

## Yuan-Jen Chang

Department of Aerospace and System Engineering,  
Feng Chia University  
No. 100, Wenhwa Rd., Seatwen, 40724 Taichung City, Taiwan,  
R.O.C.  
+886-4-24517250 ext:3959  
E-mail: yjenchang@fcu.edu.tw



### EDUCATION

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- Ph.D. National Taiwan University, Taiwan, Mechanical Engineering, 1999.
- M.S. National Tsing Hua University, Taiwan. Power Mechanical Engineering, 1994.
- B.S. National Cheng Kung University, Taiwan, Mechanical Engineering, 1992.

### EXPERIENCE

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- Visiting Scholar, 2018.2.1-2018.7.31, Center for Intelligent Maintenance Systems (IMS), Department of Mechanical and Materials Engineering, University of Cincinnati, USA.
- Professor, 2017.8 – Now, Department of Aerospace and System Engineering, Feng Chia University.
- Professor, 2015.2 – 2017.7. Department of Management Information Systems, Central Taiwan University of Science and Technology.
- Associate Professor, 2012.2 – 2015.1. Department of Management Information Systems, Central Taiwan University of Science and Technology.
- Assistant Professor, 2003.11 – 2012.1. Department of Management Information Systems, Central Taiwan University of Science and Technology.
- Joint Professor, 2015.2 – 2017.7. Institute of Biotechnology and Biomedical Engineering, Central Taiwan University of Science and Technology.
- Joint Associate Professor, 2012.2 – 2015.1. Institute of Biomedical Engineering and Materials Science, Central Taiwan University of Science and Technology.
- Joint Assistant Professor, 2003.11 – 2012.1, Institute of Biomedical Engineering and Materials Science, Central Taiwan University of Science and Technology.
- Director, 2015/8-2017/7, 2007.8 – 2011.7, 2015.8 – 2017.7. Computer Center, Central Taiwan University of Science and Technology.
- Engineer, 1999.10 – 2003.10, The Opto-Electronics and Systems Laboratories, Industrial Technology Research Institute of Taiwan, R.O.C. (OES/ITRI)

### HONORS AND AWARDS

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- Best Poster Award, RANC-2016 (Budapest, Hungary, 10-16 April, 2016)
- Best Paper Award, IEEE International Workshop on Edutainment (ICME 2011), Barcelona, Spain, 11-15 Jul., 2011

Best Paper Award, 2015 Information Education and Technology of Application Conference (IETAC 2015), Taichung, 27 Mar. 2015

Champion of Innovative Marketing, 2014 CEO e-Commerce Cup, Innovative Management and Marketing Competition, National Pingtung University of Science and Technology, 19 Dec. 2014

Champion of Innovative App, 2014 Innovative Application Competition on Internet of Things (IoT) and Mobile App, National Kaohsiung First University of Science and Technology, 15 Dec. 2014

Best Paper Award, 2012 Information Education and Technology of Application Conference (IETAC 2012), Taichung, 23 Mar., 2012

Best Paper Award, 2011 Information Education and Technology of Application Conference (IETAC 2011), Taichung, 5 Mar., 2011

#### RESEARCH SPECIALTIES

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Medical Instrument and Instrumentation

Mechatronics

Electronic Packaging

Computer and Networking

Prognostics and Health Management (PHM)

#### SPONSORED RESEARCH

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1. Development and Application of Intelligent Prognostic Maintenance System. 2018/1/1-2019/9/30.
2. A study on predictive plant disease symptoms combined with infrared thermographic images and microclimates by using machine learning theory. (107 – 中基 – 農 – 3), 2018/1/1-2018/12/31.
3. A study on three dimensional dose verification of high-dose-rate (HDR) flattening filter-free (FFF) radiation therapy by using NIPAM gel dosimetry. (MOST 106-2314-B-035-001-), 2017/8/01 ~ 2018/7/31
4. Mechanical engineering encounters information management – Development and introduction of an intelligent predictive maintenance system used for footwear manufacturing machine. (MOST 106-2221-E-166-005-), 2017/8/01 ~ 2018/7/31
5. Dose verification of flattening filter and flattening filter free accelerator by using 3D gel dosimeter. (CTU106-CH-006)(Sponsored by Changhua Christian Hospital), 2017/1/01 ~ 2017/12/31
6. A study on clinic brachytherapy using 3D polymer gel dosimeter combined with parallel beam optical-CT. (MOST 105-2314-B-166-001 -), 2016/8/01 ~ 2017/7/31
7. A study of dosimetric characteristics of IMRT and RapidArc® by using a NIPAM gel dosimeter. (CTU105-P-11)( Sponsored by CTUST), 2016/1/01 ~ 2016/12/31
8. Concept design - A study on plant factory based on humanity, eco environmental and intelligent green building. ( MOST 104-2221-E-166-007-), 2015/8/01 ~ 2016/7/31

