

Stanford



Angelo Dragone

Distinguished Staff Engineer, SLAC National Accelerator Laboratory

Bio

BIO

Angelo Dragone is a Distinguished Engineer at SLAC National Accelerator laboratory. He has 20 years of experience in the research and development of Instrumentation for Scientific experiments. He received his Ph.D. in Microelectronics from the Polytechnic University of Bari, Italy, for his research on mixed-signal readout architecture for radiation detectors, conducted at Brookhaven National Laboratory. He worked in the Instrumentation Division at Brookhaven National Laboratory from 2004, before joining SLAC in 2008. During the last 15 years, he has been working on designing radiation detectors, focusing on innovative architectural solutions for state-of-the-art scientific instruments and sensors interfaces with applications in the fields of photon science, particle physics, medical imaging, and national security. At SLAC, he focused his research on designing high frame rate large dynamic range X-ray detectors for the Linac Coherent Light Source SLAC X-ray Free-electron Laser facility. Since 2012, he has held a management position as head of the Integrated Circuits Department within the Instrumentation Division of the Technology Innovation Directorate (TID) at SLAC. During the past three years, Dr. Dragone has been working on the strategic R&D planning for the SLAC X-ray detectors Initiative and leads, as Program Director, TID Detector R&D, and the applied Microelectronics program. Recently he has been appointed as Deputy Associate Lab Director for TID strategy. His current research interests are on ultra-fast X-ray detector architectures for X-ray Free-Electron Lasers applications and developing efficient, scalable systems with "smart" real-time processing capabilities. More broadly, he is interested in understanding the fundamental performance limits of radiation detection systems.

CURRENT ROLE AT STANFORD

Deputy Associate Lab Director, Technology Innovation Directorate - SLAC

Program Director, Detector R&D and Applied Microelectronics - SLAC

Publications

PUBLICATIONS

- **The SparkPix-S ASIC for the sparsified readout of 1 MHz frame-rate X-ray cameras at LCLS-II: pixel design and simulation results** *JOURNAL OF INSTRUMENTATION*
Rota, L., Mele, F., Habib, A., Kim, H., King, P., Markovic, B., Perez, A., Dragone, A.
2024; 19 (1)
- **Ultrafast radiographic imaging and tracking: An overview of instruments, methods, data, and applications** *NUCLEAR INSTRUMENTS & METHODS IN PHYSICS RESEARCH SECTION A-ACCELERATORS SPECTROMETERS DETECTORS AND ASSOCIATED EQUIPMENT*
Wang, Z., Leong, A. T., Dragone, A., Gleason, A. E., Ballabriga, R., Campbell, C., Campbell, M., Clark, S. J., Da Via, C., Dattelbaum, D. M., Demarteau, M., Fabris, L., Fezzaa, et al
2023; 1057
- **Impact of cross-section uncertainties on supernova neutrino spectral parameter fitting in the Deep Underground Neutrino Experiment** *PHYSICAL REVIEW D*

