

Professor Samir Iqbal

The University of Texas Rio Grande Valley
Department of Electrical Engineering
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EDUCATION

PhD, Purdue University, 2007
Major: Electrical and Computer Engineering

BS, NED University of Engineering and Technology, 1997
Major: Electrical Engineering

EMPLOYMENT

Academic - Administrative Assignments

Professor and Chair of Electrical Engineering Department, University of Texas Rio Grande Valley
(September 2017)

Academic - Post-Secondary

Adjunct Associate Professor, University of Texas Southwestern Medical Center at Dallas
(September 1, 2014 - August 31, 2017)

Associate Professor, University of Texas at Arlington (September 1, 2013 - August 31, 2017)

Assistant Professor, University of Texas at Arlington (July 1, 2007 - August 31, 2013)

Post-Doctoral Research Associate, Purdue University (February 1, 2007 - June 30, 2007)

Professional

Professional Engineer, State of Texas (December 2014)

PUBLICATIONS

Book Chapters

Muhammad Rizwan, Abdul Hafeez, Ali Butt, and Samir Iqbal. "Detection of Cellular Spikes and Classification of Cells from Raw Nanoscale Biosensor Data." *Proceedings of ELM-2016*. Springer, Cham, 2018: 75–87.

Muhammad Ijaz, Muhammad Raza, Syeda Mahmood, and Samir Iqbal. "Solid-State Micropores for Living Cell Detection and Discrimination." *Micro and Nanomanufacturing Volume II*. Springer, Cham, 2018: 263--279.

Mohammed Mahmood, Y Wan, and Samir Iqbal. "Micro/Nanostructured Substrates for Cell Typing, Isolation, and Disease Diagnostics." *Microfluidics, Nanotechnology and Disease Biomarkers For Personalized Medicine Applications*. Nova Science Publishers Incorporated, 2013:

Mohammed Mahmood, Umair Khan, and Samir Iqbal. "Nucleic Acid based Encapsulations for Cancer Diagnostics and Drug Delivery." *DNA and RNA Nanotechnologies in Medicine. Diagnosis and Treatment of Diseases - RNA Technologies Book Series*. Heidelberg: Springer-Verlag, 2013:

Mohammed Mahmood, Umair Khan, and Samir Iqbal. "Nucleic acid-based encapsulations for cancer diagnostics and drug delivery." *DNA and RNA Nanobiotechnologies in Medicine: Diagnosis and Treatment of Diseases*. Springer Berlin Heidelberg, 2013: 163–187.

Waseem Asghar, Joseph Billo, and Samir Iqbal. "Solid State Nanopores for Selective Sensing of DNA." *Nanopores*. Springer US, 2011: 107–128.

Samir Iqbal and Rashid Bashir. "Nanoelectronic-based detection for biology and medicine." *Springer Handbook of Automation*. Springer Berlin Heidelberg, 2009: 1433–1449.

Conference Proceedings

M Raza, L.-C. Ma, M Ijaz, S Peri, G. Alexandrakis, and Samir Iqbal. *Fabrication of Dual Nanohole-Nanopore Biosensors*. Sydney, Australia : First IEEE Life Sciences Conference. (December 2017)

M Abdallah, R Khan, Y.-T. Kim, and Samir Iqbal. *Sensing of Cancer Cell Ion Exchange as a Biomarker with High Aspect Ratio Field Effect Transistors*. Glasgow, Scotland: IEEE SENSORS 2017. (November 2017)

Waqas Ali, Muhammad Raza, Raja Khanzada, Young-Tae Kim, and Samir Iqbal. *Silicon Micropore based Electromechanical Transducer to Differentiate Tumor Cells*. APS Meeting Abstracts. (2015)

Mohammad Hasan, Raja Khanzada, Mohammed Mahmood, Adnan Ashfaq, and Samir Iqbal. *Structural Integrity of Proteins under Applied Bias during Solid-State Nanopore Translocation*. APS Meeting Abstracts. (2015)

Muhymin Islam, Adeel Sajid, Young-Tae Kim, and Samir Iqbal. *The Effects of Nanotexturing Microfluidic Platforms to Isolate Brain Tumor Cells*. APS Meeting Abstracts. (2015)

Muhymin Islam, Arif Mahmood, Young-tae Kim, and Samir Iqbal. *Effects of Nanotextured PDMS on Cell Culture and Growth*. Meeting Abstracts. no. 43 (2014): 1611–1611.