9. A study of quality assurance for radiotherapy using 3-D gel dosimetry. (CTU104-CH-003)( Sponsored by Changhua Christian Hospital), 2015/1/01 ~ 2015/12/31
10. Dose Validation of clinic head and neck radiation with intensity modulated radiation therapy based on 3-D NIPAM gel dosimetry. (MOST 103-2314-B-166 -001 -)(Excellent scholar research project in Department of Life Sciences), 2014/8/01 ~ 2015/7/31
11. A characteristic study on radiation-induced polymerization of 3-D polymer gel using high-speed parallel beam optical computed tomography. (NSC 102-2314-B-166-003-)( Excellent scholar research project in Department of Life Sciences), 2013/8/01 ~ 2014/7/31
12. Development of high-speed optical computed tomography and investigation on the characteristics of radiation-induced dose response in medical application of 3-D polymer gel. (NSC 101-2314-B-166 -005 -)( Excellent scholar research project in Department of Life Sciences), 2012/8/01 ~ 2013/7/31
13. LOHAS Aging-A study on aging in place for elders with interactive gaming and healthy community (NSC 100-2221-E-166 -008 -), 2011/8/01 ~ 2012/7/31
14. Development of a Web-based multi-player platform with real-time biomonitoring for exercycle racing game ( NSC 99-2622-E-166 -005 -CC3), 2010/11/01 ~ 2011/10/31
15. Implementation of Science Education Oriented Happy Farm and Research on the Business Model (104-1), (2015 agriculture technology project), Sponsored by Chung Cheng Agriculture Science and Social Welfare Foundation, 2015/1/01 ~ 2015/12/31
16. Implementation of Science Education Oriented Happy Farm and Research on the Business Model (103-2)(2014 agriculture technology project) Sponsored by Chung Cheng Agriculture Science and Social Welfare Foundation, 2014/1/01 ~ 2014/12/31

#### Co-PI

1. A study on energy strategy of plant factory by using sustainable energy and intelligent environmental monitoring and control ( MOST 105-2221-E-035-078 -), 2016/8/01 ~ 2017/7/31
2. Development of diagnose abnormal lung sounds system for homecare. (MOST 104-2221-E-166 -006 -), 2015/8/01 ~ 2016/7/31
3. 2014 App development of village characteristics food. (No. 1031073768)( 2014 agriculture technology project), sponsored by Agriculture and food agent, Council of Agriculture, 2014/09/05 ~ 2014/12/31
4. Development of medical society platform and research of social network., sponsored by Think Cloud Technology, 2014/2/01 ~ 2014/7/31
5. A Study of Detection Analysis and Design for Unstable Gait with Non-vision Based (NSC 101-2221-E-166 -009 -), 2012 8/01 ~ 2013/7/31
6. Implementation of tele-exercycle and study of fatigue detection (NSC 100-2221-E-166 -010 -), 2011 8/01 ~ 2012/7/31
7. The development and applications of a novel 3D gel dosimeter ( NSC 99-2632-B-166-001-MY3) Three-year-integration project, 2010 8/01 ~ 2013/7/31
8. Analysis And Improvement of IEEE 802.15.4 Slotted CSMA/CA over a Real-Time Wireless Sensor

Network (NSC 99-2221-E-166 -004 -), 2010/8/01 ~ 2011/7/31

9. Development of intelligent holistic telerehabilitation system-Application of stroke patients. (NSC 99-2218-E-002-004-) Three-year-integration project, 2008/8/01 ~ 2011/7/31
10. The application of wireless care system on reducing the falls and improving the quality of life in parkinsonian patients (NSC 99-2218-E-320-001-) Three-year-integration project, 2008/8/01 ~ 2011/7/31
11. "Guardian"- Construction of Wireless Sensor Network for Remote Monitoring and Self-management System in Home Care (NSC 97-2218-E-159-002-) Three-year-integration project, 2007/8/01 ~ 2010/7/31