- Abud, A., Abi, B., Acciarri, R., Acero, M. A., Adames, M. R., Adamov, G., Adamowski, M., Adams, D., Adinolfi, M., Adriano, C., Aduszkiewicz, A., Aguilar, J., Ahmad, et al
2023; 107 (11)
- **nEXO: neutrinoless double beta decay search beyond 10(28) year half-life sensitivity** *JOURNAL OF PHYSICS G-NUCLEAR AND PARTICLE PHYSICS*
Adhikari, G., Al Kharusi, S., Angelico, E., Anton, G., Arnquist, I. J., Badhrees, Bane, J., Belov, Bernard, E. P., Bhatta, T., Bolotnikov, A., Breur, P. A., Brodsky, J. P., Brown, et al
2022; 49 (1)
 - **Event reconstruction in a liquid xenon Time Projection Chamber with an optically-open field cage** *NUCLEAR INSTRUMENTS & METHODS IN PHYSICS RESEARCH SECTION A-ACCELERATORS SPECTROMETERS DETECTORS AND ASSOCIATED EQUIPMENT*
Stiegler, T., Sangiorgio, S., Brodsky, J. P., Heffner, M., Al Kharusi, S., Anton, G., Arnquist, I. J., Badhrees, Barbeau, P. S., Beck, D., Belov, Bhatta, T., Bolotnikov, A., Breur, et al
2021; 1000
 - **Thin-Entrance Window Process for Soft X-Ray Sensors** *FRONTIERS IN PHYSICS*
Segal, J., Kenney, C., Kowalski, J. M., Kowalski, J. E., Blaj, G., Rozario, L., Hasi, J., Dragone, A., Caragiulo, P., Rota, L.
2021; 9
 - **Reference Voltage Buffer for Hybrid RC-DAC SAR ADCs in 130 nm CMOS Process**
Kamath, U., Rota, L., Pena-Perez, A., Markovic, B., Gupta, A., Tamma, C., Dragone, A., IEEE
IEEE.2021
 - **Reflectance of Silicon Photomultipliers at Vacuum Ultraviolet Wavelengths** *IEEE TRANSACTIONS ON NUCLEAR SCIENCE*
Lv, P., Cao, G. F., Wen, L. J., Kharusi, S., Anton, G., Arnquist, I. J., Badhrees, I., Barbeau, P. S., Beck, D., Belov, V., Bhatta, T., Breur, P. A., Brodsky, et al
2020; 67 (12): 2501–10
 - **Study of CMOS strip sensor for future silicon tracker** *NUCLEAR INSTRUMENTS & METHODS IN PHYSICS RESEARCH SECTION A-ACCELERATORS SPECTROMETERS DETECTORS AND ASSOCIATED EQUIPMENT*
Han, Y., Zhu, H., Affolder, A., Arndt, K., Bates, R., Benoit, M., Di Bello, F., Blue, A., Bortoletto, D., Buckland, M., Buttar, C., Caragiulo, P., Chen, et al
2020; 981
 - **Measurements of electron transport in liquid and gas Xenon using a laser-driven photocathode** *NUCLEAR INSTRUMENTS & METHODS IN PHYSICS RESEARCH SECTION A-ACCELERATORS SPECTROMETERS DETECTORS AND ASSOCIATED EQUIPMENT*
Njoya, O., Tsang, T., Tarka, M., Fairbank, W., Kumar, K. S., Rao, T., Wager, T., Al Kharusi, S., Anton, G., Arnquist, I. J., Badhrees, Barbeau, P. S., Beck, D., et al
2020; 972
 - **Reflectivity and PDE of VUV4 Hamamatsu SiPMs in liquid xenon** *JOURNAL OF INSTRUMENTATION*
Nakarmi, P., Ostrovskiy, I., Soma, A. K., Retiere, F., Al Kharusi, S., Alfari, M., Anton, G., Arnquist, I. J., Badhrees, I., Barbeau, P. S., Beck, D., Belov, V., Bhatta, et al
2020; 15 (1)
 - **The ePix10k 2-megapixel hard X-ray detector at LCLS.** *Journal of synchrotron radiation*
van Driel, T. B., Nelson, S. n., Armenta, R. n., Blaj, G. n., Boo, S. n., Boutet, S. n., Doering, D. n., Dragone, A. n., Hart, P. n., Haller, G. n., Kenney, C. n., Kwaitowski, M. n., Manger, et al
2020; 27 (Pt 3): 608–15
 - **Design of ePixM, a fully-depleted monolithic CMOS active pixel sensor for soft X-ray experiments at LCLS-II**
Rota, L., Tamma, C., Segal, J. D., Caragiulo, P., Kenney, C., Dragone, A.
IOP PUBLISHING LTD.2019
 - **Characterization of the Hamamatsu VUV4 MPPCs for nEXO** *NUCLEAR INSTRUMENTS & METHODS IN PHYSICS RESEARCH SECTION A-ACCELERATORS SPECTROMETERS DETECTORS AND ASSOCIATED EQUIPMENT*
Gallina, G., Giampa, P., Retiere, F., Kroeger, J., Zhang, G., Ward, M., Margetak, P., Li, G., Tsang, T., Doria, L., Al Kharusi, S., Alfari, M., Anton, et al
2019; 940: 371–79
 - **Simulation of charge readout with segmented tiles in nEXO** *JOURNAL OF INSTRUMENTATION*
Li, Z., Cen, W. R., Robinson, A., Moore, D. C., Wen, L. J., Odian, A., Al Kharusi, S., Anton, G., Arnquist, I. J., Badhrees, I., Barbeau, P. S., Beck, D., Belov, et al
2019; 14
 - **Imaging individual barium atoms in solid xenon for barium tagging in nEXO** *NATURE*