Muhammad Raza, Sajid Saleem, Waqas Ali, and Samir Iqbal. *Electronic Bias and Debye Length Calculations across Solid-state Nanopores for Self-referencing Arrays*. APS Meeting Abstracts. (2014)

Muhymin Islam, M. Mahmood, Md Bellah, Young-tae Kim, and Samir Iqbal. *Nanotextured PDMS Substrates for Enhanced Roughness and Aptamer Immobilization for Cancer Cell Capture*. Denver, CO: American Physical Society March Meeting 2014. (2014)

Waqas Ali and Samir Iqbal. *Nanotechnology Concepts through Lab Modules for K-12 and Community College Students*. Arlington, TX: 2013 ASEE Gulf Southwest Annual Regional Conference – Engineering Education Without Borders. (2013)

Young-tae Kim, and Samir Iqbal. *Quantitative Classification of Tumor Cell Morphological Changes on Selectively Functionalized Biochips*. IEEE Engineering in Medicine and Biology Society Conference Proceedings. 2013 35TH ANNUAL INTERNATIONAL CONFERENCE OF THE IEEE ENGINEERING IN MEDICINE AND BIOLOGY SOCIETY (EMBC). (2013): 4164-4166.

Mohammed Mahmood, Chaudhry Arafat, Young-tae Kim, and Samir Iqbal. *Quantitative classification of tumor cell morphological changes on selectively functionalized biochips*. Engineering in Medicine and Biology Society (EMBC), 2013 35th Annual International Conference

of the IEEE. (2013): 4164–4166.

Mohammed Mahmood and Samir Iqbal. *Using SPICE Schematics to Deliver the Essence of Microelectronics*. Arlington, TX: 2013 ASEE Gulf Southwest Annual Regional Conference – Engineering Education Without Borders. (2013)

Fahad Mirza, Thiagarajan Raman, M Mahmood, Samir Iqbal, and Dereje Agonafer. *Parametric thermal analysis of TSVs in a 3-D module based on interconnect delay and silicon efficiency*. Thermal and Thermomechanical Phenomena in Electronic Systems (ITherm), 2012 13th IEEE Intersociety Conference on. (2012): 150–156.

Joseph Billo, Waseem Asghar, and Samir Iqbal. *An implementation for the detection and analysis of negative peaks in an applied current signal across a silicon nanopore*. Proc. SPIE. 8031, (2011): 80312T–80312T.

Sri Vidyal, Waseem Asghar, and Samir Iqbal. *Biocompatible nanolayered polymerization of MEMS devices*. Engineering in Medicine and Biology Society, EMBC, 2011 Annual International Conference of the IEEE. (2011): 2901–2904.

Azhar Ilyas, Waseem Asghar, Joseph Billo, Ehsan Syed, and Samir Iqbal. *From molecular electronics to proteomics: break junctions for biomarker detection*. Life Science Systems and Applications Workshop (LiSSA), 2011 IEEE/NIH. (2011): 79–82.

Joseph Billo, Waseem Asghar, and Samir Iqbal. *Heat Treatment to Shrink Solid-State Nanopores*. APS Meeting Abstracts. (2011)

Jeyant Sankaran, Wintana Kahsai, Uyen Pham, and Samir Iqbal. *Lithography-Free Microchannel Fabrication in PDMS*. APS Meeting Abstracts. (2011)

Waseem Asghar, Azhar Ilyas, Richard Timmons, and Samir Iqbal. *Polymerization of nanopores for controlled surface charges*. APS Meeting Abstracts. (2011)

Swati Goyal, Young-tae Kim, and Samir Iqbal. *Effect of fluorescent tags on translocation through nanochannels*. Engineering in Medicine and Biology Society (EMBC), 2010 Annual International Conference of the IEEE. (2010): 3736–3738.