#### PROFESSIONAL CONFERENCE SERVICES

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PC member, IEEE International Conference on Advanced Learning Technologies (ICALT2014, ICALT2015, ICALT2016, ICALT2017)

Co-organizers and Session Chair, 2016 International Conference for Top and Emerging Computer Scientists (IC-TECS 2016)

PC member, The International Conference on Computers in Education 2015 (ICCE 2015)

PC member and reviewer, 10th International Conference on Electronics Computer and Computation (ICECCO' 2013)

PC member and reviewer, Biomedical Engineering Symposium on Biosignal, Biosensor, Bioelectronics, and Bioengineering, 2013

Session Chair, 2012 2nd International Conference on Mechatronics and Applied Mechanics (ICMAM2012), Dec 8-9, 2012.

PC member and reviewer, 2nd IEEE International Conference on Computer and Communication Technology (ICCCT – 2011)

Program committee member, IEEE 1st Workshop on Multimedia in Edutainment in Barcelona, Spain during July 11 to July 15, 2011.

PC member and reviewer, Information Education and Technology of Application Conference (IETAC), 2011 – 2017.

#### REVIEW SERVICES

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Editorial board member of Journal of Technology for Education and Learning(EI), Since Oct. 2012.

Reviewer, Journal of Distance Education Technologies (IJDET)(EI), since 2012.

Reviewer, Journal of Radioanalytical and Nuclear Chemistry, 2015-2016

Reviewer, Sensors, 2015-2016

Reviewer, Physica Medica: European Journal of Medical Physics, 2015-2016

Reviewer, Australasian Physical and Engineering Sciences in Medicine (APES), 2016

Reviewer, Journal of Healthcare Engineering, 2016

Reviewer, IEEE Access, 2016

Reviewer, Autosoft, 2016

Reviewer, Applied Thermal Engineering, 2011

Reviewer, International Journal of Online Pedagogy and Course Design (IJOPCD), 2011

#### INVITED LECTURES

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“Development of polymer gel dosimetry and optical-CT for radiation therapy in Taiwan”, The Fifth International Symposium on Radiation Education (ISRE2016), 16-19 Dec. 2016, Koriyama, Fukushima, Japan.

“Telerehabilitation for stroke patients”, 2016 International Conference of Gerontechnology for Smart Living, Chunghua Christian Hospital, Chunghua, 29 Oct., 2016.

“Design and implementation of telerehabilitation system”, Department of computer science, Tunghai University, Taichung, 11 May, 2016.

“Design theory of telerehabilitation system”, Home Telerehabilitation and Therapy Conference, Chiayi Christian Hospital, Chiayi, 2 Aug., 2015.

“Design theory of telerehabilitation system”, Min-Hwei Junior College of Health Care Management, Tainan, 1 May, 2015

“System Design and Integration for Telerehabilitation”, International Conference of Telemedicine and Physical Therapy, National Taiwan University, Taipei, 29-30, Jun., 2012

#### PROFESSIONAL ACTIVITIES

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Member, Taiwan Rehabilitation Engineering and Assistive Technology Society (TREATS)

Member of Academic division, Taiwan Rehabilitation Engineering and Assistive Technology Society (TREATS)

Member, Chinese Society of Information Management (CSIM)

Member, Taiwanese Society of Biomedical Engineering (TSBI)

Member, alumni of Industrial Technology Research Institute of Taiwan (ITRI)