- Chambers, C., Walton, T., Fairbank, D., Craycraft, A., Yahne, D. R., Todd, J., Iverson, A., Fairbank, W., Alamre, A., Albert, J. B., Anton, G., Arnquist, I. J., Badhrees, et al
2019; 569 (7755): 203-+
- **Charge collection in irradiated HV-CMOS detectors**
Hiti, B., Affolder, A., Arndt, K., Bates, R., Benoit, M., Di Bello, F., Blue, A., Bortoletto, D., Buckland, M., Buttar, C., Caragiulo, P., Das, D., Doering, et al
ELSEVIER SCIENCE BV.2019: 214-218
 - **A CMOS Front-End for Timing and Charge Readout of Silicon Photomultipliers**
Calo, P. P., Petrignani, S., Marzocca, C., Markovic, B., Dragone, A., IEEE
IEEE.2019
 - **Characterization of the ePix100a and the FastCCd semiconductor detectors for the European XFEL**
Klackova, I., Blaj, G., Denes, P., Dragone, A., Goede, S., Hauf, S., Januschek, F., Joseph, J., Kuster, M.
IOP PUBLISHING LTD.2019
 - **Performance of ePix10K, a High Dynamic Range, Gain Auto-Ranging Pixel Detector for FELs**
Blaj, G., Dragone, A., Kenney, C. J., Abu-Nimeh, F., Caragiulo, P., Doering, D., Kwiatkowski, M., Markovic, B., Pines, J., Weaver, M., Boutet, S., Carini, G., Chang, et al
AMER INST PHYSICS.2019
 - **Single-Ended-to-Differential Sampling Technique for Sigma Delta ADCs in X-Ray Detectors**
Ali, H., Caragiulo, P., Tamma, C., Xu, X., Markovic, B., Abu-Nimeh, F., Doering, D., Dragone, A., Haller, G., IEEE
IEEE.2019: 485-488
 - **ePixM: a CMOS monolithic sensor for LCLS II**
Tamma, C., Rota, L., Caragiulo, P., Markovic, B., Segal, J., Kwiatkowski, M., Doering, D., Blaj, G., Kenney, C., Dragone, A., Haller, G., IEEE
IEEE.2019
 - **VUV-Sensitive Silicon Photomultipliers for Xenon Scintillation Light Detection in nEXO** *IEEE TRANSACTIONS ON NUCLEAR SCIENCE*
Jamil, A., Ziegler, T., Hufschmidt, P., Li, G., Lupin-Jimenez, L., Michel, T., Ostrovskiy, Retiere, F., Schneider, J., Wagenpfeil, M., Alamre, A., Albert, J. B., Anton, G., et al
2018; 65 (11): 2823-33
 - **Study of silicon photomultiplier performance in external electric fields** *JOURNAL OF INSTRUMENTATION*
Sun, X. L., Tolba, T., Cao, G. F., Lv, P., Wen, L. J., Odian, A., Vachon, F., Alamre, A., Albert, J. B., Anton, G., Arnquist, I. J., Badhrees, Barbeau, P. S., et al
2018; 13
 - **Sensitivity and discovery potential of the proposed nEXO experiment to neutrinoless double-beta decay** *PHYSICAL REVIEW C*
Albert, J. B., Anton, G., Arnquist, I. J., Badhrees, I., Barbeau, P., Beck, D., Belov, V., Bourque, F., Brodsky, J. P., Brown, E., Brunner, T., Burenkov, A., Cao, et al
2018; 97 (6)
 - **Design and Characterization of a high-rate readout backend for ePix detectors at LCLS II**
Caragiulo, P., Tamma, C., Xu, X., Adel, H., Markovic, B., Doering, D., Kwiatkowski, M., Dragone, A., Haller, G., IEEE
IEEE.2018
 - **Characterization of an Ionization Readout Tile for nEXO** *JOURNAL OF INSTRUMENTATION*
Jewell, M., Schubert, A., Cen, W. R., Dalmasson, J., DeVoe, R., Fabris, L., Gratta, G., Jamil, A., Li, G., Odian, A., Patel, M., Pocar, A., Qiu, et al
2018; 13
 - **ALTIROCI, a 20 ps time-resolution ASIC prototype for the ATLAS High Granularity Timing Detector (HGTD)**
Markovic, B., Conforti, S., de La Taille, C., Martin-Chassard, G., Seguin-Moreau, N., Agapopoulou, C., Makovec, N., Serin, L., Caragiulo, P., Dragone, A., Koua, K., Schwartzman, A. G., Su, et al
IEEE.2018
 - **Thin-Entrance Window Sensors for Soft X-rays at LCLS-II**
Segal, J. D., Kenney, C. J., Rozario, L., Blaj, G., Chang, C., Hasi, J., Kowalski, J. M., Kowalski, J. E., Dragone, A., Caragiulo, P., Markovic, B., Tamma, C., IEEE
IEEE.2018
 - **Optimal Pulse Processing, Pile-Up Decomposition, and Applications of Silicon Drift Detectors at LCLS** *IEEE TRANSACTIONS ON NUCLEAR SCIENCE*

