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This index covers all technical items—papers, correspondence, reviews, etc.—that appeared in this periodical during 2020, and items from previous years that were commented upon or corrected in 2020. Departments and other items may also be covered if they have been judged to have archival value.

The Author Index contains the primary entry for each item, listed under the first author's name. The primary entry includes the coauthors' names, the title of the paper or other item, and its location, specified by the publication abbreviation, year, month, and inclusive pagination. The Subject Index contains entries describing the item under all appropriate subject headings, plus the first author's name, the publication abbreviation, month, and year, and inclusive pages. Note that the item title is found only under the primary entry in the Author Index.

Author Index

A

Abbosh, A., see Alqadami, A.S.M., TBCAS Oct. 2020 1097-1107

Abbosh, A., see Manoufali, M., TBCAS June 2020 452-462

Acharya, J., and Basu, A., Deep Neural Network for Respiratory Sound Classification in Wearable Devices Enabled by Patient Specific Model Tuning; TBCAS June 2020 535-544

Ackart, D., see Begly, C., TBCAS Oct. 2020 1051-1064

Ahmadi, A., see Heidarpur, M., TBCAS Feb. 2020 36-47

Ahmadi, M., see Heidarpur, M., TBCAS Feb. 2020 36-47

Akgun, O.C., Nanbakhsh, K., Giagka, V., and Serdijn, W.A., A Chip Integrity Monitor for Evaluating Moisture/Ion Ingress in mm-Sized Single-Chip Implants; TBCAS Aug. 2020 658-670

Allebes, E., see Song, M., TBCAS Dec. 2020 1218-1229

Almarri, N., see Wu, Y., TBCAS Oct. 2020 997-1007

Alqadami, A.S.M., Trakic, A., Stancombe, A.E., Mohammed, B., Bialkowski, K., and Abbosh, A., Flexible Electromagnetic Cap for Head Imaging; TBCAS Oct. 2020 1097-1107

Alquie, G., see Omer, A.E., TBCAS Dec. 2020 1407-1420

Alrashdan, F.T., see Yu, Z., TBCAS Dec. 2020 1241-1252

Altaf, M.A.B., see Aslam, A.R., TBCAS Aug. 2020 838-851

AM, G., see Pal, U.M., TBCAS Aug. 2020 879-888

Aminzadeh, R., see Song, M., TBCAS Dec. 2020 1218-1229

Amos, J.R., see Corey, R.M., TBCAS Oct. 2020 1088-1096

An, K., see Liu, Y., TBCAS April 2020 274-282

Andrea, P., see Orlando, C., TBCAS Aug. 2020 646-657

Anwar, M., see Papageorgiou, E.P., TBCAS Feb. 2020 91-103

Arias, A.C., see Kaveh, R., TBCAS Aug. 2020 727-737

Arias, J.L., see Pernia, A.M., TBCAS June 2020 525-534

Aslam, A.R., and Altaf, M.A.B., An On-Chip Processor for Chronic Neurological Disorders Assistance Using Negative Affectivity Classification; TBCAS Aug. 2020 838-851

Aslanzadeh, S., see Hedayatipour, A., TBCAS Oct. 2020 1108-1121

Atef, M., Hung, C., Jia, Y., Lee, S., and Sahin, M., Editorial: Special Issue on Selected Papers From ISICAS 2020 Guest Editors' Introduction; TBCAS Oct. 2020 930

Avants, B.W., see Yu, Z., TBCAS Dec. 2020 1241-1252

Azghadi, M.R., Lammie, C., Eshraghian, J.K., Payvand, M., Donati, E., Linares-Barranco, B., and Indiveri, G., Hardware Implementation of Deep Network Accelerators Towards Healthcare and Biomedical Applications; TBCAS Dec. 2020 1138-1159

Azhari, A., see Kikkawa, T., TBCAS Dec. 2020 1333-1345

R

Bae, C., see Cherupally, S.K., TBCAS April 2020 198-208

Baghini, M.S., see Malik, S., TBCAS Aug. 2020 867-878

Bampi, S., see Rocha, L.G., TBCAS Aug. 2020 715-726

Barbruni, G.L., Ros, P.M., Demarchi, D., Carrara, S., and Ghezzi, D., Miniaturised Wireless Power Transfer Systems for Neurostimulation: A Review; TBCAS Dec. 2020 1160-1178