#### REFEREED ARCHIVAL JOURNAL PUBLICATIONS (Since 2011)

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1. Jia-Hong Lin, Bing-Chiuan Shiu, Ching-Wen Lou and Yuan-Jen Chang\*, "Design and fabrication of smart diapers with antibacterial yarn," Journal of Healthcare Engineering, Volume 2017, Article ID 8046134, 9 pages, 2017-06. (SCI)
2. Chun-Hsu Yao, Tung-Hao Chang, Min-Jia Tsai, Yuan-Chun Lai, Yi-An Chen, **Yuan-Jen Chang\***, Chin-Hsing Chen, “Dose verification of volumetric modulation arc therapy by using a NIPAM gel dosimeter combined with a parallel-beam optical computed tomography scanner”, Journal of Radioanalytical and Nuclear Chemistry (JRNC), Vol. 311:1277-1286, 2017-02. (SCI)
3. Cheng-Ting Shih<sup>1</sup>, **Yuan-Jen Chang<sup>1</sup>**, Jui-Ting Hsu, Keh-Shih Chuang, Shu-Jun Chang, Jay Wu, “Image reconstruction of optical computed tomography by using the algebraic reconstruction technique for dose readouts of polymer gel dosimeters”, Physica Medica: European Journal of Medical Physics, 31, 942–947, July 10, 2015. (NSC 102-2221-E-166-009-)(SCI)
4. Lin SH, Chen SW, Lo YC, Lai HY, Yang CH, Chen SY, Chang YJ, Chen CH, Huang WT, Jaw FS,