Waseem Asghar, Priyanka Ramachandran, and Samir Iqbal. *Integrating engineering and biology for Bio-Nanotechnology curriculum*. Frontiers in Education Conference (FIE), 2010 IEEE. (2010): T2F–1.

Abhijit Ramachandran, Qingjiang Guo, Samir Iqbal, and Yaling Liu. *Modeling DNA Translocation Kinetics in Nanopores with Selectivity*. ASME 2010 First Global Congress on NanoEngineering for Medicine and Biology. (2010): 267–268.

Mario Romero-Ortega, Ali Butt, and Samir Iqbal. *Carbon nanotube coated high-throughput neurointerfaces in assistive environments*. Proceedings of the 2nd International Conference on Pervasive Technologies Related to Assistive Environments. (2009): 67.

Priyanka Ramachandran, Shawn Christensen, and Samir Iqbal. *Electronic detection of selective proteins using non antibody-based CMOS chip*. Life Science Systems and Applications Workshop, 2009. LiSSA 2009. IEEE/NIH. (2009): 1–4.

Yaling Liu, Abhijit Ramachandran, and Samir Iqbal. *The Effects of Bio-functionalization on Solid-state Nanopore Transport–Theory and Experiments on DNA*. APS Meeting Abstracts. (2009)

Priyanka Ramachandran and Samir Iqbal. *Research Integrated Education in Bio-Nanotechnology*. Albany, NY: Symposium on Undergraduate Nano-Education: Addressing the Challenges of

Nanoscale Science & Engineering Education. (August 2009)

Yaling Liu and Samir Iqbal. *A Mesoscale Model for Molecular Interaction in Functionalized Nanopores*. ASME International Mechanical Engineering Congress 2008. (2008)

Samir Iqbal, Bala Venkatesan, Demir Akin, and Rashid Bashir. *Biochemistry in the Nanopores*. APS Meeting Abstracts. (2008)

Priyanka Ramachandran, Shawn Christensen, and Samir Iqbal. *Physical Detection of Specific Proteins using Gold Nanoparticles*. APS Texas Sections Fall Meeting Abstracts. (2008)

Azam Ghafoor, Samir Iqbal, and Rashid Bashir. *A system architecture for real-time imaging of nano-scale viruses using remote AFM*. Object-Oriented Real-Time Distributed Computing, 2005. ISORC 2005. Eighth IEEE International Symposium on. (2005): 114–120.

Faisal Amir, Samir Iqbal, and M Yasin. *Effectiveness of cyber-learning*. Frontiers in Education Conference, 1999. FIE'99. 29th Annual. 2, (1999): 13A2–7.

Journal Articles

M Hasan, N Hassan, R Khan, Y.-T Kim, and Samir Iqbal. Classification of Cancer Cells using Computational Analysis of Dynamic Morphology. *Computer Methods and Programs in Biomedicine*. 156, (2017): 105-112.

Nuzhat Mansur, Mohammad Hasan, Zaid Shah, Francisco Villarreal, Young-tae Kim, and Samir Iqbal. Discrimination of Metastatic Breast Cancer Cells from Indolent Cells on Aptamer-functionalized Surface with Imaging-based Contour-following Techniques. *Biomedical Physics & Engineering Express*. (2017)

Nuzhat Mansur, Mohammad Hasan, Young-tae Kim, and Samir Iqbal. Functionalization of nanotextured substrates for enhanced identification of metastatic breast cancer cells. *Nanotechnology*. 28, no. 38 (2017): 385101.

