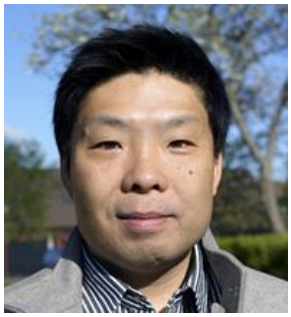
Curriculum Vitae



Personal information

Name: Wing Cheung MAK (Martin), PhD, Docent
Date of Birth: 30 Jan 1977
Nationality: Swedish and HKSAR, China
Address: Bygdegatan 344, 58331 Linköping, Sweden
Tel: +46 (0) 13 28 6921
Email: wing.cheung.mak@liu.se

Qualifications

2017 Docent in Applied Physics, Linköping University, Sweden
(Awarded date: 23rd May 2017)

2000-2004 Ph.D. in Bioengineering, The Hong Kong University of Science and Technology
(Awarded date: 10th Nov 2004; Graduation Grade Average: A)
Thesis: The Applications of Layer-by-Layer Technology in Bioengineering and Bioanalytics
(Supervisor: Prof. Reinhard Renneberg)

1997-2000 B.Sc. in Chemistry, The Hong Kong University of Science and Technology
(Awarded date: 10th Nov 2000; Second Class Honor, Division I)

Certificates in Pedagogy

2016 Certificate in Education on Higher Education Pedagogy: Course Design, examination and evaluation, Centre for Teaching and Learning, Linköping University. (6 credits)

2014 Certificate in Education on Learning and Knowledge in Higher Education Pedagogy, Centre for Teaching and Learning, Linköping University. (6 credits)
Essay topic: Is the "Conceive Design Implement Operate" (CDIO) Model an Ideal Teaching Approach from Teachers and Students Prospective

2013 Certificate in Education on Research Supervision, Centre for Teaching and Learning, Linköping University. (4 credits)
Essay topic: Supervision of Industrial PhD Research: Challenges and Opportunities

Certificate in Leadership for Education and Research

2020 Certificate in Leadership for Education and Research, Issued by Deputy Vice-Chancellor, Linköping University

Current Position

2016 – present **Associated Professor, Senior Lecturer and Head of Unit Biosensors and Bioelectronics**

2012 – 2016 **Assistant Professor**
(Linköping University, Dept. of Physics, Chemistry and Biology (IFM)
- Lead a research team to conduct research activities focused on electrochemical biosensors, paper and membrane-based biosensors, wearable and point-of-care sensors
- Coordinate grant projects and grant applications (local, EU and industrial grants);
- Engage with companies for industrial research projects;
- Teaching and supervision of PhD, master and undergraduate students;
- Board member of Division of Sensors and Actuator Systems;
- Teacher representative (Engineering Biology program) to formulate course syllabus for the new eHealth program for undergraduate and master student;

- Editor and Editorial in scientific journals for Elsevier, Springer and MDPI;
- Scientific committee and chairing of international conferences and organize exhibition.

Previous Full Time Position

2011-2012	**Assistant Technical Manager** (Nano and Advanced Materials Institute Limited, Hong Kong)
2008-2011	**Research Associate** (Sino-German Nano Analytical Laboratory (SiGNAL), Hong Kong University of Science and Technology)
2008 March	**Visiting Scholar** (Charité Hospital University (Berlin), Institute of Transfusion Medicine, Germany)
2005-2008	**Senior Research Fellow** (Division of Bioengineering, National University of Singapore)
2004-2005	**PostDoctoral Fellow** (Dept. of Chemistry, Hong Kong University of Science and Technology)
2001 May	**Visiting Scientist** (Max-Planck Institute of Colloids and Interfaces – Prof. Frank Caruso, and Potsdam University, Department of Analytical Biochemistry, Germany – Prof. Frieder Scheller)

Awards

(1) 2021 – JSPS Fellow Award (Japan Society for the Promotion of Science)
(2) 2018 - Biosensors & Bioelectronics Best Paper Award (Elsevier)
(3) 2011 - Deutscher Akademischer Austausch Dienst (DAAD) (Germany/HK Joint Research Scheme)
(4) 2008 - Boehringer Ingelheim Fonds (FIB) (Visiting scholar at Humboldt University of Berlin, Charité Hospital, Institute of Transfusion Medicine, Germany)
(5) 2001 - Deutsche Forschungsgemeinschaft (DFG) (Visiting scholar Max-Planck Institute of Colloids and Interfaces and Potsdam University, Germany – Prof. Frieder Scheller)