- Chen YY, Tsang S, Liao LD,” Quantitative measurement of Parkinsonian gait from walking in monocular image sequences using a centroid tracking algorithm,” *Medical & Biological Engineering & Computing*, 2015 Jun 25.(SCI)
5. Chin-Hsing Chen, Wen-Tzeng Huang, Tan-Hsu Tan, Cheng-Chun Chang and **Yuan-Jen Chang\***, “Using K-nearest neighbor classification to diagnose abnormal lung sounds”, *Sensors*, 15(6), 13132-13158, June 4, 2015. (SCI, IF=2.048, Rank: 10/57=17.5%) (\*Corresponding author)
  6. Ching-Wen Lou, Bing-Chiuan Shiu, Jia-Horng Lin, **Yuan-Jen Chang\***, “Development and Characteristic Study of Woven Fabrics for Intelligent Diapers”, *Technology and Health Care*, 23 (5) (Sep. 2015) 675–684.(SCI)
  7. **Yuan-Jen Chang\***, “Use of a speckle reduction technique to improve the reconstruction image quality of CCD-based optical computed tomography scanner”, *Nuclear Instruments and Methods in Physics Research A (NIM-A)*, Vol. 784, pp.585-589. June 1, 2015. (NSC 102-2314-B-166-003-)(SCI). (Single author)
  8. **Yuan-Jen Chang**, Chun-Hsu Yao, Jay Wu, Bor-Tsung Hsieh, Yuk-Wah Tsang, Chin-Hsing Chen\*, “Quantitative evaluation of an image registration method for a NIPAM gel dosimeter”, *Nuclear Instruments and Methods in Physics Research A (NIM-A)*, Vol. 784, pp.542-549. June 1, 2015. (SCI, IF=1.316, Rank: 9/34=26.5%)
  9. Wen-Tzeng Huang, Chin-Hsing Chen, Chao-Nan Hung, Chiu-Ching Tuan, **Yuan-Jen Chang\***, “Implementation of a parallel-beam optical-CT apparatus for three-dimensional radiation dosimetry using a high-resolution CCD camera”, *Nuclear Instruments and Methods in Physics Research A (NIM-A) A*, Vol. 784, pp.590-596. June 1, 2015. (SCI, IF=1.316, Rank: 9/34=26.5%).
  10. Kwan-Hwa Lin, Chin-Hsing Chen, You-Yin Chen, Wen-Tzeng Huang, Jin-Shin Lai, Shang-Ming Yu and **Yuan-Jen Chang\***, “Bidirectional and Multi-User Telerehabilitation System: Clinical Effect on Balance, Functional Activity, and Satisfaction in Patients with Chronic Stroke Living in Long-Term Care Facilities”, *Sensors*, 14, 12451-12466; doi:10.3390/s140712451, July 11, 2014. (SCI, IF=1.953, Rank: 8/57=14.0%) (\*Corresponding author)
  11. **Yuan-Jen Chang\***, Chin-Hsing Chen, Bor-Tsung Hsieh, “Characterization of long-term dose stability of N-isopropylacrylamide polymer gel dosimetry”, *Journal of Radioanalytical and Nuclear Chemistry (JRNC)*, Volume 301, Issue 3 , pp 765-780, 2014. (Cover Date: Sep. 1, 2014) (SCI, IF=1.467, Rank: 3/34=8.8%) (\*Corresponding author)
  12. **Yuan-Jen Chang**, Jing-Quan Lin, Bor-Tsung Hsieh, Chun-Hsu Yao, Chin-Hsing Chen, “Dose evaluation of a NIPAM polymer gel dosimeter using gamma index”, *Radiation Physics and Chemistry*, Volume 104, Nov., 2014 (Available online 4 December 2013), Pages 180–187 (SCI, IF= 1.375, Rank: 5/34=14.7%)
  13. Chin-Hsing Chen, Jay Wu, Bor-Tsung Hsieh, De-Shiou Chen, Tzu-Hwei Wang, Sou-Hsin Chien, **Yuan-Jen Chang\***, “Best fit refractive index of matching liquid for 3D NIPAM gel dosimeters using optical CT”, *Radiation Physics and Chemistry*, Volume 104, Available online 8 February 2014, Pages 192–197 (SCI, IF= 1.375, Rank: 5/34=14.7%) (\*Corresponding author)
  14. Chun-Hsu Yao, Wan -Ting Hsu, Jia-Jung Lee, Shin-Ming Hsu, Patrick Yuk-lun Ma, Bor-Tsung Hsieh, **Yuan-Jen Chang\***, “A Characteristic Study on NIPAM Gel Dosimetry Using Optical-CT Scanner,” *Journal of Medical and Biological Engineering(JMBE)*, Vol. 34, No. 4, pp.327-332. (Online published, Aug. 28, 2014), doi: 10.5405/jmbe.1214 (SCI/EI)
  15. You-Ruei Huang<sup>1</sup>, **Yuan-Jen Chang**<sup>1</sup>, Ling-Ling Hsieh, Ming-Hung Liu, Jia-Sheng Liu, Chien-Hau Chu, Bor-Tsung Hsieh\*, “Dosimetry study of diagnostic X-ray using doped iodide normoxic polymer gels”, *Radiation Physics and Chemistry*, Volume 104, Available online 27 December 2013, Pages 414–419. (SCI, IF= 1.375, Rank: 5/34=14.7%)(Co-First author)
  16. Yan-Lin Liu, Cheng-Ting Shih, **Yuan-Jen Chang**, Shu-Jun Chang, Jay Wu\*, “Performance Enhancement of a Web-Based Picture Archiving and Communication System Using Commercial Off-the-Shelf Server Clusters”, *BioMed Research International (Journal of Biomedicine and Biotechnology)*, Volume 2014, Article ID 657417, 9 pages, Feb. 20, 2014.(SCI, IF= 2.880, Rank: 50/160=31.28%)
  17. Jay Wu\*, Cheng-Ting Shih, Chang-hung Ho, Yan-Lin Liu, **Yuan-Jen Chang**, Max Min Chao, Jui-Ting Hsu, “Radiation dose evaluation of dental cone beam computed tomography using an anthropomorphic adult head phantom”, *Radiation Physics and Chemistry*, Volume 104, Available online 4 December 2013, Pages 287–291. (SCI, IF= 1.375, Rank: 5/34=14.7%)
  18. Hsieh, B. T.; Wu, J.; **Chang, Y. J.\***, “Verification on the Dose Profile Variation of a 3-D—NIPAM Polymer Gel Dosimeter”, *IEEE Transactions on Nuclear Science*, Volume: 60, Issue: 2, pp.560-565, April, 2013. (SCI, IF=1.447, Rank: 8/35=22.9%) (\*Corresponding author)