Baruah, D., see Pal, U.M., TBCAS Aug. 2020 879-888

Basaraba, R., see Begly, C., TBCAS Oct. 2020 1051-1064

Basu, A., see Acharya, J., TBCAS June 2020 535-544

Bayat, M., see Pashaei, V., TBCAS April 2020 305-318

Bayoumi, M., see Daoud, H., TBCAS April 2020 209-220

Bayoumi, M., see Khalil, K., TBCAS Aug. 2020 852-866

Becerra-Fajardo, L., see Malik, S., TBCAS Aug. 2020 867-878

Begly, C., Ackart, D., Mylius, J., Basaraba, R., Chicco, A.J., and Chen, T.W., Study of Real-Time Spatial and Temporal Behavior of Bacterial Biofilms Using 2-D Impedance Spectroscopy; TBCAS Oct. 2020 1051-1064

Benatti, S., see Zanghieri, M., TBCAS April 2020 244-256

Benini, L., see Zanghieri, M., TBCAS April 2020 244-256

Bermak, A., see Tang, F., TBCAS Oct. 2020 931-941

Bermak, A., see Duan, M., TBCAS June 2020 463-476

Bertrand, G., see Orlando, C., TBCAS Aug. 2020 646-657

Bethke, E.B., see Corey, R.M., TBCAS Oct. 2020 1088-1096

Bialkowski, K., see Alqadami, A.S.M., TBCAS Oct. 2020 1097-1107

Bialkowski, K., see Manoufali, M., TBCAS June 2020 452-462

Biswas, D., see Rocha, L.G., TBCAS Aug. 2020 715-726

Bohnert, T., see Tanwear, A., TBCAS Dec. 2020 1299-1310

Borah, P., see Pal, U.M., TBCAS Aug. 2020 879-888

Boser, B.E., see Papageorgiou, E.P., TBCAS Feb. 2020 91-103

Boukadoum, M., see Tam, S., TBCAS April 2020 232-243

Breeschoten, A., see Lin, Q., TBCAS Aug. 2020 800-810

Brunton, E., see Williams, I., TBCAS Oct. 2020 1079-1087

Bui, T.T., see Quang, L.D., TBCAS Dec. 2020 1371-1380

Burdett, A., Mohseni, P., Ghovanloo, M., and Genov, R., Guest Editorial: Selected Papers From the 2020 IEEE International Solid-State Circuits Conference; TBCAS Dec. 2020 1179-1182

Burghardt, F.L., see Kaveh, R., TBCAS Aug. 2020 727-737

Burrello, A., see Zanghieri, M., TBCAS April 2020 244-256

Byun, W., see Park, Y., TBCAS Aug. 2020 825-837

C

Cacho-Soblechero, M., Malpartida-Cardenas, K., Cicatiello, C., Rodriguez-Manzano, J., and Georgiou, P., A Dual-Sensing Thermo-Chemical ISFET Array for DNA-Based Diagnostics; TBCAS June 2020 477-489

Campeau-Lecours, A., see Tam, S., TBCAS April 2020 232-243

Carey, P., see Shan, S., TBCAS Dec. 2020 1362-1370

Carrara, S., see Barbruni, G.L., TBCAS Dec. 2020 1160-1178

Castellvi, Q., see Malik, S., TBCAS Aug. 2020 867-878

Chakrabarty, K., see Zhong, Z., TBCAS Oct. 2020 1065-1078

Chakrabarty, K., see Zhou, J., TBCAS Aug. 2020 705-714

Chang, C., see Shan, S., TBCAS Dec. 2020 1362-1370

Chen, F., see Sun, Z., TBCAS Oct. 2020 951-960

Chen, F., Muller, J., Muller, J., Muller, J., Kirsch, M., and Tetzlaff, R., Motion Correction in Multimodal Intraoperative Imaging; TBCAS Aug. 2020 671-680

Chen, J.C., see Yu, Z., TBCAS Dec. 2020 1241-1252

Chen, P., see Zhao, K., TBCAS Oct. 2020 985-996

Chen, S., see Chen, Y., TBCAS April 2020 373-381

Chen, T., see Liu, Y., TBCAS April 2020 274-282 Chen, T., see Tedjo, W., TBCAS Feb. 2020 20-35 Chen, T.W., see Begly, C., TBCAS Oct. 2020 1051-1064

Chen, X., see Rao, X., TBCAS June 2020 595-605

Chen, Y., Chen, S., and Wei, M., A VLSI Implementation of Independent Component Analysis for Biomedical Signal Separation Using CORDIC Engine; TBCAS April 2020 373-381

Cheng, P., see Lee, S., TBCAS Feb. 2020 113-124

Cheong, J.H., see Tang, T., TBCAS April 2020 297-304

Cherupally, S.K., Yin, S., Kadetotad, D., Srivastava, G., Bae, C., Kim, S.J., and Seo, J., ECG Authentication Hardware Design With Low-Power Signal Processing and Neural Network Optimization With Low Precision and Structured Compression; TBCAS April 2020 198-208