M Hasan, M Mahmood, R Khanzada, N Mansur, A Adnan, and Samir Iqbal. Molecular Dynamics Study of Protein Deformation through Solid-State Nanopore. *Functional Nanostructures*. 1, no. 3 (2017): 107-114.

Mohammad Hasan, Sai Peri, Viraj Sabane, Nuzhat Mansur, Jean Gao, Kytai Nguyen, Jon Weidanz, Samir Iqbal, and Vinay Abhyankar. One-step fabrication of flexible nanotextured PDMS as a substrate for selective cell capture. *Biomedical Physics & Engineering Express*. (2017)

Madiha Hanif, Yusuf Suleman, Abdul Hafeez, M Rafique, Ali Butt, and Samir Iqbal. Accelerating Analysis of Biological Targets from Raw Solid-State Micropore Data. *Biophysical Journal*. 110, no. 3 (2016): 331a–332a.

Madiha Hanif, Abdul Hafeez, Yusuf Suleman, M. Rafique, Ali Butt, and Samir Iqbal. An accelerated framework for the classification of biological targets from solid-state micropore data. *Computer Methods and Programs in Biomedicine*. 134, (2016): 53-67.

Muhammad Raza, Sajid Saleem, Waqas Ali, and Samir Iqbal. Crosstalk between adjacent nanopores in a solid-state membrane array for multi-analyte high-throughput biomolecule detection. *Journal of Applied Physics*. 120, no. 6 (2016): 064701.

Waqas Ali, Azhar Ilyas, Loan Bui, Bailey Sayles, Yeun Hur, Young-Tae Kim, and Samir Iqbal. Differentiating Metastatic and Non-metastatic Tumor Cells from Their Translocation Profile through Solid-State Micropores. *Langmuir*. 32, no. 19 (2016): 4924-4934.

Muhymin Islam, Mohammad Hasan, Adeel Sajid, Andrew Ellington, Young-tae Kim, and Samir

Iqbal. Electrical Profiling and Aptamer Functionalized Nanotextured Surface in a Single Biochip for the Detection of Tumor Cells. *Functional Nanostructures*. 1, no. 1 (2016): 13-21.

Waqas Ali, Fatemeh Moghaddam, Muhammad Raza, Loan Bui, Bailey Sayles, Young-Tae Kim, and Samir Iqbal. Electromechanical transducer for rapid detection, discrimination and quantification of lung cancer cells. *Nanotechnology*. 27, no. 19 (2016): 195101.

Muhymin Islam, Rahul Atmaramani, Siddhartha Mukherjee, Santaneel Ghosh, and Samir Iqbal. Enhanced proliferation of PC12 neural cells on untreated, nanotextured glass coverslips. *Nanotechnology*. 27, no. 41 (2016): 415501.

Waqas Ali, Muhammad Raza, Mohammed Mahmood, Peter Allen, Adam Hall, Yuan Wan, and Samir Iqbal. Specific Differentiation of Cancer Biomarkers with Solid-state Nanopores. *Functional Nanostructures*. 1, no. 1 (2016): 26-34.

VG Varanasi, MF Velten, T Odatsu, A Ilyas, SM Iqbal, and PB Aswath. Surface Modifications and Surface Characterization of Biomaterials Used in Bone Healing. *Materials and Devices for Bone Disorders*. (2016): 405.

Uyen Pham, Madiha Hanif, Amit Asthana, and Samir Iqbal. A microfluidic device approach to generate hollow alginate microfibers with controlled wall thickness and inner diameter. *Journal of Applied Physics*. 117, no. 21 (2015): 214703.

Muhymin Islam, Mohammad Bellah, Adeel Sajid, Mohammad Hasan, Young-tae Kim, and Samir Iqbal. Effects of Nanotexture on Electrical Profiling of Single Tumor Cell and Detection of Cancer from Blood in Microfluidic Channels. *Scientific Reports (Nature Publishing Group)*. 5, (2015): 13031.