Supervision Experience

PhD and PostDoc Supervision

2016 – Present, Main supervisor of PhD Lingyin Meng, Linköping University. Tentative thesis title: "BioNano-structured conducting polymer-based electrochemical biosensors" (6 publications as senior corresponding author, 2 manuscripts submitted)

2017 – Present, Co-supervisor of PhD Kim Olesen, Karolinska Institute. Tentative thesis title: "Stem cell supported cardiac regeneration" (1 publication as senior corresponding author, 1 manuscript submitted)

2020 – Present, Main supervisor of Licentiate degree Chi Xiao, Linköping University Tentative thesis title: "Smartphone-based SPR biosensor" (1 manuscripts submitted)

2017 – 2018, Post-doc supervisor of Jun'ya Tsutsumi, supported by Japan Science Scholarship.

2009 – 2013, Co-supervisor of PhD Lai Kwok Kei, Hong Kong University of Science and Technology. Thesis title: "Multifunctional protein microspheres for bioanalytical and biomedical applications" (6 publications as senior corresponding author)

PhD thesis examination committee

2020 May – Ms. Judit Randek, Thesis title "Advancement of sensor technology for monitoring and control of upstream bioprocesses", Linköping University, Sweden

2019 May – Mr. Xi Chen, Thesis title "Silicon nanowire field-effect devices as low-noise sensors", Uppsala University, Sweden

2018 Sept – Mr. Liyang Shi, Thesis title "Injectable composite hydrogels based on metal-ligand assembly for biomedical application", Uppsala University, Sweden

Master thesis supervision / examiner (+30 students)

Chirtes, S. (2021, LiU); Andresson, S. (2021, LiU); Casado, K. (2020, LiU); Wijgård, W. (2020, LiU); Dagsgård, F. (2019, LiU); Hell, V. (2019, LiU); Thierry, S. (2019, LiU); Samaan, K. (2018, LiU); Lysell, J. (2017, LiU); Eriksson, E. (2017, LiU); Lasson, H. (2017, LiU); Bensberg, M. (2016, LiU); Atanasova, D. (2016, LiU); Herlöfsson, S. (2016, LiU); Dehlin, A. (2016, LiU); Sundin, P. (2016, LiU); Bunnfors, K. (2015, LiU); Nadhom, H. (2015, LiU); Benselfelt, T. (2014, LiU); Jenny, O. (2012, LiU); Leung, Y.T. (2009-2010, HKUST); Lai K.K. (2008-2009, HKUST); Cheung, C.F. (2008-2009, HKUST); Schmitz-Hertzberg S.T., (2007-2008, NUS); Chang X.Y., (2007-2008, NUS); Soh C.Y., (2006-2007, NUS); Beyer, S., (2006-2007, NUS); Shahidah, S., (2005-2006, NUS); Tan, J.Q., (2005-2006, NUS); Bai, J., (2005-2006, NUS)

Supervision of visiting scientists (+20 scientists)

Kongkaew. S (2020, Prince of Songkla University); Zambrano, G. (2019, University of Naples Federico II), Promsuwan K. (2019, Prince of Songkla University); Suklim, P. (2019, Prince of Songkla University); Trivedi, M. (2018-19, Pandit Deendayal Petroleum University); Kangkamano, T. (2017-18, Prince of Songkla University); Kaewsen, M. (2017-18, Prince of Songkla University); Uzunçar, S. (2017-18, Bülent Ecevit Üniversity); Mousavisam, Z. (2017, University of Mazandaran); Bahrani, S. (2017, Yasouj University); Santangelo, M.F. (2016, CNR, IMM); Zainuddin, A.A. (2016, MUII); Fredj, Z. (2016, University of Sousse); Azzouzi, S. (2016, University of Sousse); Boichuk, Y. (2016, National Academy of Science of Ukraine); Ghani, M., (2016, Amirkabir University); Rezaei, B. (2015-16, Amirkabir University); Liu, Y. (2015-16, Sichuan Agricultural University); Magne, B. (2015, Cranfield University); Zaidon, A. (2015, MUII); Kor, K. (2014, Damghan University); Chuaychob, S. (2014, Prince of Songkla University); Farreras, G. (2013, University of Lleida); Xin, Z. (2013, University of Dundee); Inés, M. (2012, Cranfield University); Jeerepan, I. (2012-2013, Prince of Songkla University)