Chian, D., Wen, C., Wang, F., and Wong, K., Signal Separation and Tracking Algorithm for Multi-Person Vital Signs by Using Doppler Radar; TBCAS Dec. 2020 1346-1361

Chicco, A.J., see Begly, C., TBCAS Oct. 2020 1051-1064

Choi, J., Taal, A.J., Meng, W.L., Pollmann, E.H., Stanton, J.W., Lee, C., Moazeni, S., Moreaux, L.C., Roukes, M.L., and Shepard, K.L., Fully Integrated Time-Gated 3D Fluorescence Imager for Deep Neural Imaging; TBCAS Aug. 2020 636-645

Choi, W., see Kim, H., TBCAS Feb. 2020 125-137

Chuquimia, O., Pinna, A., Dray, X., and Granado, B., Erratum to "A Low Power and Real-Time Architecture for Hough Transform Processing Integration in a Full HD-Wireless Capsule Endoscopy" [Aug 20 646-657]; TBCAS Dec. 2020 1442

Cicatiello, C., see Cacho-Soblechero, M., TBCAS June 2020 477-489

Connolly, M., see Jia, Y., TBCAS June 2020 631

Constandinou, T.G., see Williams, I., TBCAS Oct. 2020 1079-1087

Constandinou, T.G., see De Marcellis, A., TBCAS June 2020 441-451

Constandinou, T.G., see Wang, G., TBCAS Feb. 2020 1

Constantinou, L., see Hashim, Z.Q., TBCAS Feb. 2020 104-112

Conti, F., see Zanghieri, M., TBCAS April 2020 244-256

Corbett, B., see Laursen, K., TBCAS June 2020 583-594

Corey, R.M., Widloski, E.M., Null, D., Ricconi, B., Johnson, M.A., White, K.C., Amos, J.R., Pagano, A., Oelze, M.L., Switzky, R.D., Wheeler, M.B., Bethke, E.B., Shipley, C.F., and Singer, A.C., Low-Complexity System and Algorithm for an Emergency Ventilator Sensor and Alarm; TBCAS Oct. 2020 1088-1096

Costa, T., see Shi, C., TBCAS June 2020 412-424

Cuniberto, E., see You, K., TBCAS Aug. 2020 903-917

Dabbaghian, A., see Yousefi, T., TBCAS Dec. 2020 1274-1286

Danial, L., see Hanna, H.A., TBCAS June 2020 386-401

Daniel, R., see Hanna, H.A., TBCAS June 2020 386-401

Daoud, H., and Bayoumi, M., Deep Learning Approach for Epileptic Focus Localization; TBCAS April 2020 209-220

Das, R., Moradi, F., and Heidari, H., Biointegrated and Wirelessly Powered Implantable Brain Devices: A Review; TBCAS April 2020 343-358

Das Sharma, K., see Singha Roy, M., TBCAS Dec. 2020 1323-1332

De Marcellis, A., Stanchieri, G.D.P., Faccio, M., Palange, E., and Constandinou, T.G., A 300 Mbps 37 pJ/bit Pulsed Optical Biotelemetry; TBCAS June 2020

Dehghanzadeh, P., see Pashaei, V., TBCAS April 2020 305-318

Delgado-Restituto, M., see Fiorelli, R., TBCAS June 2020 606-619

Demarchi, D., see Barbruni, G.L., TBCAS Dec. 2020 1160-1178

Demosthenous, A., see Wu, Y., TBCAS Oct. 2020 997-1007

Demosthenous, A., see Zamani, M., TBCAS April 2020 221-231

Deshours, F., see Omer, A.E., TBCAS Dec. 2020 1407-1420

Dheman, K., Mayer, P., Magno, M., and Schuerle, S., Wireless, Artefact Aware Impedance Sensor Node for Continuous Bio-Impedance Monitoring; TBCAS Oct. 2020 1122-1134

Ding, G., see Lu, L., TBCAS Aug. 2020 681-691

Ding, M., see Song, M., TBCAS Dec. 2020 1218-1229

Do, A.H., see Malekzadeh-Arasteh, O., TBCAS April 2020 332-342

Donati, E., see Azghadi, M.R., TBCAS Dec. 2020 1138-1159

Dong, Y., see Tang, T., TBCAS Dec. 2020 1253-1262

Dong, Y., see Li, J., TBCAS Dec. 2020 1263-1273

Dong, Y., see Park, J.H., TBCAS Dec. 2020 1230-1240

Doong, J., see Kaveh, R., TBCAS Aug. 2020 727-737

Dray, X., see Chuquimia, O., TBCAS Dec. 2020 1442

Drealan, M., see Xu, J., TBCAS Oct. 2020 1024-1035

Du, J., see Shi, P., TBCAS Dec. 2020 1431-1440

Duan, M., Zhong, X., Xu, J., Lee, Y., and Bermak, A., A High Offset Distribution Tolerance High Resolution ISFET Array With Auto-Compensation for Long-Term Bacterial Metabolism Monitoring; TBCAS June 2020 463-476