Muhymin Islam, Adeel Sajid, M Mahmood, Mohammad Bellah, Peter Allen, Young-Tae Kim, and Samir Iqbal. Nanotextured polymer substrates show enhanced cancer cell isolation and cell culture. *Nanotechnology*. 26, no. 22 (2015): 225101.

Haitao Ma, Jinping Liu, M Ali, M Mahmood, Louai Labanieh, Mengrou Lu, Samir Iqbal, Qun Zhang, Weian Zhao, and Yuan Wan. Nucleic acid aptamers in cancer research, diagnosis and therapy. *Chemical Society Reviews*. 44, no. 5 (2015): 1240–1256.

Mohammed Mahmood, Mohammad Hasan, Umair Khan, Peter Allen, Young-Tae Kim, Andrew Ellington, and Samir Iqbal. One-step tumor detection from dynamic morphology tracking on aptamer-grafted surfaces. *Technology*. 3, no. 4 (2015): 194-200.

Mohammed Mahmood, Waqas Ali, Ashfaq Adnan, and Samir Iqbal. 3D structural integrity and interactions of single-stranded protein-binding DNA in a functionalized nanopore. *The Journal of Physical Chemistry B*. 118, no. 22 (2014): 5799–5806.

Samir Iqbal and Sajid Saleem. A Perspective on Medical Applications of High Temperature Superconductors. *Journal of Bioengineering & Biomedical Sciences*. 4, no. 1 (2014): 1.

Muhymin Islam, Waseem Asghar, Young-tae Kim, and Samir Iqbal. Cell Elasticity-based Microfluidic Label-free Isolation of Metastatic Tumor Cells.. (2014)

Md. Bellah, Samir Iqbal, and Young-Tae Kim. Differential behavior of EGFR-overexpressing cancer cells through aptamer-functionalized micropores. *Microfluidics and Nanofluidics*. 17, no. 6 (2014): 983-992.

Azhar Ilyas, Waseem Asghar, Shahina Ahmed, Yair Lotan, Jer-Tsong Hsieh, Young-tae Kim, and Samir Iqbal. Electrophysiological analysis of biopsy samples using elasticity as an inherent cell marker for cancer detection. *Analytical Methods*. 6, no. 18 (2014): 7166-7174.

Mohammed Mahmood, Yuan Wan, Muhymin Islam, Waqas Ali, Madiha Hanif, Young-tae Kim, and Samir Iqbal. Micro+ nanotexturing of substrates to enhance ligand-assisted cancer cell isolation. *Nanotechnology*. 25, no. 47 (2014): 475102.

Azhar Ilyas, Waseem Asghar, Young-tae Kim, and Samir Iqbal. Parallel recognition of cancer cells using an addressable array of solid-state micropores. *Biosensors and Bioelectronics*. 62, (2014): 343–349.

Azhar Ilyas, Muhammad Ahsan, Young-tae Kim, and Samir Iqbal. Biomechanical Discrimination of Diseased Cells for Cancer Diagnosis. *Bulletin of the American Physical Society*. 58, (2013)

Qin Zheng, Samir Iqbal, and Yuan Wan. Cell detachment: post-isolation challenges. *Biotechnology advances*. 31, no. 8 (2013): 1664–1675.

Muhymin Islam, Young-tae Kim, and Samir Iqbal. Cell Elasticity-based Microfluidic Isolation of Metastatic Tumor Cells. *Bulletin of the American Physical Society*. 58, (2013)

Azhar Ilyas, Uyen Pham, Madiha Hanif, and Samir Iqbal. Outreach to K-12 Students with Bio-Nano Concepts. (2013)

Ahmed Shahid, Azhar Ilyas, Nisita Obulareddy, Maeli Melotto, Michael Jin, and Samir Iqbal. Power Scavenging and Optical Absorbance Analysis of Photosynthetically Active Protoplasts. *Journal of Energy Resources Technology*. 135, no. 1 (2013): 012001.