Popular Science and Public Activities

(1) Popular science research published in ScienceTrend.com on "New Colloidal Conducting Polymer" https://sciencetrends.com/new-colloidal-conducting-polymer-for-improved-sensing-energy-production-and-bioprocessing/
(2) Coordinated and organized exhibition for the World Congress on Biosensors in Gothenburg (2016) and Miami (2018) to showcase biosensor research and to promote international student recruitment for Linköping University (2016, 2018)
(3) Organized and chaired the annual Linköping Biosensors Outreach Day (2 days workshop) to promote research (2013-2019)
(4) Organized and chaired the Sweden-Malaysia Biosensor Symposium (2015-2019) supported by the Swedish VR Research-LINK programme (The symposium hosted alternate between Sweden and Malaysia each year).
(5) Article published in a Hong Kong newspaper (SingTao) education section with headline of "Inspiration from food science - protein particles for transdermal drug delivery" – 20 June 2011.
(6) Participated as selection committee "Primary Science Project Exhibition" hosted by The Hong Kong Institute of Education to promote science to primary school student (2011).
(7) Organized workshop in the "Innocarnival" of the Innovative Technology Commission (ITC) (2011).

Teaching and Educational Experience

(1) Coordinator, Lecturer and Examiner: TFTB34 Biosensor Technology, Linköping University, Sweden. Teaching on the principle and commercial aspects on various biosensor technology with hand-on laboratory sections and group project (2013-2021)

(2) Coordinator, Lecturer and Examiner: PhD course on Advance Biosensor Technology, Linköping University, Sweden. (2013-2021)

(3) Coordinator, Supervisor and Examiner: TFYA45 Biotechnology Project, Linköping University, Sweden. Teaching on assimilating and analyzing biotechnical contents to support the development of innovative biotechnology business with seminar and group project (2020-2021)

(4) Lecturer: TFYA62 Introduction to Biosensors, Linköping University, Sweden. Teaching on affinity biosensor, bioassays and DNA microarrays. (2013-2021)

(5) Lecturer: 8FA281 E-health Vision and Tools, Linköping University, Sweden. Teaching on enabling analytical and sensor technologies for e-health. (2019-2021)

(6) Supervisor: TBMI28 eHealth Project, Linköping University, Sweden. Development of e-health solution for healthcare via group project. (2020)

(7) Lecturer: TFYA32 Industrial Biotechnology, Linköping University, Sweden. Teaching on industrial development and manufacturing of bioanalytical device. (2020)

(8) Commissioner: TFTB39 Industrial Biotechnology and Production, Linköping University, Sweden. Design and development of biotech products for industrial applications via group project. (2020)

(9) Lecturer: TFTB36 Materials in Medicine (CDIO-project), Linköping University, Sweden. Teaching on project design for biomaterials research for affinity and enzymatic biosensors such as material design, fabrication techniques and characterization methods. (2013-2016, Spring semester)

(10) Lecturer: TFYY51 Engineering Project (CDIO-project), Linköping University, Sweden. Teaching on project design for bioengineered medical devices. (2016, Fall semester)

(11) Lecturer: RBS International Workshop on Biocompatible Nanomaterials and Nanodevices, Universiti Teknologi Malaysia, Kuala Lumpur. Teaching on design and fabrication of biosensors. (2016 Winter)

(12) Lecturer: Summer School, Biophotonics-Riga, University of Latvia, Latvia. Teaching on state-of-the-art optical biosensors. (2013 Summer)

(13) Instructor: Course Chem141 Analytical Chemistry. The Hong Kong University of Science and Technology. Teaching on analytical methods such as electrochemistry, spectrophotometry, biosensors and biotests. (2011 Semester 1)

(14) Instructor: Course Chem544 Bioanalytical Chemistry. The Hong Kong University of Science and Technology. Teaching lab modules on electrochemical and optical biosensors, ELISA, immuochromatographic assays and PCR. (2009 Semester 1, 2010 Semester 1)

(15) Instructor: Course BN3402 Bio-Analytical Methods in Bioengineering, Division of Bioengineering, NUS. Teaching lab modules on near field scanning optical microscopy, atomic force microscopy and confocal microscopy. (2007-2008 Semester 1, 2005-06 Semester 1)

(16) Instructor: Course CN5193 Instrumental Methods of Analysis, Division of Bioengineering, NUS. Teaching lab modules on near field scanning optical microscopy, atomic force microscopy and confocal microscopy. (2006-2007 Semester 2)

