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COLL

Ramanathan Nagarajan

Monday, March 26, 2012

Poster Session

Biocidal Materials and Interfaces - EVE Session

Poster Session

Location: San Diego Convention Center

Room: Hall C

Organizers: James Wynne, Kirk Schanze

Duration: 6:00 pm - 8:00 pm

Pub #	Presentation Title
402	N-halamine-based rechargeable and long-term antimicrobial polyurethane tubing Zhengbing Cao , Xinbo Sun, Yuyu Sun.
403	Long-term drug delivery system to treat Candida-associated denture stomatitis Xinbo Sun , Zhengbing Cao, Yuyu Sun.
404	Chitosan-immobilized polymer surfaces for rechargeable antimicrobial drug binding and releasing Wei Lv , Jie Luo, Yuyu Sun.
405	N-halamine based polymeric antimicrobial additive: preparation, characterization, antimicrobial activity, and biocompatibility Jie Luo , Yuyu Sun.
406	Surface active fibrous polymers containing polyoxometalates Spencer L Giles , Peter N Coneski, James H Wynne, Preston A Fulmer, Brian T Rasley.
407	New approaches of a mathematical model to the development of biosensor Edward J Parish, Yuli E Honda, Meen-Woon Hsiao , Yu-Chen Lo , Hiroshi Honda.
408	Biodegradable material dynthesis and its application to biological cells Yu-Chen Lo , Edward J Parish, Hiroshi Honda, Jorge Padmore.

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Ramanathan Nagarajan

Wednesday, March 28, 2012

Oral Session

Biocidal Materials and Interfaces - AM Session

Location: San Diego Convention Center

Room: Room 20A

Organizers: James Wynne, Kirk Schanze

Presiders: Kirk Schanze

Duration: 8:30 am - 12:00 pm

Pres Time	Pub #	Presentation Title
8:30 am	549	Broad spectrum antimicrobial coatings employing surface segregating amphiphilic moieties <u>James H Wynne</u> , Preston A. Fulmer.
8:50 am	550	Decontamination of chemical stimulants via photocatalytic coated substrates <u>J. Paige Buchanan</u> , LaCrissa J. Bridges, Michelle L. Grimm, Randy K. Buchanan, James H. Wynne.
9:10 am	551	Biocidal coatings through self-segregating additives <u>Joshua A Orlicki</u> , John A Escarsega, Adam M Rawlett, Julia L Leadore, George R Martin, Alicia Farrell, Andre' A Williams, Eugene Napadensky.
9:30 am	552	Preparation of novel self-decontaminating interpenetrating networks <u>Nicole M. Mackey</u> , William H. Seawell, Mithun Bhattacharya, Sarah Morgan, Preston A. Fulmer, James H. Wynne, J. Paige Buchanan.
9:50 am		Intermission
10:00 am	553	Copolyoxetane soft blocks with 4FOx (2,2,3,3-tetrafluoropropoxymethyl) side chains: An amphiphilic chaperone for quaternary antimicrobial surface modification <u>Kenneth J Wynne</u> , Asima Chakravorty.
10:30 am	554	Diverse antimicrobial materials containing polyquaternary amines <u>Allan J. Russell</u> .
11:00 am	555	Integrated antimicrobial and nonfouling materials and interfaces <u>Shaoyi Jiang</u> .
11:30 am	556	Synthetic mimics of antimicrobial peptides <u>Gregory N. Tew</u> .

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Ramanathan Nagarajan

Wednesday, March 28, 2012

Oral Session

Biocidal Materials and Interfaces - PM Session

Location: San Diego Convention Center

Room: Room 20A

Organizers: James Wynne, Kirk Schanze

Presiders: James Wynne

Duration: 2:00 pm - 5:30 pm

Pres Time	Pub #	Presentation Title
2:00 pm	603	Conjugated polyelectrolytes: Structures, synthesis, materials and light-activated biocidal activity <u>Kirk S. Schanze</u> , Anand Parthasarathy, Subhadip Goswami, Xuzhi Zhu, Eunkyung Ji, Thomas Corbitt, Dimitri Dascier, Zhijun Zhou, David G. Whitten.
2:30 pm	604	When worlds collide: Interactions at the interface between biological systems and synthetic cationic polyelectrolytes and oligomers Ying Wang, Thomas S Corbitt, Zhijun Zhou, Eva Chi, Stephen D Jett, Kirk S Schanze, <u>David G Whitten</u> .
3:00 pm	605	Antimicrobial surfaces for combating marine biofouling and biocorrosion W.J. Yang, Serena L.M. Teo, K.G. Neoh, <u>E.T. Kang</u> .
3:30 pm	606	Surface modification of biomaterials for directing cellular and bacterial response <u>KoonGee Neoh</u> , Xuefeng Hu, En Tang Kang.
4:00 pm		Intermission
4:10 pm	607	Significant <i>Staphylococcus aureus</i> biofilm reduction by SAM immobilized antibiotics on implant materials Kristen M Kruszewski, Laura Nistico, Mark Longwell, Luanne Hall-Stoodley, <u>Ellen S Gawalt</u> .

