Chrysafis Andreou

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Profile

Experimental researcher experienced in optical imaging, chemical analysis, medical imaging, microfluidic systems, and molecular diagnostics. Interested in nano- and micro- systems for rapid screening, biological and chemical detection, diagnostics, cancer imaging, and therapy.

Education

Ph.D. in Biochemistry and Molecular Biology, emphasis in Bioengineering. 2008–2013
University of California, Santa Barbara.

M.Sc. in Electrical Engineering. 2006–2008
University of Cyprus.

B.Sc. in Mathematics, 2002–2006
B.Sc. (with Honors) in Physics, emphasis in Electronics.
Pennsylvania State University.

Research Experience

Research Scholar, Department of Radiology, 2014–
Memorial Sloan Kettering Cancer Center.

Postdoctoral Researcher, Institute for Collaborative Biotechnologies, 2013–2014
University of California, Santa Barbara.

Graduate Student Researcher, Biomolecular Science and Engineering, 2008–2013
University of California, Santa Barbara.

Graduate Student Researcher, Electrical Engineering, 2006–2008
University of Cyprus.

Undergraduate Researcher, Low Temperature Physics, 2003–2006
Pennsylvania State University

Publications

Journal Articles

[9] T. R. Nayak*, **C. Andreou***, A. Oseledchyk, W. D. Marcus, H. C. Wong, J. Massagué, and M. F. Kircher: Tissue Factor-Specific Ultra-bright SERRS Nanostars for Raman Detection of Pulmonary Micrometastases, Nanoscale, 2017. ***equal first co-author**

[8] A. Oseledchyk, **C. Andreou**, M. A. Wall, and M. F. Kircher: Folate-targeted SERRS Nanoprobe Ratiometry for Detection of Microscopic Ovarian Cancer, ACS Nano, 2016.

[7] **C. Andreou**, V. Neuschmelting, D.-F. Tschaharganeh, C.-H. Huang, A. Oseledchyk, P. Iacono, H. Karabeber, R. R. Colen, L. Mannelli, S. W. Lowe, and M. F. Kircher: Imaging of Liver Tumors Using Surface-Enhanced Raman Scattering Nanoparticles, ACS Nano, 2016.

[6] M. Spaliviero, S. Harmsen, R. Huang, M. A. Wall, **C. Andreou**, J. A. Eastham, K. A. Touijer, P. T. Scardino, and M. F. Kircher: Detection of Lymph Node Metastases with SERRS Nanoparticles, Molecular Imaging and Biology 2016: 1-9.

[5] **C. Andreou**, S. A. Kishore, and M. F. Kircher: Surface-Enhanced Raman Spectroscopy: A New Modality for Cancer Imaging, Journal of Nuclear Medicine 2015 115.

[4] **C. Andreou**, R. Mirsafavi, M. Moskovits, and C. D. Meinhart: Detection of Low Concentrations of Ampicillin in Milk, Analyst 2015 140 (15), 5003-5005.

[3] B. Piorek, **C. Andreou**, M. Moskovits, and C. D. Meinhart: Discrete Free- Surface Millifluidics for Rapid Capture and Analysis of Airborne Molecules Using Surface Enhanced Raman Spectroscopy, Analytical Chemistry 2014 86 (2), 1061?1066.

[2] **C. Andreou**, M. R. Hoonejani, M. R. Barmi, M. Moskovits, and C. D. Meinhart, Rapid Detection of Drugs of Abuse in Saliva Using Surface Enhanced Raman Spectroscopy and Microfluidics, ACS Nano 2013 7 (8), 7157-7164.

[1] M.R.Barmi, **C. Andreou**, M.R.Hoonejani, M.Moskovits, and C.D.Meinhart: Aggregation Kinetics of SERS-Active Nanoparticles in Thermally Stirred Sessile Droplets, Langmuir 2013 29 (44), 13614-13623.