(17) Lecturer: Course BN5210 Biosensors and Biochips, Division of Bioengineering, NUS. Topic: “Nano & micromaterial enhance signal transduction of biomolecular interaction” (2005-2006 Semester 2)

(18) Tutor and Teaching Assistant: Courses in analytical chemistry, bioanalytical chemistry and environmental chemistry. Participating on design of teaching slides, organizing tutorial sections and marking assignments. The Hong Kong University of Science and Technology (2000-2004)

Full List of Peer-reviewed Publications

Total of 70 publications (50 first/corresponding author publications) * Corresponding author
H-index: 25
https://scholar.google.com/citations?user=vC81f3cAAAAJ&hl=en

(1) J. TsuTsumi*, A.P.F. Turner, **W.C. Mak***, Precise and rapid solvent-assisted geometric protein self-patterning with submicron spatial resolution for scalable fabrication of microelectronic biosensors *Biosensors and Bioelectronics*, 177, 112968, 2021. (Tier 1, Impact factor 10.25)

(2) S. Uzuncar, L. Meng, A.P.F. Turner, **W.C. Mak***, Processable and nanofibrous polyaniline:polystyrene-sulfonate (nano-PANI:PSS) for the fabrication of catalyst-free ammonium sensors and enzyme-coupled urea biosensors, *Biosensors and Bioelectronics*, 171, 112725, 2021. (Tier 1, Impact factor 10.25)

(3) T. Kangkamano, M.Y. Vagin*, L. Meng, P. Thavarungkul, P. Kanatharana, X. Crispin, **W.C. Mak***, Product-to-intermediate relay achieving complete oxygen reduction reaction (cORR) with prussian blue integrated nanoporous polymer cathode in fuel cells, *Nano Energy*, 78, 105125, 2020. (Tier 1, Impact factor 16.6)

(4) K. Promsuwan, L. Meng, P. Suklim, W. Limbut, P. Thavarungkul, P. Kanatharana, **W.C. Mak***, Bio-PEDOT: Modulating carboxyl moieties in poly(3,4-ethylenedioxythiophene) for enzyme-coupled bioelectronic interfaces, *ACS Applied Materials & Interfaces,* 12(35), 39841-39849, 2020. (Tier 1, Impact factor 8.75)

(5) L. Meng, F. Dagsgård, A.P.F. Turner**, W.C. Mak***, Bi-functional sulphonate-coupled reduced graphene oxide as an efficient dopant for a conducting polymer with enhanced electrochemical performance, *Journal of Materials Chemistry C*, 8, 12829-12839, 2020. (***Featured HOT paper,*** Tier 1, Impact factor 7.1)

(6) L. Meng, A.P.F. Turner, **W.C. Mak***, Tunable 3D nanofibrous and bio-functionalised PEDOT network explored as a conducting polymer-based biosensor, *Biosensors and Bioelectronics*, 159, 112181, 2020. (Tier 1, Impact factor 10.25)

(7) T. Changsan, R. Wannapob, M. Kaewpet, K. Shearman, P. Wattanasin, **W.C. Mak**, P. Kanatharana, P. T. Thavarungkul, C. Thammakhet-Buranachai, Magnetic microsphere sorbent on $CaCO_3$ templates: simple synthesis and efficient extraction of trace carbamate pesticides in fresh produce, *Food Chemistry*, 128336, 2020. (Tier 1, Impact factor 6.30)

(8) L. Meng, A.P.F. Turner, **W.C. Mak***, Soft and flexible material-based affinity sensors, *Biotechnology Advances*, 39, 107398, 2020. (Tier 1, Impact factor 12.83)

(9) S. Azzouzi, Z. Fredj, A.P.F. Turner, M.B. Ali, **W.C. Mak***, Generic neutravidin biosensor for simultaneous multiplex detection of microRNAs via electrochemically encoded responsive nanolabels, *ACS Sensors*, 4, 326-334, 2019. (Tier 1, Impact factor 7.3)

(10) L. Meng, A.P.F. Turner, **W.C. Mak***, Modulating electrode kinetics for discrimination of dopamine by PEDOT:COOH interface doped with negatively-charged tri-carboxylate, *ACS Applied Materials & Interfaces,* 11, 34497-34506, 2019. (Tier 1, Impact factor 8.7)

(11) E. Eriksson, J. Lysell, H, Larsson, K.Y. Cheung, D. Filippini*, **W.C. Mak***, Geometric flow control lateral flow immunoassay devices (GFC-LFIDs) – a new dimension to enhance analytical performance, *spj Research, AAAS*, Article ID 8079561, 2019. (Science Partner Journal, New Journal)