- <http://dx.doi.org/10.1109/TNS.2012.2230273>
19. Shih, T. Y.; Shih, C. T. ; **Chang, Y. J.**; Yu, C. Y.; Hsieh, B. T.; Chang, S. J.; Liang, J. A.; Wu, J.\*, “Evaluating the Characteristics of a Novel DEMBIG Gel Dosimeter Using Computed Tomography”, IEEE Transactions on Nuclear Science, Vol. 60, No. 2, pp.716-721, April 2013 (**SCI, IF=1.447, Rank: 8/35=22.9%**)
  20. Y.R. Huang, L.L. Hsieh, **Y.J. Chang**, T.H. Wang, B.T. Hsieh\*, “Characterization of the Chemical Stability of Irradiated N-isopropylacrylamide gel Dosimeter”, Radiation Physics and Chemistry, Vol. 89, 76-82, August. 2013. (**SCI, IF= 1.375, Rank: 5/34=14.7%**)
  21. Shih, T. Y., **Chang, Y. J.**, Hsieh, B. T., Wu, J.\*, “Microscopic SEM Texture Analysis of NIPAM Gel Dosimeters”, IEEE Transactions on Nuclear Science, Volume: 60, Issue: 3, pp.2155-2160, June, 2013. (**SCI, IF=1.447, Rank: 8/35=22.9%**).
  22. **Yuan-Jen Chang\***, Bor-Tsung Hsieh, “Effect of composition interactions on the dose response of an N-isopropylacrylamide gel dosimeter”, PLoS ONE, Vol. 7, No.10, pp.1-8 October 12, 2012. (**SCI, IF=4.411, Rank: 12/86=14%**)
  23. **Yuan-Jen Chang\***, Chin-Hsing Chen, Li-Feng Lin, Ruo-Ping Han, Wen-Tzeng Huang, Guey-Chuen Lee, “Wireless Sensor Network for Vital Signs Monitoring: Application in a Nursing Home”, International Journal of Distributed Sensor Networks, Volume 2012, Article ID 685107, pp.1-12, Nov. 22, 2012. (**SCI**) (\*Corresponding author)
  24. You-Yin Chen, Chien-Wen Cho, Sheng-Huang Lin, Hsin-Yi Lai, Yu-Chun Lo, Shin-Yuan Chen, **Yuan-Jen Chang**, Wen-Tzeng Huang, Chin-Hsing Chen, Fu-Shan Jaw, Siny Tsang, Sheng-Tsung Tsai, “A vision-based regression model to evaluate Parkinsonian gait from monocular image sequences,” Expert Systems with Applications, Vol. 39, Issue 1, January 2012, pp.520-526. (**SCI, IF=2.203, Rank: 22/111=19.8%**)
  25. **Yuan-Jen Chang**, Bor-Tsung Hsieh\*, Ji-An Liang, “A systematic approach to determine optimal composition of gel used in radiation therapy”, Nuclear Instruments and Methods in Physics Research A (NIM-A), Vol. 652, No. 1, pp.783–785. (1 October 2011) (**SCI, IF=1.142, Rank: 9/34=26%**)
  26. Bor-Tsung Hsieh, **Yuan-Jen Chang\***, Rou-Ping Han, Jay Wu, Ling-Ling Hsieh, Chen-Jung Chang, “ A Study on Dose Response of NIPAM-based Dosimeter Used in Radiotherapy”, Journal of Radioanalytical and Nuclear Chemistry (JRNC), Vol. 290, No. 1, pp.141-148, Oct. 2011. (**SCI, IF=1.467, Rank: 3/34=8.8%**) (\*Corresponding author)
  27. Chi-Tsung Chiang, **Yuan-Jen Chang**, Ji-An Liang, Bor-Tsung Hsieh\*, “ Optimal Composition of A New Polymer Gel Dosimeter-DEMBIG,” Journal of Radioanalytical and Nuclear Chemistry (JRNC), Vol. 290, No. 1, pp.59-65, Oct. 2011. (**SCI, IF=1.467, Rank: 3/34=8.8%**,) ( Co-First author. )
  28. **Yuan-Jen Chang\***, Wen-Tzeng Huang, “A Novel Design of Data-driven Architecture for Remote Monitoring and Remote Control of Sensors over a Wireless Sensor Network and the Internet”, Journal of Internet Technology (JIT), Vol. 12, No. 1, pp.129-138, January, 2011. (**SCI-E/EI**) (\*Corresponding author)

#### REFEREED BOOK PUBLICATIONS

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1. Chen, Y. M., **Chang, Y. J.**, Hsieh, Y. T., “Optical Investigation of Transport Phenomena during Solidification Process,” Applied Optical Measurements, Editor Dr.-Ing. Markus Lehner, pp. 65-78, 1999, Springer-Verlag Heidelberg. (ISBN 3-540-66173-5)