- Blaj, G., Kenney, C. J., Dragone, A., Carini, G., Herrmann, S., Hart, P., Tomada, A., Koglin, J., Haller, G., Boutet, S., Messerschmidt, M., Williams, G., Chollet, et al
2017; 64 (11): 2854-2868
- **Radiation hardness studies of AMS HV-CMOS 350nm prototype chip HVStripV1** *JOURNAL OF INSTRUMENTATION*
Kanisauskas, K., Affolder, A., Arndt, K., Bates, R., Benoit, M., Di Bello, F., Blue, A., Bortoletto, D., Buckland, M., Buttar, C., Caragiulo, P., Das, D., DOPKE, et al
2017; 12
 - **Feasibility study of a "4H" X-ray camera based on GaAs: Cr sensor**
Dragone, A., Kenney, C., Lozinskaya, A., Tolbanov, O., Tyazhev, A., Zarubin, A., Wang, Z.
IOP PUBLISHING LTD.2016
 - **Study of built-in amplifier performance on HV-CMOS sensor for the ATLAS phase-II strip tracker upgrade**
Liang, Z., Affolder, A., Arndt, K., Bates, R., Benoit, M., Di Bello, F., Blue, A., Bortoletto, D., Buckland, M., Buttar, C., Caragiulo, P., Das, D., Dopke, et al
ELSEVIER SCIENCE BV.2016: 156-160
 - **Investigation of HV/HR-CMOS technology for the ATLAS Phase-II Strip Tracker Upgrade** *NUCLEAR INSTRUMENTS & METHODS IN PHYSICS RESEARCH SECTION A-ACCELERATORS SPECTROMETERS DETECTORS AND ASSOCIATED EQUIPMENT*
Fadeyev, V., Galloway, Z., Grabas, H., Grillo, A. A., Liang, Z., Martinez-McKinney, F., Seiden, A., Volk, J., Affolder, A., Buckland, M., Meng, L., Arndt, K., Bortoletto, et al
2016; 831: 189-196
 - **Charge collection studies in irradiated HV-CMOS particle detectors** *JOURNAL OF INSTRUMENTATION*
Affolder, A., Andelkovic, M., Arndt, K., Bates, R., Blue, A., Bortoletto, D., Buttar, C., Caragiulo, P., Cindro, V., Das, D., DOPKE, J., Dragone, A., Ehrler, et al
2016; 11
 - **Radiation hardness of two CMOS prototypes for the ATLAS HL-LHC upgrade project**
Huffman, B. T., Affolder, A., Arndt, K., Bates, R., Benoit, M., Di Bello, F., Blue, A., Bortoletto, D., Buckland, M., Buttar, C., Caragiulo, P., Das, D., Dopke, et al
IOP PUBLISHING LTD.2016
 - **3D Electron Tracking and Vertexing in Single Plane Pixel Detectors**
Blaj, G., Kenney, C. J., Caragiulo, P., Dragone, A., Haller, G., Hansson, P., Hast, C., Herbst, K., Markovic, B., Smith, T., IEEE
IEEE.2016
 - **ePix100 camera: use and applications at LCLS**
Carini, G. A., Alonso-Mori, R., Blaj, G., Caragiulo, P., Chollet, M., Damiani, D., Dragone, A., Feng, Y., Haller, G., Hart, P., Hasi, J., Herbst, R., Herrmann, et al
AMER INST PHYSICS.2016
 - **Design and Performance of the ePix Camera System**
Nishimura, K., Blaj, G., Caragiulo, P., Carini, G., Dragone, A., Haller, G., Hart, P., Hasi, J., Herbst, R., Herrmann, S., Kenney, C., Kwiatkowski, M., Markovic, et al
AMER INST PHYSICS.2016
 - **Future of ePix Detectors for High Repetition Rate FELs**
Blaj, G., Caragiulo, P., Carini, G., Dragone, A., Haller, G., Hart, P., Hasi, J., Herbst, R., Kenney, C., Markovic, B., Nishimura, K., Pines, J., Segal, et al
AMER INST PHYSICS.2016
 - **X-ray Imaging with ePix100a, a High-Speed, High-Resolution, Low-Noise Camera**
Blaj, G., Caragiulo, P., Dragone, A., Haller, G., Hasi, J., Kenney, C. J., James, R. B., Fiederle, M., Burger, A., Franks, L., Payne, S. A.
SPIE-INT SOC OPTICAL ENGINEERING.2016
 - **Design and Characterization of the tPix Prototype: a Spatial and Time Resolving Front-end ASIC for Electron and Ion Spectroscopy Experiments at LCLS**
Markovic, B., Caragiulo, P., Dragonc, A., Tamma, C., Osipov, T., Bostedt, C., Kwiatkowski, M., Segal, J., Hasi, J., Blaj, G., Kenney, C., Haller, G., IEEE
IEEE.2016
 - **The CHESS-2 Prototype in AMS 0.35 mu m Process: a High Voltage CMOS Monolithic Sensor for ATLAS Upgrade**
Tamma, C., Caragiulo, P., Grabas, H., Xu, X., Markovic, B., Segal, J., Dragone, A., Kenney, C., Su, D., Grenier, P., Fadeyev, V., Grillo, A. A., Haller, et al
IEEE.2016