(12) J.F.C. Loo, A.H.P. Ho, A.P.F. Turner*, **W.C. Mak***, Integrated Printed Microfluidic Biosensors, *Trends in Biotechnology*, 37, 1104-1120, 2019. (Tier 1, Impact factor 14.3)

(13) A.A. Zainuddin, A.N. Nordin*, A.F.M. Mansor, R. Ab. Rahim, **W.C. Mak***, Integrated multichannel electrochemical–quartz crystal microbalance sensors for liquid sensing, *IEEE ACCESS*, 8, 3668 – 3676, 2019. (Tier 2, Impact factor 3.7)

(14) C. Che, M. Vagin, U. Ail, V. Gueskine, J. Phopase, R. Brooke, R. Gabrielsson, M.P. Jonsson, **W.C. Mak**, M. Berggren, X. Crispin, Twinning lignosulfonate with a conducting polymer via counter-ion exchange for large-scale electrical storage, *Advanced Sustainable Systems*, 1900039, 1-9 2019. (New Journal, 1st Impact factor 4.9)

(15) S.Z. Mousavisani, J.B. Raoof, K.Y. Cheung, A.R.H. Camargo, T. Ruzgas, A.P.F. Turner, **W.C. Mak***, Integrating an ex-vivo skin biointerface with electrochemical DNA biosensor for direct measurement of the protective effect of UV blocking agents, *Biosensors and Bioelectronics*, 128, 159-165, 2019. (Tier 1, Impact factor 10.25)

(16) L. Meng, A.P.F. Turner, **W.C. Mak***, Positively-charged hierarchical PEDOT interface with enhanced electrode kinetics for NADH-based biosensors, *Biosensors and Bioelectronics*, 120, 115-121, 2018. (Highlighted by Sciencetends.com) https://sciencetrends.com/new-colloidal-conducting-polymer-for-improved-sensing-energy-production-and-bioprocessing/ (Tier 1, Impact factor 10.25)

(17) S.Z. Mousavisani, J.B. Raoof, A.P.F. Turner, R. Ojani, **W.C. Mak***, Label-free DNA sensor based on diazonium immobilisation for detection of DNA damage in breast cancer 1 gene. *Sensors and Actuators B*: Chemical, 264, 59-66, 2018. (Tier 1, Impact factor 7.1)

(18) Y. Liu, A.P.F. Turner, M. Zhao, **W.C. Mak***, Processable enzyme-hybrid conductive polymer composites for electrochemical biosensing, *Biosensors and Bioelectronics*, 100, 374-381, 2018. (Tier 1, Impact factor 10.25)

(19) M.F. Santangelo, S. Libertino, A.P.F. Turner, D. Filippini, **W.C. Mak***, Integrating printed microfluidics with silicon photomultipliers for miniaturised and highly sensitive ATP bioluminescence detection, *Biosensors and Bioelectronics*, 99, 464-470, 2018. (Tier 1, Impact factor 10.25)

(20) B. Rezaei, A.M. Shoushtari, M. Rabiee, L. Uzun, A.P.F. Turner, **W.C. Mak***, Electrochemical performance of nanofibrous highly flexible electrodes enhanced by different structural configurations*, Composites Science and Technology*, 155, 81-90, 2018. (Tier 1, Impact factor 7.1)

(21) Y. Liu, A.P.F. Turner, M. Zhao, **W.C. Mak***, Facile synthesis of highly processable and water dispersible polypyrrole and poly(3,4-ethylenedioxythiophene) microspheres for enhanced supercapacitive performance, *European Polymer Journal*, 99, 332-339, 2018. (Tier 2, Impact factor 3.86)

(22) B. Rezaei, A.M. Shoushtari, M. Rabiee, L. Uzun, **W.C. Mak**, A.P.F. Turner, An electrochemical immunosensor for cardiac Troponin I using electrospun carboxylated multi-walled carbon nanotube-whiskered nanofibers, *Talanta* 182, 178-186, 2018. (Tier 2, Impact factor 5.34)

(23) K.Y. Cheung, K.K. Lai, **W.C. Mak***, Fabrication of protein microparticles and microcapsules with biomolecular tools, *Zeitschrift für Physikalische Chemie*, 232, 759-771, 2018. (Invited, not available)

