 2000	**Seminar Program Chair**, Seminar and Meeting Committee, SPIE Hong Kong Chapter.
1998 – 2000	**Executive Committee**, SPIE Hong Kong Chapter.
1995	**Publication Chair**, IEEE Hong Kong Electron Device Meeting, Hong Kong, July 1, 1995.

Editorial Activities

Aug 2012-2013	**Senior Editor**, Journal of Nanoscience Letters', Simplex Academic Publishers
Aug 2011	**Member, Editorial Board of ISRN Optics, Hindawi Publishing Corporation.**
Aug 2010-2012	Member of Editorial Board, Journal of Nanoscience Letters', Simplex Academic Publishers.
Mar 2007	**Member of Editorial Advisory Board**, journal **'**Recent Patents on Electrical Engineering**'**, by Bentham Science Publishers Ltd.
Jan 2007	**Member of Editorial Advisory Board**, journal **'**Recent Patents on Nanotechnology**'**, by Bentham Science Publishers Ltd.
Nov 2006	**Co-Editor**, Optical & Quantum Electronics, Vol. 38, No. 12/14, pp. 933-1183, November 2006, Special issue on Numerical Simulation of Optoelectronic Devices
Jan 2006	**Co-Editor**, Journal of Crystal Growth, Volume 287, Issue 1, Pages 1-212 (18 January 2006), Proceedings of the International Conference on Materials for Advanced Technologies (ICMAT 2005) Symposium N - ZnO and Related Materials.
June 2003	**Co-Guest Editor**, IEEE J Selected Topics in Quantum Electronics, May/June 2003 issue.
1996 – now	**Reviewer** for Nature Photonics, Advanced Materials, IEEE Journal of Quantum Electronics, IEEE Selected Topics of Quantum Electronics, J Lightwave Technology, IEEE Photonic Technology Letters, IEEE Transactions on Electron Devices, IEEE Electronic Device Letters, IEEE Sensor Journal, Optics Communications, Applied Physics Letters, J Applied Physics, Nanotechnology, Optics Express, Chaos.