- **X-ray detectors at the Linac Coherent Light Source** *JOURNAL OF SYNCHROTRON RADIATION*
Blaj, G., Caragiulo, P., Carini, G., Carron, S., Dragone, A., Freytag, D., Haller, G., Hart, P., Hasi, J., Herbst, R., Herrmann, S., Kenney, C., Markovic, et al
2015; 22: 577-583
- **Design and Characterization of the ePix10k prototype: a High Dynamic Range integrating pixel ASIC for LCLS detectors.**
Caragiulo, P., Dragone, A., Markovic, B., Herbst, R., Nishimura, K., Reese, B., Herrmann, S., Hart, P., Blaj, G., Segal, J., Tomada, A., Hasi, J., Carini, et al
SPIE-INT SOC OPTICAL ENGINEERING.2015
- **Detector program for the LCLS complex**
Kenney, C., Blaj, G., Caragiulo, P., Carini, G., Dragone, A., Hart, P., Hasi, J., Herrmann, S., Markovic, B., Osier, S., Segal, J., Tomada, A., Haller, et al
INT UNION CRYSTALLOGRAPHY.2014: C681
- **eLine10k: A High Dynamic Range Front-End ASIC for LCLS Detectors** *IEEE TRANSACTIONS ON NUCLEAR SCIENCE*
Dragone, A., Caragiulo, P., Carini, G. A., Herbst, R., Pratte, J. F., O'Connor, P., Rehak, P., Siddons, D. P., Haller, G.
2014; 61 (2): 992-1000
- **sLine: A High Voltage Switcher ASIC for LCLS Detectors with Rolling Shutter** *IEEE TRANSACTIONS ON NUCLEAR SCIENCE*
Caragiulo, P., Dragone, A., Herbst, R., Haller, G.
2014; 61 (2): 837-843
- **eLine100: A Front End ASIC for LCLS Detectors in Low Noise Applications** *IEEE TRANSACTIONS ON NUCLEAR SCIENCE*
Dragone, A., Caragiulo, P., Freytag, D., Hart, P., Herbst, R., Herrmann, S., Kenney, C., Segal, J., Haller, G.
2014; 61 (2): 1001-1006
- **Design and Characterization of the ePix100a: a Low Noise integrating pixel ASIC for LCLS detectors**
Markovic, B., Dragone, A., Caragiulo, P., Herbst, R., Nishimura, K., Reese, B., Herrmann, S., Hart, P., Blaj, G., Segal, J., Tomada, A., Hasi, J., Carini, et al
IEEE.2014
- **Experience with the CSPAD during dedicated detector runs at LCLS**
Carini, G. A., Boutet, S., Chollet, M., Dragone, A., Haller, G., Hart, P. A., Herrmann, S. C., Kenney, C. J., Koglin, J., Messerschmidt, M., Nelson, S., Pines, J., Robert, et al
IOP PUBLISHING LTD.2014
- **CSPAD upgrades and CSPAD V1.5 at LCLS**
Herrmann, S., Hart, P., Dragone, A., Freytag, D., Herbst, R., Pines, J., Weaver, M., Carini, G. A., Thayer, J. B., Shawn, O., Kenney, C. J., Haller, G., Arp, et al
IOP PUBLISHING LTD.2014
- **ePix: a class of architectures for second generation LCLS cameras**
Dragone, A., Caragiulo, P., Markovic, B., Herbst, R., Reese, B., Herrmann, S. C., Hart, P. A., Segal, J., Carini, G. A., Kenney, C. J., Haller, G., Arp, U., Reversz, et al
IOP PUBLISHING LTD.2014
- **Maia X-ray Microprobe Detector Array System**
Siddons, D. P., Kirkham, R., Ryan, C. G., De Geronimo, G., Dragone, A., Kuczewski, A. J., Li, Z. Y., Carini, G. A., Pinelli, D., Beuttenmuller, R., Elliott, D., Pfeffer, M., Tyson, et al
IOP PUBLISHING LTD.2014
- **Characterization of the ePix100 prototype: a front-end ASIC for second generation LCLS integrating hybrid pixel detectors**
Caragiulo, P., Dragone, A., Markovic, B., Herbst, R., Nishimura, K., Reese, B., Herrmann, S., Hart, P., Blaj, G., Segal, J., Tomada, A., Hasi, J., Carini, et al
SPIE-INT SOC OPTICAL ENGINEERING.2014
- **Design and Characterization of the ePix10k prototype: a High Dynamic Range integrating pixel ASIC for LCLS detectors.**
Caragiulo, P., Dragone, A., Markovic, B., Herbst, R., Nishimura, K., Reese, B., Herrmann, S., Hart, P., Blaj, G., Segal, J., Tomada, A., Hasi, J., Carini, et al
IEEE.2014
- **Studies of the ePix100 Low-noise X-ray Camera at SLAC**
Carini, G. A., Alonso-Mori, R., Blaj, G., Caragiulo, P., Chollet, M., Damiani, D., Dragone, A., Feng, Y., Haller, G., Hart, P., Hasi, J., Herbst, R., Herrmann, et al
IEEE.2014
- **2nd Generation Cameras for LCLS and the New Challenges of High Repetition Rates at LCLS-II**