4:30 pm	608	Preparation of novel antimicrobial latexes for cellulose fiber-based packaging materials Yuanfeng Pan, Huining Xiao , Hao Wang.
4:50 pm	609	Bacterial toxin-triggered release of antimicrobials for the treatment of bacterial infections Nu Dissaya Pornpattananangkul , Liangfang Zhang.
5:10 pm	610	Light and dark antimicrobials: "Roach motel" synthesis by oligomer/polymer conjugated polyelectrolyte deposition Taylor Canady , Thomas S Corbitt, Ying Wang, Kirk S Schanze, David G Whitten.

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Ramanathan Nagarajan

Thursday, March 29, 2012

Oral Session

Biocidal Materials and Interfaces - AM Session

Location: San Diego Convention Center
Room: Room 22
Organizers: James Wynne, Kirk Schanze
Presiders: David Whitten
Duration: 8:30 am - 12:00 pm

Pres Time	Pub #	Presentation Title
8:30 am	661	Degradable poly(diols citrate) elastomers with tethered quaternary ammonium biocides Peter N Coneski , James H Wynne.
8:50 am	662	Influence of quaternary ammonium biocides on electrospun polymer microfiber surfaces Jeffrey G. Lundin , Peter N. Coneski, Preston A. Fulmer, Robert F. Cozzens, James H. Wynne.
9:10 am	663	Super-hydrophobic/hydrophilic switching of photocatalytic titanium dioxide coatings Michelle L. Grimm , LaCrissa J. Bridges, Sarah M. Lauinger, J. Paige Buchanan, Randy K. Buchanan, James H. Wynne.
9:30 am	664	WITHDRAWN
9:50 am		Intermission
10:10 am	665	Antimicrobial surfaces derived by surface-grafted biocidal groups: Designs and mechanisms Joerg C Tiller , Arno M Bieser, Andres Fuchs, Christian Waschinski, Christoph P Fik.
10:40 am	666	Antimicrobial materials for coatings and latex paints S. D. Worley , Hasan Kocer, Idris Cerkez, R. M. Broughton, T. S. Huang.
11:10 am	667	Controlling bacterial and fungal biofilms with rechargeable antimicrobial biomaterials Yuyu Sun , Yuyu Sun.
11:40 am	668	WITHDRAWN

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Ramanathan Nagarajan

Thursday, March 29, 2012

Oral Session

Biocidal Materials and Interfaces - PM Session

Location: San Diego Convention Center
Room: Room 2
Organizers: James Wynne, Kirk Schanze
Presiders: En Tang Kang
Duration: 2:00 pm - 5:30 pm

Pres Time	Pub #	Presentation Title
2:00 pm	728	Development of broad-spectrum antimicrobial latex paint surfaces employing active amphiphilic compounds <u>Preston Fulmer</u> , James Wynne.
2:20 pm	729	Multifunctional conjugated polymers for light-activated antibacterial activity with imaging capability Chunlei Zhu, Qiong Yang, <u>Shu Wang</u> .
2:50 pm	730	Improved surface biocompatibility and antimicrobial properties of plasma-treated biomaterials and biomedical implants Paul K. Chu ,
3:20 pm	731	Photo-induced antibacterial chemicals and materials: Chemistry and applications Jing Zhu, Ning Liu, Jingyuan Zhuo, Nidia Trejo, <u>Gang Sun</u> .
3:50 pm	732	Versatile approach for analyzing bacterial growth on solid supports <u>Victoria Eleonore Reichel</u> , Martin Robert Kulterer, Karin Stana-Kleinscheck, Günther Koraimann, <u>Volker Ribitsch</u> .
4:10 pm	733	Structural aspects of layer-by-layer assembly of carboxymethyl cellulose and antimicrobial poly(4-vinyl-N-alkyl pyridinium) ultrathin films Jorge Amim Jr, Francisco C B Maia, Paulo B Miranda, <u>Denise F S Petri</u> , Marcela A Urzúa.
4:30 pm	734	Comparison of the liquid adsorption behavior and surface properties of α -, β - and γ -cyclodextrins by capillary rise method <u>Qing Shen</u> , Mebrahtu Mezgebe, Hao-Ran Yu.
4:50 pm	735	Interactions between membranes and synthetic antimicrobials <u>Lihua Yang</u> , Nathan Schmidt, Yunjiang Jiang, Gang Wei, Edmund Palermo, Kenichi Kuroda, Gerard Wong.
5:10 pm	736	WITHDRAWN

730 - Improved surface biocompatibility and antimicrobial properties of plasma-treated biomaterials and biomedical implants

Paul K Chu, paul.chu@cityu.edu.hk, *Physics and Materials Science, City University of Hong Kong, Kowloon, Hong Kong Special Administrative Region of China*

The surface mechanical and biological properties of biomaterials and biomedical implants can be improved by plasma-based technology. The technology takes advantage of the synergistic effects of energetic ion bombardment and plasma deposition enabling the production of a surface layer that has different properties than the bulk materials. In this way, selected biomedical and relevant surface properties can be enhanced while the favorable properties of the bulk materials such as strength can usually be preserved. In this invited talk, recent research activities pertaining to plasma surface modification and engineering of biomaterials conducted in our laboratory are described. Examples include fixation implants for complex and multiple fractures, total hip replacements, automatic scoliosis correction devices, as well as biodegradable metallic and polymeric materials.

Thursday, March 29, 2012 02:50 PM

[Biocidal Materials and Interfaces \(02:00 PM - 05:30 PM\)](#)

Location: San Diego Convention Center

Room: Room 2