(24) B. Rezaei, A.M. Shoushtari, M. Rabiee, L. Uzun, A.P.F. Turner, **W.C. Mak**, Multifactorial modeling and optimization of solution and electrospinning parameters to generate superfine polystyrene nanofibers, *Advances in Polymer Tech*nology, 37, 2743-2755, 2018. (Tier 3, Impact factor 2.07)

(25) R. Wannapob, M.Y. Vagin, Y. Liu, P. Thavarungkul, P. Kanatharana, A.P.F. Turner, **W.C. Mak***, Printable hetero-structured bioelectronic interfaces with enhanced electrode reaction kinetics via inter-microparticle network, *ACS Applied Materials & Interfaces*, 9(38), 33368-33376, 2017. (Tier 1, Impact factor 8.75)

(26) **W.C. Mak***, B. Magne, K.Y. Cheung, D. Atanasova, M. Griffith, Thermo-rheological responsive microcapsules for time-dependent controlled release of human mesenchymal stem cells, *Biomaterials Science*, 5, 2241-2250, 2017. (Front cover article) (Tier 2, Impact factor 6.18)

(27) Z. Fredj, S. Azzouzia, A.P.F. Turner, M.B. Ali, **W.C. Mak***, Neutravidin biosensor for direct capture of dual-functional biotin - molecular beacon - AuNP probe for sensitive voltammetric detection of microRNA, *Sensors & Actuators: B Chemical*, 248, 77-84, 2017. (Tier 1, Impact factor 7.1)

(28) S.Sankoh, M.Y. Vagin, A.N. Sekretaryova, P. Thavarungkul, P. Kanatharana **W.C. Mak***, Colloid electrochemistry of conducting polymer: towards potential-induced in-situ drug release, *Electrochimica Acta*, 228, 407-412, 2017. (Tier 2, Impact factor 6.2)

(29) S. Azzouzi, **W.C. Mak***, K. Kor, A.P.F. Turner, M.B. Ali, V. Beni*, An integrated dual functional recognition/amplification bio-label for the one-step impedimetric detection of miRNA-21, *Biosensors and Bioelectronics*, 92, 154-161, 2017. (Tier 1, Impact factor 10.25)

(30) A. Patzelt, **W.C. Mak**, (equal first author contribution) S. Jung, F. Knorr, M.C. Meinke, H. Richter, E. Rühl, K.Y. Cheung, N.N. Tran, J. Lademann, Do nanoparticles have a future in dermal drug delivery, *Journal of Controlled Release*, 246, 174-182, 2017. (Tier 1, Impact factor 7.72)

(31) N.N. Tran, F. Knorr, **W.C. Mak**, K.Y. Cheung, H. Richter, M. Meinke, J. Lademann, A. Patzelt, Gradient-dependent release of the model drug TRITC-dextran from FITC-labeled BSA hydrogel nanocarriers in the hair follicles of porcine ear skin, *Eur. Journal of Pharm. & Biopharmaceutics*, 116, 12-16, 2017. (Tier 2, Impact factor 4.6)

(32) M.V. Vagin, R. Wannapob, Y. Liu, **W.C. Mak***, Potential-modulated electrocapacitive properties of soft microstructured polypyrrole, *Electroanalysis*, 29(1), 203-207, 2017. (Tier 3, Impact factor 3.2)

(33) K.K. Lai, R. Renneberg, **W.C. Mak***, High efficiency single-step biomaterial-based microparticle fabrication via template-directed supramolecular coordination chemistry, *Green Chemistry,* 18, 1715-1723, 2016. (Tier 1, Impact factor 9.4)

(34) M.Y. Vagin, I. Jeerapan, R. Wannapob, P. Thavarungkul, P. Kanatharana, N. Anwar, T. McCormac, M. Eriksson, A.P.F. Turner, E.W.H. Jager, **W.C. Mak***, Water-processable polypyrrole microparticle modules for direct fabrication of hierarchical structured electrochemical interfaces, *Electrochimica Acta*, 190, 495-503, 2016. (Tier 2, Impact factor 6.2)

(35) K. Kor A.P.F. Turner, K. Zarei, M. Atabati, V. Beni, **W.C. Mak***, Structurally responsive oligonucleotide-based single-probe lateral-flow test for detection of miRNA-21 mimics, *Analytical and Bioanalytical Chemistry,* 408, 1475-1485, 2016. (Tier 2, Impact factor 3.63)

(36) **W.C. Mak**, V. Beni, A.P.F. Turner, Lateral-flow technology: from visual to instrumental, *TrAC Trends in Analytical Chemistry,* 79, 297-305, 2016. (Tier 1, Impact factor 9.8)