- Herrmann, S., Nishimura, K., Weaver, M., Dragone, A., Carini, G., Pines, J., Tomada, A., Osier, S., Herbst, R., Reese, B., Caragiulo, P., Markoyie, B., Thayer, et al
IEEE.2014
- **Characterization of the ePix10k Camera at SSRL and LCLS**
Hart, P. A., Blaj, G., Caragiulo, P., Carini, G., Dragone, A., Haller, G., Hasi, J., Herbst, R., Herrmann, S., Kenney, C., Lemke, H., Markovic, B., Nelson, et al
IEEE.2014
 - **Photon-Counting Detectors for Pump-Probe Science** *60th IEEE Nuclear Science Symposium (NSS) / Medical Imaging Conference (MIC) / 20th International Workshop on Room-Temperature Semiconductor X-ray and Gamma-ray Detectors*
Kenney, C. J., Dragone, A. B., Segal, J. D., Hasi, J., Mehta, A., Reis, D. A., Markovic, B., Caragiulo, P., Carini, G., Herrmann, S. C., Lindenberg, A. M., Haller, G.
IEEE.2013
 - **ePix: a class of front-end ASICs for second generation LCLS integrating hybrid pixel detectors**
Dragone, A., Caragiulo, P., Markovic, B., Herbst, R., Nishimura, K., Reese, B., Herrmann, S., Hart, P., Blaj, G., Segal, J., Tomada, A., Hasi, J., Carini, et al
IEEE.2013
 - **CSPAD upgrades at LCLS**
Herrmann, S., Blaj, G., Carini, G. A., Dragone, A., Freytag, D., Haller, G., Hart, P., Herbst, R., Kenney, C., Manger, L., Nelson, S., Osier, S., Pines, et al
IEEE.2013
 - **Measurements at synchrotrons and FELs: some differences observed with the CSPAD**
Carini, G. A., Boutet, S., Chollet, M., Dragone, A., Haller, G., Hart, P. A., Herrmann, S. C., Kenney, C. J., Koglin, J., Lemke, H. T., Messerschmidt, M., Nelson, S., Pines, et al
IEEE.2013
 - **Noise in Charge Amplifiers-A g(m)/I-D Approach** *IEEE TRANSACTIONS ON NUCLEAR SCIENCE*
Alvarez, E., Avila, D., Campillo, H., Dragone, A., Abusleme, A.
2012; 59 (5): 2457-2462
 - **BeamCal Instrumentation IC: Design, Implementation, and Test Results** *IEEE TRANSACTIONS ON NUCLEAR SCIENCE*
Abusleme, A., Dragone, A., Haller, G., Wooley, B. A.
2012; 59 (3): 589-596
 - **Mismatch of lateral field metal-oxide-metal capacitors in 180 nm CMOS process** *ELECTRONICS LETTERS*
Abusleme, A., Dragone, A., Haller, G., Murmann, B.
2012; 48 (5): 286-U1588
 - **eLine10k: a High Dynamic Range Front-End ASIC for LCLS Detectors**
Dragone, A., Caragiulo, P., Carini, G. A., Herbst, R., Pratte, J. F., O'Connor, P., Rehak, P., Siddons, D. P., Haller, G., Yu, B.
IEEE.2012: 898-905
 - **Characterization of the eLine ASICs in prototype detector systems for LCLS**
Carini, G. A., Dragone, A., Berube, B., Caragiulo, P., Fritz, D. M., Hart, P. A., Herbst, R., Herrmann, S., Kenney, C. J., Kuczewski, A. J., Lemke, H. T., Mead, J., Morse, et al
IEEE.2012: 515-519
 - **The Comell-SLAC Pixel Array Detector at LCLS**
Hart, P., Boutet, S., Carini, G., Dragone, A., Duda, B., Freytag, D., Haller, G., Herbst, R., Herrmann, S., Kenney, C., Morse, J., Nordby, M., Pines, et al
IEEE.2012: 538-541
 - **CSPAD-140k-Experimental Applications at LCLS**
Herrmann, S., Boutet, S., Carini, G., Dragone, A., Duda, B., Freytag, D., Haller, G., Hart, P., Herbst, R., Kenney, C., Pines, J., Williams, G., Yu, et al
IEEE.2012: 520-522
 - **sLine: a High Voltage Switcher ASIC for LCLS Detectors with Rolling Shutter**
Caragiulo, P., Dragone, A., Herbst, R., Haller, G., Yu, B.
IEEE.2012: 892-897
 - **eLine 100: A Front End ASIC for LCLS Detectors in Low Noise Applications**
Dragone, A., Caragiulo, P., Freytag, D., Hart, P., Herbst, R., Herrmann, S., Kenney, C., Segal, J., Haller, G., Yu, B.
IEEE.2012: 680-686