#### REFEREED CONFERENCE PUBLICATIONS (Since 2011)

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1. Chun-Hsu Yao, Tung-Hao Chang, Chia-Chi Lin, Yuan-Chun Lai, Chin-Hsing Chen, **Yuan-Jen Chang\***, A study on three dimensional dose verification of high-dose-rate (HDR) flattening filter-free (FFF) radiation therapy by using NIPAM gel dosimetry, ISRD2018, International Symposium on Radiation Detectors and Their Uses, paper P17, 23-26 January 2018, Tsukuba, Japan.
2. Po-Wen Hwang, Chin-Hsing Chen, **Yuan-Jen Chang\***, “Study on energy strategy of a plant factory using sustainable energy combined with computational fluid dynamics- An innovative practice of green information systems,” Computing Conference 2017, 18-20 July 2017, London, UK..
3. Chun-Hsu Yao, Chin-Hsing Chen, **Yuan-Jen Chang\***, “Development of polymer gel dosimetry and optical-CT for radiation therapy in Taiwan,” The Fifth International Symposium on Radiation

- Education (ISRE2016), O-3, pp.7, 16-19 Dec. 2016, Koriyama, Fukushima, Japan.(Invited Oral Presentation)
4. Chun-Hsu Yao, Tung-Hao Chang, Min-Jia Tsai, Yuan-Chun Lai, Chin-Hsing Chen, **Yuan-Jen Chang\***, “A study on clinic brachytherapy using 3D polymer gel dosimeter,” The Fifth International Symposium on Radiation Education (ISRE2016), P-2, pp.20, 16-19 Dec. 2016, Koriyama, Fukushima, Japan.
  5. Chin-Hsing Chen, Min-Jia Tsai, Yuk-Wah Tsang, Chung-Yu Chiu, His-Ya Chao, Chun-Hsu Yao\*, **Yuan-Jen Chang\***, ” COMPARING DOSE CALIBRATION METHODS OF NIPAM GEL DOSIMETER USED FOR RAPIDARCTM TREATMENT,” 1st International Conference on Radioanalytical and Nuclear Chemistry (RANC-2016), Budapest, Hungary, 10-16 April, 2016.(Accepted) (**\*Corresponding author**)
  6. Chun-Hsu Yao, Min-Jia Tsai, Tung-Hao Chang, Yuan-Chun Lai, **Yuan-Jen Chang\***, Chin-Hsing Chen\*,” Dose verification of Volumetric Modulated Arc Therapy using NIPAM gel dosimeter combined with Parallel-beam optical-CT scanner,” 1st International Conference on Radioanalytical and Nuclear Chemistry (RANC-2016), Budapest, Hungary, 10-16 April, 2016.(Accepted) (**\*Corresponding author**)(**Best Poster Award**)
  7. Ting-Yu Tsai, Chun-Hsu Yao, Bor-Tsung Hsieh, **Yuan-Jen Chang\***, “Dosimetric characteristics of intensity-modulated radiation therapy and RapidArc therapy using a 3D NIPAM gel dosimeter,” The 2015 International Conference on Applications of Nuclear Techniques (CRETE 15), Crete, Greece, June 14-20, 2015. (**\*Corresponding author**)
  8. **Yuan-Jen Chang\***, “Development of CCD-based optical computed tomography and comparison with single-beam optical CT scanner,” 8th IC3DDose Conference, Ystad, Saltsjöbad, Sweden, 4-7 September, 2014. (**\*Single author**)
  9. **Yuan-Jen Chang\***, “Improved CCD-based optical computed tomography scanner used in gel dosimetry using a speckle reduction technique,” 2014 Symposium on Radiation Measurements and Applications (SORMA XV), Ann Arbor, MI, USA, June 9-13, 2014. (**\*Single author**)
  10. **Yuan-Jen Chang**, Chun-Hsu Yao, Jay Wu, Bor-Tsung Hsieh, Yuk-Wah Tsang, Chin-Hsing Chen\*, “Quantitative evaluation of image registration method used for NIPAM gel dosimeter,” 2014 Symposium on Radiation Measurements and Applications (SORMA XV), Ann Arbor, MI, USA, June 9-13, 2014.