(37) J. Lademann, H. Richter, F. Knorr, A. Patzelt, M.E. Darvin, E. Rühl, K.Y. Cheung, K.K. Lai, R. Renneberg, **W.C. Mak***, Triggered release of model drug from AuNP-doped BSA nanocarriers in hair follicles using IRA radiation, *Acta biomaterialia*, 30, 388-396, 2016. (Tier 1, Impact factor 7.24)

(38) A.A. Zainuddin, A.N. Nordin, R. Ab Rahim, **W.C. Mak**, Modeling of a novel biosensor with integrated mass and electrochemical sensing capabilities, Biomedical Engineering and Sciences (IECBES), IEEE, 420-425, 2016. (Tier 3, Impact factor 1.93)

(39) **W.C. Mak***, K.Y. Cheung, J. Orban, C.J. Lee, A.P.F. Turner, M. Griffith, Surface-engineered contact lens as an advanced theranostic platform for modulation and detection of viral infection, *ACS Applied Materials & Interfaces*, 7 (45), 25487-25494, 2015. (Tier 1, Impact factor 8.75)

(40) R. Wannapob, M.Y. Vagin, I. Jeerapan, **W.C. Mak*,** Pure nanoscale morphology effect enhancing the energy storage characteristics of processable hierarchical polypyrrole, *Langmuir*, 31 (43), 11904-11913, 2015. (Tier 2, Impact factor 3.6)

(41) A. Hatamie, A. Khan, M. Golabi, A.P.F. Turner, V. Beni, **W.C. Mak**, A. Sadollahkhani, H. Alnoor, B. Zargar, S. Bano, O. Nur, M. Willander, Zinc oxide nanostructures modified textile and its application to biosensing, photocatalytic and as antibacterial material, *Langmuir*, 31 (39), 10913-10921, 2015. (Tier 2, Impact factor 3.6)

(42) **W.C. Mak***, K. Olesen, P. Sivlér, C.J. Lee, I. Moreno-Jimenez, J. Edin, D Courtman, M Skog, M Griffith, Controlled delivery of human cells by temperature responsive microcapsules, *Journal of Functional Biomaterials,* 6 (2), 439-453, 2015. (Tier 3, Impact factor 3.27)

(43) K.K. Lai, R. Renneberg, **W.C. Mak***, Bioinspired protein microparticles fabrication by peptide mediated disulfide interchange, *RSC Advances*, 11802–11810, 2014. (Tier 3, Impact factor 3.12)

(44) **W.C. Mak**, R. Selegård, M. Garbrecht, D. Aili, Probing zinc–protein–chelant interactions using gold nanoparticles functionalized with zinc-responsive polypeptide, *Particle & Particle Systems Characterization,* 31 (11), 1127-1133, 2014. (Tier 2, Impact factor 4.19)

(45) C.P.Y. Chan, **W.C. Mak**, K.Y.Cheung, K.K. Sin, C.M. Yu, T.H. Rainer, R. Renneberg, Evidence-based point-of-care diagnostics: Current status and emerging technologies. *Annual Rev. Anal. Chem.,* 3, 191-211, 2013. (Tier 1, Impact factor 7.2)

(46) S. Schmitz-Hertzberg, **W.C. Mak**, K.K. Lai, C. Teller, F. Bier, Multifactorial design of poly(D,L-lactic-co-glycolic acid) capsules with various release properties for differently sized filling agents, *Journal of Applied Polymer Science*, 103, 4219-4228, 2013. (Tier 3, Impact factor 2.5)

(47) J. Lademann, H. Richter, M.C. Meinke, B. Lange-Asschenfeldt, C. Antoniou, **W.C. Mak**, R. Renneberg, W. Sterry, A. Patzelt, Drug delivery with topically applied nanoparticles: science fiction or reality. *Skin Pharmacology and Physiology*, 26, 227-233, 2013. (Tier 3, Impact factor 3.3)

(48) **W.C. Mak***, A. Patzelt, H. Richter, R. Renneberg, K.K. Lai, E. Rühl, W. Sterry, J. Lademann, Triggering of drug release of particles in hair follicles. *Journal of Controlled Release*, 160, 509-514, 2012. (Tier 1, Impact factor 7.72)

(49) K.K. Lai, R. Renneberg, **W.C. Mak***, Multifunctional protein particles with dual analytical channels for colorimetric enzymatic bioassays and fluorescent immunoassays. *Biosensors and Bioelectronics* 32, 169-176, 2012. (Tier 1, Impact factor 10.25)