Under review

C.Kaittanis, **C. Andreou**, H.Hieronymus, C.A.Foss, M.Eiber, G.Weirich, P.Panchal, A.Gopalan, N.Mao, J. Zurita, S. Achilefu, G. Chiosis, V. Ponomarev, M. Schwaiger, B. S. Carver, M. G. Pomper, and J. Grimm: PSMA cleavage of Vitamin B9 stimulates oncogenic signaling via P?3K p110b in prostate cancer, under review.

Other

Ph.D. Thesis: Interfacial transport processes in microfluidic systems for precision surface enhanced Raman spectroscopy. Advisor: Carl Meinhart, 2013.

M.Sc. Thesis: Design and fabrication of dielectrophoresis-based devices for cell manipulation and separation. Advisor: George Georghiou, 2008.

Honors Thesis: Tunnelling and phase-sensitive studies of odd-parity superconductor Sr_2RuO_4. Advisor: Ying Liu, 2006.

Presentations

Invited Talks

University of Cyprus, Electrical Engineering seminar series, Multiphase Microfluidics and Surface Enhanced Raman Spectroscopy for Chemical Detection, 19-Jun-2013.

UCSB, Systems Biology seminar series, Multiphase Microfluidics and Surface Enhanced Raman Spectroscopy for Chemical Detection, 07-Jun-2013.

Conference Presentations

A. Oseledchyk, **C. Andreou**, M. Wall, and M. F. Kircher: Ovarian Cancer Imaging using Folate-targeted SERRS nanoprobes Ratiometry, World Molecular Imaging Congress, New York, New York, USA, Sep. 07-10.

C. Andreou, V.Neuschmelting, D.-F.Tschaharganeh, C.-H.Huang, A.Oseledchyk, P.Iacono, H.Karabeber, S. W. Lowe, and M. F. Kircher: Imaging of Liver Tumors with Surface-Enhanced Raman Scattering Nanoparticles, World Molecular Imaging Congress, New York, New York, USA, Sep. 07-10.

C. Andreou, M. Moskovits, C. Meinhart, Picoliter Droplets of Controlled Composition for SERS Studies, 67th Annual Meeting of the APS Division of Fluid Dynamics, San Francisco, California, USA, Nov. 23-25, 2014.

C. Andreou, M. Moskovits, C. Meinhart, Assembly of Ag-Nanoparticle Clusters for Surface Enhanced Raman Spectroscopy in Droplets, The 18th International Conference on Miniaturized Systems for Chemistry and Life Sciences (MicroTAS 2014), San Antonio, Texas, USA, October 26-30, 2014.

C. Andreou, M.R. Hoonejani, M.R. Barmi, B. Piorek, M. Moskovits, and C. D. Meinhart, Microfluidic Device for Detection of Chemicals in Aqueous Mixtures using Surface Enhanced Raman Spectroscopy, The 15th International Conference on Miniaturized Systems for Chemistry and Life Sciences (MicroTAS 2011), Seattle, Washington, USA, October 2-6, 2011.

C. Andreou, SJ. Lee, B. Piorek, M. Moskovits, C. D. Meinhart, Multiphase microfluidics and Surface Enhanced Raman Spectroscopy, 63rd Annual Meeting of the APS Division of Fluid Dynamics, Long Beach, California, USA, Nov. 21-23, 2010.

C. Andreou, SJ. Lee, B. Piorek, M. Moskovits, C. Meinhart, Mapping concentration dependencies of SERS in a microfluidic device, Gordon Research Conference, Microfluidics (Physics and Chemistry of), Lucca, Italy, June 28- July 3, 2009.

C. Andreou, E. Demosthenous, C. Odiatis, N. Loucaides, P. Georgiades, A. Ramos, G. Georghiou, Dielectrophoretic capture and separation of Trophoblast Stem Cells and their differentiated progeny, 34th Micro- and Nano-Engineering Conference, Athens, Greece, 15-19 September 2008.

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