Yuan Wan, Deepika Tamuly, Peter Allen, Young-tae Kim, Robert Bachoo, Andrew Ellington, and Samir Iqbal. Proliferation and migration of tumor cells in tapered channels. *Biomedical Microdevices*. 15, no. 4 (2013): 635-643.

Azhar Ilyas, Muhymin Islam, Waseem Asghar, Jyothi Menon, Aniket Wadajkar, Kytai Nguyen, and Samir Iqbal. Salt-Leaching Synthesis of Porous PLGA Nanoparticles. *IEEE Transactions on Nanotechnology*. 12, no. 6 (2013): 1082-1088.

Mohammed Mahmood, Waqas Ali, Ashfaq Adnan, and Samir Iqbal. Structural Integrity of ssDNA on the Surface of Solid-state Nanopores. *Bulletin of the American Physical Society*. 58, (2013)

Yuan Wan, Yaling Liu, Peter Allen, Waseem Asghar, M Mahmood, Jifu Tan, Holli Duhon, Young-tae Kim, Andrew Ellington, and Samir Iqbal. Capture, isolation and release of cancer cells with aptamer-functionalized glass bead array. *Lab on a Chip*. 12, no. 22 (2012): 4693–4701.

Azhar Ilyas, Waseem Asghar, Peter Allen, Holli Duhon, Andrew Ellington, and Samir Iqbal. Electrical detection of cancer biomarker using aptamers with nanogap break-junctions. *Nanotechnology*. 23, no. 27 (2012): 275502.

Waseem Asghar, Yuan Wan, Azhar Ilyas, Robert Bachoo, Young-tae Kim, and Samir Iqbal. Electrical fingerprinting, 3D profiling and detection of tumor cells with solid-state micropores. *Lab on a Chip*. 12, no. 13 (2012): 2345–2352.

Abdul Hafeez, Waseem Asghar, M Rafique, Samir Iqbal, and Ali Butt. GPU-based real-time detection and analysis of biological targets using solid-state nanopores. *Medical & biological engineering & computing*. 50, no. 6 (2012): 605–615.

Annas Javed, Samir Iqbal, and Ankur Jain. Microheater platform for selective detachment of DNA. *Applied Physics Letters*. 101, no. 9 (2012): 093707.

Md Bellah, Shawn Christensen, and Samir Iqbal. Nanostructures for medical diagnostics. *Journal of Nanomaterials*. 2012, (2012): 2.