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Invited Speaker and Conference Presentations

(1) L. Meng, A.P.F. Turner, **W.C. Mak**, Bio-Nano-PEDOT interface: enabling conducting polymer-based biosensors via functional groups and nanostructures, World Congress on Biosensors 2021 - Online, 26-29 July, 2021 (Oral)

(2) **W.C. Mak**, Geometric protein self-patterning for microelectronic biosensor, Webinar on Biosensors and Bioelectronics, Malmö, Sweden, 29 April, 2021. (Invited speaker)

(3) L. Meng, S. Uzuncar, A.P.F. Turner, **W.C. Mak**, Tailoring physio-chemical properties of conducing polymer interfaces for sensing and biosensing, IVC-21 Conference, Malmö, Sweden, 1-5 July, 2019. (**Poster Award**)

(4) M.F. Santangelo, **W.C. Mak**, D. Filippini, D. Corso, A.P.F. Turner and S. Libertino, Real time ATP bioluminescence monitoring on 3D printed LoC by highly sensitive SiPM, Optical Microsystems OμS19, Anacapri, Island of Capri, Italy, 9-11 September, 2019.

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(7) L. Meng, A.P.F. Turner, **W.C. Mak**, Processable and anti-NAD^+ fouling colloidal PEDOT microparticles based hierarchical structured interface with enhanced electrode kinetics for sensitive NADH biosensing, The 13th World Congress on Biosensors, Miami, USA, 12-15 June, 2018. (Oral)

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(9) **W.C. Mak**, Biosensors technologies for agriculture and environment – opportunities and challenges, 8th Nordic Feed Science Conference, Uppsala, Sweden, 13-14 June, 2017. (Invited speaker)

(10) **W.C. Mak**, Functional Microparticles – "LEGO" for printable bioelectronics, The 12th World Congress on Biosensors, Gothenburg, Sweden, 25-27 May, 2016. (Invited keynote speaker)

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(12) **W.C. Mak**, Engineered colloids for biosensing and biomedicine, RBS International Workshop on Biocompatible Nanomaterials and Nanodevices for Bio-Medical Applications, Kuala Lumpur, Malaysia, 15-17 Dec, 2016. (Invited keynote speaker)

(13) **W.C. Mak**, Nanostructured colloidal conducting polymer as functional modules for printable electrochemical sensing interfaces, 2nd International Congress on Biosensors, Izmir, Turkey, 10-12 May 2015. (Invited speaker)

(14) K Lai, J Lademann, R Renneberg, **W.C. Mak**, Customizable protein microparticles as carriers for controlled drug delivery, Controlled Release Society, 42nd CRS Annal Meeting & Exposition, Edinburgh, Scotland, 26-29 July, 2015. (Oral)

(15) **W.C. Mak**, Surface nanoengineered contact lens as a wearable point-of-care diagnostics platform, The 11th World Congress on Biosensors, Melbourne, Australia, 27-30 May 2014. (Poster)

(16) **W.C. Mak**, Nanostructured colloidal materials for printable biosensors, 15th International Conference on Electroanalysis, Malmö, Sweden, 11-15 June 2014. (Oral)

(17) **W.C. Mak**, Functional colloids for biosensing and biomedical applications, Advances in Biodetection & Biosensors, Berlin, Germany, 10-11 March 2014. (Invited speaker)

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(19) **W.C. Mak**, Advanced photometric nanolabels for biosensors and bioassays. 1st International Conference on Biophotonics, Riga, Latvia, 26-31 August 2013. (Invited speaker)

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(21) **W.C. Mak**, Smart capsules for biosensing: Capsule design and fabrication, Advances in Biodetection & Biosensors, Barcelona, Spain, 5-6 March 2013. (Invited speaker)

(22) **W.C. Mak**, Design and fabrication of multifunctional colloidal particles for biomedical applications, Molecular Biology Cluster Network Seminar, Potsdam, Germany. 7 Dec 2012 (Invited speaker)

(23) **W.C. Mak**, Smart capsules for biosensing: Microcapsule design and interfacial engineering, Sweden-Japan Conference on Nanomaterials and Nanotechnology. 10-11 Sept 2012 (Invited speaker)

(24) **W.C. Mak**, Broad specific rapid detection platform for multiplex diagnostics. Hong Kong Productivity Council Conference for Medical Device Industries. 19-20 Sept 2011. (Invited speaker)

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