- **BeamCal Instrumentation IC: Design, Implementation and Test Results** *IEEE Nuclear Science Symposium/Medical Imaging Conference (NSS/MIC)/18th International Workshop on Room-Temperature Semiconductor X-Ray and Gamma-Ray Detectors*
Abusleme, A., Dragone, A., Haller, G., Wooley, B. A.
IEEE.2011: 758-765
- **Forward instrumentation for ILC detectors** *JOURNAL OF INSTRUMENTATION*
Abramowicz, H., Abusleme, A., Afanaciev, K., Aguilar, J., Ambalathankandy, P., Bambade, P., Bergholz, M., Bozovic-Jelisavcic, I., Castro, E., Chelkov, G., Coca, C., Daniluk, W., Dragone, et al
2010; 5
- **Tests of small X-ray Active Matrix Pixel Sensor prototypes at the National Synchrotron Light Source**
Carini, G. A., Chen, W., Dragone, A., Fried, J., Jakoncic, J., Kuczewski, A., Li, Z., Mead, J., Michta, R., Pratte, J., Rehak, P., Siddons, D. P.
IOP PUBLISHING LTD.2009
- **High-throughput X-ray fluorescence imaging using a massively parallel detector array, integrated scanning and real-time spectral deconvolution**
Ryan, C. G., Siddons, D. P., Moorhead, G., Kirkham, R., De Geronimo, G., Etschmann, B. E., Dragone, A., Dunn, P. A., Kuczewski, A., Davey, P., Jensen, M., Ablett, J. M., Kuczewski, et al
IOP PUBLISHING LTD.2009
- **XAMPS Prototypes for the X-ray Pump Probe Instruments at the LCLS**
Carini, G. A., Chen, W., Dragone, A., Fried, J., Jakoncic, J., Kuczewski, A., Li, Z., Mead, J., Michta, R., Pratte, J., Rehak, P., Siddons, D. P., IEEE
IEEE.2009: 847-+
- **XAMPS Detector Readout ASIC for LCLS**
Dragone, A., Pratte, J. F., Rehak, P., Carini, G. A., Herbst, R., O'Connor, P., Siddons, D. P., IEEE
IEEE.2009: 2245-+
- **The XAMPS detector for the X-ray Pump-Probe instrument at LCLS**
Carini, G. A., Dragone, A., Chen, W., Fried, J., Kuczewski, A., Li, Z., Mead, J., O'Connor, P., Pratte, J., Rehak, P., Wolniewicz, K., Siddons, D., Yu, et al
IEEE.2009: 2151-+
- **Readout ASIC for 3D position-sensitive detectors**
de Geronimo, G., Vernon, E., Ackley, K., Dragone, A., Fried, J., O'Connor, P., He, Z., Herman, C., Zhang, F.
IEEE-INST ELECTRICAL ELECTRONICS ENGINEERS INC.2008: 1593-1603
- **Large detector array and real-time processing and elemental image projection of X-ray and proton microprobe fluorescence data**
Ryan, C. G., Siddons, D. P., Moorhead, G., Kirkham, R., Dunn, P. A., Dragone, A., De Geronimo, G.
ELSEVIER.2007: 1-7
- **ASIC with multiple energy discrimination for high-rate photon counting applications** *IEEE TRANSACTIONS ON NUCLEAR SCIENCE*
De Geronimo, G., Dragone, A., Grosholz, J., O'Connor, P., Vernon, E.
2007; 54 (2): 303-312
- **Modelling a silicon photomultiplier (SiPM) as a signal source for optimum front-end design**
Corsi, F., Dragone, A., Marzocca, C., Del Guerra, A., Delizia, P., Dinu, N., Piemonte, C., Boscardin, M., Dalla Betta, G. F.
ELSEVIER SCIENCE BV.2007: 416-418
- **A functionally reconfigurable detector head for scintimammography**
Carrato, S., Cautero, G., Corsi, F., DallaBetta, G. F., Dragone, A., Fazzi, A., Garibaldi, F., Marzocca, C., Petasecca, M., Pignatel, G. U., Stebel, L., Tauro, A., Varoli, et al
ELSEVIER SCIENCE BV.2007: 369-372
- **Tuning of high-speed telecommunication filters, via I/O cross-correlation evaluation** *IEEE TRANSACTIONS ON CIRCUITS AND SYSTEMS I-REGULAR PAPERS*
Corsi, F., Matarrese, G., Marzocca, C., Dragone, A., Baschiroto, A., D'Amico, S.
2007; 54 (2): 329-337
- **Recent results with a segmented Hybrid Photon Detector for a novel, parallax-free PET scanner for Brain Imaging**
Braem, A., Chesi, E., Joram, C., Mathot, S., Seguinot, J., Weilhammer, P., Ciocia, F., De Leo, R., Nappi, E., Vilardi, I., Argentieri, A., Corsi, F., Dragone, et al
ELSEVIER SCIENCE BV.2007: 134-141