- Yuan Wan, M Mahmood, Na Li, Peter Allen, Young-tae Kim, Robert Bachoo, Andrew Ellington, and Samir Iqbal. Nanotextured substrates with immobilized aptamers for cancer cell isolation and cytology. *Cancer*. 118, no. 4 (2012): 1145–1154.
- Waseem Asghar, Muhymun Islam, Aniket Wadajkar, Yuan Wan, Azhar Ilyas, Kytai Nguyen, and Samir Iqbal. PLGA micro-and nanoparticles loaded into gelatin scaffold for controlled drug release. *IEEE Transactions on Nanotechnology*. 11, no. 3 (2012): 546–553.
- Wintana Kahsai, Uyen Pham, Jeyantt Sankaran, and Samir Iqbal. Self-assembled synthesis and characterization of microchannels in polymeric membranes. *Journal of Applied Physics*. 112, no. 2 (2012): 024701.
- Waseem Asghar, Young-Tae Kim, Azhar Ilyas, Jeyantt Sankaran, Yuan Wan, and Samir Iqbal. Synthesis of nano-textured biocompatible scaffolds from chicken eggshells. *Nanotechnology*. 23, no. 47 (2012): 475601.
- Joseph Billo, Jared Jones, Waseem Asghar, Ronald Carter, and Samir Iqbal. Viscosity and surface-free energy effects in thermal shrinking of solid-state nanopores. *Applied Physics Letters*. 100, no. 23 (2012): 233107.
- Abhijit Ramachandran, Qingjiang Guo, Samir Iqbal, and Yaling Liu. Coarse-grained molecular dynamics simulation of DNA translocation in chemically modified nanopores. *The Journal of Physical Chemistry B*. 115, no. 19 (2011): 6138–6148.
- Jeyantt Sankaran, Swati Goyal, Wintana Kahsai, Uyen Pham, and Samir Iqbal. Hydrophilic interfacing for thermal micro assembly of polymers (HITMAP). *Advanced Science Letters*. 4, no. 11-12 (2011): 3464–3469.
- Sri Vidyala, Waseem Asghar, and Samir Iqbal. Porous Organic Nanolayers for Coating of Solid-state Devices. *Journal of Nanobiotechnology*. 9, no. 18 (2011)
- Waseem Asghar, Azhar Ilyas, Rajendra Deshmukh, Sulak Sumitsawan, Richard Timmons, and Samir Iqbal. Pulsed plasma polymerization for controlling shrinkage and surface composition of nanopores. *Nanotechnology*. 22, no. 28 (2011): 285304.
- Waseem Asghar, Azhar Ilyas, Joseph Billo, and Samir Iqbal. Shrinking of Solid-state Nanopores by Direct Thermal Heating. *Nanoscale Research Letters*. 6, no. 1 (2011): 372.
- Yuan Wan, Jifu Tan, Waseem Asghar, Young-tae Kim, Yaling Liu, and Samir Iqbal. Velocity effect on aptamer-based circulating tumor cell isolation in microfluidic devices. *The Journal of Physical Chemistry B*. 115, no. 47 (2011): 13891–13896.
- Swati Goyal, Young-tae Kim, Yan Li, and Samir Iqbal. Active and biomimetic nanofilters for selective protein separation. *Biomedical microdevices*. 12, no. 2 (2010): 317–324.
- Waseem Asghar, Priyanka Ramachandran, Adegbenro Adewumi, Mohammad Noor, and Samir Iqbal. Rapid nanomanufacturing of metallic break junctions using focused ion beam scratching and electromigration. *Journal of manufacturing science and engineering*. 132, no. 3 (2010): 030911.
- Yuan Wan, Young-tae Kim, Na Li, Steve Cho, Robert Bachoo, Andrew Ellington, and Samir Iqbal. Surface-immobilized aptamers for cancer cell isolation and microscopic cytology. *Cancer research*. 70, no. 22 (2010): 9371–9380.
- Swati Goyal, Young-Tae Kim, and Samir Iqbal. Vapor-Phase Facile Coatings of Nanotextured Organic Biocompatible Films on Solid-State Substrates. *IEEE Transactions on Nanotechnology*. 9, no. 5 (2010): 618–624.

Yaling Liu and Samir Iqbal. A mesoscale model of DNA interaction with functionalized nanopore. *Applied Physics Letters*. 95, no. 22 (2009): 223701.

Abhijit Ramachandran, Yaling Liu, Waseem Asghar, and Samir Iqbal. Characterization of DNA-nanopore interactions by molecular dynamics. *Am J Biomed Sci*. 1, no. 4 (2009): 344–351.

Mohammad Noor, Swati Goyal, Shawn Christensen, and Samir Iqbal. Electrical detection of single-base DNA mutation using functionalized nanoparticles. *Applied Physics Letters*. 95, no. 7 (2009): 073703.

Yaling Liu and Samir Iqbal. Silicon-based novel bio-sensing platforms at the micro and nano scale. *ECS Transactions*. 16, no. 15 (2009): 25–45.

Samir Iqbal, Demir Akin, and Rashid Bashir. Solid-state nanopore channels with DNA selectivity. *Nature nanotechnology*. 2, no. 4 (2007): 243–248.