  11. **Yuan-Jen Chang**, Jui T. Hsu, Cheng T. Shih, Rou P. Han, Shu J. Chang, and Jay Wu\*, “Image Reconstruction of Optical Computed Tomography Using Algebraic Reconstruction Technique for Dose Readout of Polymer Gel Dosimeters,” 2014 Symposium on Radiation Measurements and Applications (SORMA XV), Ann Arbor, MI, USA, June 9-13, 2014.
  12. Wen-Tzeng Huang, Chao-Nan Hung, Chin-Hsing Chen, Chiu-Ching Tuan, **Yuan-Jen Chang\***, “Implementation of a parallel-beam optical-CT apparatus for three-dimensional radiation dosimetry using high-resolution exquisite CCD camera,” 2014 Symposium on Radiation Measurements and Applications (SORMA XV), Ann Arbor, MI, USA, June 9-13, 2014. (**\*Corresponding author**)
  13. **Yuan-Jen Chang\*** ;Chin-Hsing Chen; Bor-Tsung Hsieh;De-Shiou Chen;Yuk-Wah Tsang,” Study on 3D NIPAM Gel Dosimeter for Five-Field IMRT Dose Verification,” Abstract of the 9<sup>th</sup> International Topical Meeting on Industrial Radiation and Radioisotope Measurement Applications (IRRMA-9), Valencia, Spain, 6-11 July 2014, Published by Martin Impresores, Editor José Ródenas, ISBN: 978-84-942137-5-5. (**\*Corresponding author**)
  14. Ling-Ling Heieh;Chin-Hsing Chen;Bor-Tsung Hsieh;Yen-Chih Lin;Jay Wu, **Yuan-Jen Chang\*** ,” Implementation of an automation system for manufacturing 3D polymer gel dosimeters,” Abstract of the 9<sup>th</sup> International Topical Meeting on Industrial Radiation and Radioisotope Measurement Applications (IRRMA-9), Valencia, Spain, 6-11 July 2014, Published by Martin Impresores, Editor José Ródenas, ISBN: 978-84-942137-5-5. (**\*Corresponding author**)
  15. **Yuan-Jen Chang\***, ”A Novel Video-Based Optical CT Scanner Used in 3D Polymer Gel Dosimeter,” Abstract of the 9<sup>th</sup> International Topical Meeting on Industrial Radiation and Radioisotope Measurement Applications (IRRMA-9), Valencia, Spain, 6-11 July 2014, Published by Martin Impresores, Editor José Ródenas, ISBN: 978-84-942137-5-5. (**\*Single author**)
  16. Yuan J. Chang, Tian Y. Shih, Chun Y. Yu, Shu J. Chang, Jay Wu, ” Gel Dosimeter Readout Using Cone Beam Computed Tomography,” Abstract of the 9<sup>th</sup> International Topical Meeting on Industrial Radiation and Radioisotope Measurement Applications (IRRMA-9), Valencia, Spain, 6-11 July 2014, Published by Martin Impresores, Editor José Ródenas, ISBN: 978-84-942137-5-5. (**\*First author**)
  17. Bing-chiuan Shiu, **Yuan-jen Chang**, Jia-horng Lin, Ching-wen Lou\*. 2013.10.23-26. Effects of the Metal Types of the Weft Yarn on the Properties of the Nonwoven Fabrics. The 12th Asian Textile



- Conference (ATC-12). S3-OR-17. Shanghai, China. NSC 101-2622-E-166-001-cc3.
18. **YJ Chang**, JQ Lin, BT Hsieh, CH Chen, "Dose evaluation of NIPAM polymer gel dosimeter using gamma index," 1<sup>st</sup> International Conference on Dosimetry and its Applications (ICDA), pp.93, June 23-28, 2013, Prague, Czech Republic.
  19. BT Hsieh, DS Chen, J Wu and **YJ Chang\***, "Investigate optimal refractive index of matching liquid for 3D NIPAM gel dosimeter using optical CT," 1st International Conference on Dosimetry and its Applications (ICDA), pp.92, June 23-28, 2013, Prague, Czech Republic. (**\*Corresponding author**)
  20. Y.R. Huang, **Y.J. Chang**, L.L. Hsieh, M.H. Liu, S.H. Chien, C.H. Chu, B.T. Hsieh\*, "Dosimetry study of diagnostic X-ray using doped iodide normoxic polymer gels," 1st International Conference on Dosimetry and its Applications (ICDA), pp.183, June 23-28, 2013, Prague, Czech Republic.
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