- **A prototype CZT-based PET scanner for high resolution mouse brain imaging**
Vaska, P., Dragone, A., Lee, W., Kim, D., Pratte, J., Cui, Y., Fried, J., Krishnamoorthy, S., Bolotnikov, A., Park, S., O'Connor, P., Dilmanian, F. A., James, et al
IEEE.2007: 3816-3819
- **Readout ASIC for 3D position-sensitive detectors**
De Geronimo, G., Vernon, E., Ackley, K., Dragone, A., Fried, J., O'Connor, P., He, Z., Herman, C., Zhang, F., IEEE
IEEE.2007: 32-41
- **Development of a prototype detector for use in scintimammography imaging**
Stebel, L., Tommasi, M., Carrato, S., Cautero, G., Petasecca, M., Pignatell, G., Marzocca, C., Tauro, A., Dragone, A., Corsi, F., Dalla Betta, G., Fazzi, A., Zorzi, et al
ELSEVIER SCI LTD.2006: 1598-1609
- **A novel position and time sensing active pixel sensor with field-assisted electron collection for charged particle tracking and electron microscopy**
De Geronimo, G., Deptuch, G., Dragone, A., Radeka, V., Rehak, P., Castoldi, A., Fazzi, A., Gatti, E., Guazzoni, C., Rijssenbeek, M., Dulinski, W., Besson, A., Deveaux, et al
ELSEVIER SCIENCE BV.2006: 167-175
- **The next generation of synchrotron fluorescence imaging for geological applications**
Ryan, C. G., Siddons, D. P., Moorhead, G., Dunn, P., Kirkham, R., Dragone, A., De Geronimo, G., Hough, R., Etschmann, B. E.
PERGAMON-ELSEVIER SCIENCE LTD.2006: A550
- **A segmented hybrid photon detector with integrated auto-triggering front-end electronics for a PET scanner** *NUCLEAR INSTRUMENTS & METHODS IN PHYSICS RESEARCH SECTION A-ACCELERATORS SPECTROMETERS DETECTORS AND ASSOCIATED EQUIPMENT*
Chesi, E., Braem, A., Joram, C., Mathot, S., Seguinot, J., Weilhammer, P., Ciocia, F., De Leo, R., Nappi, E., Vilardi, I., Argentieri, A., Corsi, F., Dragone, et al
2006; 564 (1): 352-363
- **Optimization of the effective light attenuation length of YAP : Ce and LYSO : Ce crystals for a novel geometrical PET concept** *NUCLEAR INSTRUMENTS & METHODS IN PHYSICS RESEARCH SECTION A-ACCELERATORS SPECTROMETERS DETECTORS AND ASSOCIATED EQUIPMENT*
Vilardi, I., Braem, A., Chesi, E., Ciocia, F., Colonna, N., Corsi, F., Cusanno, F., De Leo, R., Dragone, A., Garibaldi, F., Joram, C., Lagamba, L., Marrone, et al
2006; 564 (1): 506-514
- **Novel geometrical concept of a high-performance brain PET scanner. Principle, design and performance** *NUOVO CIMENTO DELLA SOCIETA ITALIANA DI FISICA C-COLLOQUIA ON PHYSICS*
Seguinot, J., Braem, A., Chesi, E., Joram, C., Mathot, S., Weilhammer, P., Llatas, M., Correia, J. G., Da Silva, M., Garibaldi, F., De Leo, R., Nappi, E., Corsi, et al
2006; 29 (4): 429-463
- **Novel geometrical concept of a high-performance brain PET scanner. Principle, design and performance estimates** *NUOVO CIMENTO C-COLLOQUIA AND COMMUNICATIONS IN PHYSICS*
Seguinot, J., Braem, A., Chesi, E., Joram, C., Mathot, S., Weilhammer, P., Llatas, M., Correia, J. G., Da Silva, M., Garibaldi, F., De Leo, R., Nappi, E., Corsi, et al
2006; 29 (4): 429-463
- **An event driven read-out system for a novel PET scanner with Compton enhanced 3-D gamma reconstruction** *IEEE TRANSACTIONS ON NUCLEAR SCIENCE*
Dragone, A., Corsi, F., Marzocca, C., Losito, P., Pasqua, D., Nappi, E., De Leo, R., Seguinot, J., Braem, A., Chesi, E., Joram, C., Weilhammer, P., Garibaldi, et al
2006; 53 (3): 1156-1161
- **Electrical Characterization of Silicon Photo-Multiplier Detectors for Optimal Front-End Design**
Corsi, F., Marzocca, C., Perrotta, A., Dragone, A., Foresta, M., Del Guerra, A., Marcatili, S., Llosa, G., Collazuol, G., Betta, G., Dinu, N., Piemonte, C., Pignatell, et al
IEEE.2006: 1276-1280
- **A High-speed Detector System for X-ray Fluorescence Microprobes**
Siddons, D. P., Dragone, A., De Geronimo, G., Kuczewski, A., Kuczewski, J., O'Connor, P., Li, Z., Ryan, C. G., Moorhead, G., Kirkham, R., Dunn, P., IEEE
IEEE.2006: 725-728
- **Parallel chains based read-out system for a Compton enhanced 3D PET scanner**
Dragone, A., Corsi, F., Marzocca, C., Scarola, V., Losito, P., Pasqua, D., Argentieri, A., Nappi, E., De Leo, R., Seguinot, J., Braem, A., Chesi, E., Joram, et al
IEEE.2006: 401-+
- **File up rejection and multiple simultaneous events acquisition with the PDD ASIC**

Dragone, A., De Geronimo, G., Fried, J., Kandasamy, A., O'Connor, P., Siddons, D. P., Vernon, E., Corsi, F., Malcovati, P., Baschiroto, A.
IEEE.2006: 381-+

- **PECVD a-C : H films for STW resonant devices**

Cicala, G., Bruno, P., Dragone, A., Losacco, A. M., Sadun, C., Generosi, A.
ELSEVIER SCIENCE SA.2005: 264-269

- **A modular prototype detector for scintimammography imaging**

Stebel, L., Carrato, S., Cautero, G., Cirulli, N., Pignatell, G., Marzocca, C., Tauro, A., Dragone, A., Corsi, F., Betta, G., Fazzi, A., Varoli, V., Cusanno, et al
IEEE.2005: 3027-3031

- **The PDD ASIC: Highly efficient energy and timing extraction for high-rate applications**

Dragone, A., De Geronimo, G., Fried, J., Kandasamy, A., O'Connor, P., Vernon, E., Yu, B.
IEEE.2005: 914-918

- **High relative humidity range sensor based on polymer-coated STW resonant device**

Bruno, P., Cicala, G., Corsi, F., Dragone, A., Losacco, A. M.
ELSEVIER SCIENCE SA.2004: 126-130

- **An event driven read-out system for a novel PET scanner with Compton enhanced 3D gamma reconstruction**

Dragone, A., Corsi, F., Marzocca, C., Losito, P., Pasqua, D., Nappi, E., De Leo, R., Seguinot, J., Braem, A., Chesi, E., Joram, C., Weilhammer, P., Garibaldi, et al
IEEE.2004: 3156-3160

- **Optimization of the effective light attenuation length of YAP : Ce and LYSO : Ce crystals for a novel geometrical PET concept**

Vilardi, Ciocia, F., Colonna, N., De Leo, R., Lagamba, L., Marrone, S., Nappi, E., Tagliente, G., Valentini, A., Braem, A., Chesi, E., Joram, C., Seguinot, J., et al
IEEE.2004: 2859-2863

- **High resolution humidity sensor based on STW resonant device**

Corsi, F., Dragone, A., Losacco, A. M., DiNatale, C., D'Amico, A., Soncini, G., Ferrario, L., Zen, M.
WORLD SCIENTIFIC PUBL CO PTE LTD.2004: 170-175