Hung Chang, Bala Venkatesan, Samir Iqbal, G Andreadakis, Farhad Kosari, George Vasmatzis, Dimitrios Peroulis, and Rashid Bashir. DNA counterion current and saturation examined by a MEMS-based solid state nanopore sensor. *Biomedical microdevices*. 8, no. 3 (2006): 263–269.

Samir Iqbal, H Chang, R Bashir, EA Stach, AH King, and NJ Zaluzec. Fabrication and characterization of solid-state nanopores using a field emission scanning electron microscope. *Copyright American Institute of Physics*. (2006)

Hung Chang, Samir Iqbal, Eric Stach, Alexander King, Nestor Zaluzec, and Rashid Bashir. Fabrication and characterization of solid-state nanopores using a field emission scanning electron microscope. *Applied physics letters*. 88, no. 10 (2006): 103109.

Samir Iqbal, G Balasundaram, Subhasis Ghosh, Donald Bergstrom, and Rashid Bashir. Direct current electrical characterization of ds-DNA in nanogap junctions. *Applied Physics Letters*. 86, no. 15 (2005): 153901.

Samir Iqbal, G Balasubramaium, S Ghosh, D Bergstrom, and R Bashir. Direct Current Electrical Characterization of ds-DNA in Nanogap Junctions. *Applied Physics Letters*. 86, no. 15 (2005): 153901.

Other

Samir Iqbal, Swati Goyal, Young-Tae Kim, Yuan Wan, Mohammed Mahmood, and Umair Khan. Methods of detecting tumor cells. (July (3rd Quarter/Summer) 2014)

Qin Zheng, Samir Iqbal, and Yuan Wan. Cell detachment: Post-isolation challenges. *BIOTECHNOLOGY ADVANCES*. 31, no. 8 (2013): 1664-1675.

Samir Iqbal, Swati Goyal, Shawn Christensen, and Mohammad Noor. Nano-scale biosensors. (October (4th Quarter/Autumn) 2012)

Samir Iqbal and Rashid Bashir. Nanopores: sensing and fundamental biological interactions. *Springer Science & Business Media*. (2011)

Yuan Wan, Young-tae Kim, Na Li, Andrew Ellington, and Samir Iqbal. Aptamer-Based Lab-on-Chip for Cancer Cell Isolation and Detection. *ASME-American Society of Mechanical Engineers*. (2010)

Samir Iqbal. An electrical framework for detection and characterization of DNA using nanoscale silicon based sensors. *Purdue University*. (2007)

Samir Iqbal. On the Cross-roads of Biology and Nanotechnology Selective DNA Nanopore Sensors.

Purdue University, West Lafayette, IN: *Nanotechnology Seminar Series, Bindley Bioscience Center & the NASA Institute for Nanoelectronics & Computing*. (2007)

AWARDS AND HONORS

Distinguished Lecturer IEEE Nanotechnology Council, IEEE (January 1, 2018)

Presidential Research Fellow, University of Texas at Arlington (April 25, 2017)

Fellow, The NANOSMAT Society, UK (January 31, 2017)

Excellence in Research Award, University of Texas at Arlington (March 1, 2016)

Fellow, The Royal Society of Chemistry, UK (January 15, 2016)

Distinguished Lecturer for IEEE-EMBS, Institute of Electrical and Electronics Engineers — Engineering in Medicine and Biology Society (IEEE-EMBS) (January 1, 2016)

Best Research Advisor Award 2015, Sigma Xi (March 25, 2015)

CAREER Award, National Science Foundation (February 15, 2009)

TEACHING

Courses Taught

Electrical Engineer Coop/Inter

Electronics II

Solid State Devices

Top in Elec Engr: NanoEnergy

Topic-Intro to Nanotechnology

Topic-Intro to Nanotechnology

Topic: Nano Energy

Topic: NanoEnergy

SERVICE

Department Service

Committee Chair, GAANN Doctoral Fellowships Program. (August 16, 2012 - August 15, 2017)

Committee Member, Search Committees. (August 1, 2010 - May 31, 2015)