Duan, T., see Zhong, H., TBCAS Aug. 2020 738-745

Duan, X., see Zhao, K., TBCAS Oct. 2020 985-996

Duc, T.C., see Quang, L.D., TBCAS Dec. 2020 1371-1380

Eldash, O., see Khalil, K., TBCAS Aug. 2020 852-866

Elloian, J., see Shi, C., TBCAS June 2020 412-424

Enwia, G., see Pashaei, V., TBCAS April 2020 305-318

Erfani, R., Marefat, F., and Mohseni, P., A Dual-Output Single-Stage Regulating Rectifier With PWM and Dual-Mode PFM Control for Wireless Powering of Biomedical Implants; TBCAS Dec. 2020 1195-1206

Erfani, R., see Marefat, F., TBCAS Dec. 2020 1183-1194

Eshraghian, J.K., see Azghadi, M.R., TBCAS Dec. 2020 1138-1159

Faccio, M., see De Marcellis, A., TBCAS June 2020 441-451

Fang, F., see Shi, P., TBCAS Dec. 2020 1431-1440

Farivar, M., see Zhu, B., TBCAS Aug. 2020 692-704

Ferreira, R., see Tanwear, A., TBCAS Dec. 2020 1299-1310

Fiorelli, R., Delgado-Restituto, M., and Rodriguez-Vazquez, A., Charge-Redistribution Based Quadratic Operators for Neural Feature Extraction; TBCAS June 2020 606-619

Freitas, P.P., see Tanwear, A., TBCAS Dec. 2020 1299-1310

G

Gammad, G.G.L., see Ng, K.A., TBCAS Aug. 2020 889-902

Gammad, G.G.L., see Ng, K.A., TBCAS Dec. 2020 1441

Gao, F., see Zhong, H., TBCAS Aug. 2020 738-745

Gao, F., see Zhong, H., TBCAS Aug. 2020 738-745

Gao, Y., see Tang, T., TBCAS April 2020 297-304 Gao, Y., see Tang, T., TBCAS June 2020 516-524

Garcia-Moreno, A., see Malik, S., TBCAS Aug. 2020 867-878

Genov, R., see Guo, N., TBCAS June 2020 620-630

Genov, R., see Burdett, A., TBCAS Dec. 2020 1179-1182

Georgiou, P., see Zeng, J., TBCAS April 2020 359-372

Georgiou, P., see Cacho-Soblechero, M., TBCAS June 2020 477-489

Gerken, M., see Zuo, S., TBCAS Oct. 2020 971-984

Ghafar-Zadeh, E., see Wu, Z., TBCAS Feb. 2020 65-74

Ghanbari, M.M., and Muller, R., Optimizing Volumetric Efficiency and Backscatter Communication in Biosensing Ultrasonic Implants; TBCAS Dec. 2020 1381-1392

Ghannam, R., see Tanwear, A., TBCAS Dec. 2020 1299-1310

Ghezzi, D., see Barbruni, G.L., TBCAS Dec. 2020 1160-1178

Ghovanloo, M., see Jia, Y., TBCAS June 2020 631

Ghovanloo, M., see Burdett, A., TBCAS Dec. 2020 1179-1182

Ghovanloo, M., see Jia, Y., TBCAS Dec. 2020 1207-1217

Giagka, V., see Akgun, O.C., TBCAS Aug. 2020 658-670

Gielen, G., see Van Assche, J., TBCAS Aug. 2020 746-756

Gogoi, G., see Pal, U.M., TBCAS Aug. 2020 879-888

Goh, W.L., see Tang, T., TBCAS April 2020 297-304

Goh, W.L., see Tang, T., TBCAS June 2020 516-524

Gong, Y., see Jia, Y., TBCAS Dec. 2020 1207-1217 Gopalan, K., see Kaveh, R., TBCAS Aug. 2020 727-737

Gosselin, B., see Tam, S., TBCAS April 2020 232-243

Gosselin, B., see Ohta, J., TBCAS Aug. 2020 634-635

Gosselin, B., see Juteau, N., TBCAS Dec. 2020 1287-1298

Granado, B., see Chuquimia, O., TBCAS Dec. 2020 1442

Grau, G., see Yousefi, T., TBCAS Dec. 2020 1274-1286

Grego, S., see Zhou, J., TBCAS Aug. 2020 705-714

Guler, U., see Jia, Y., TBCAS Dec. 2020 1207-1217

Guo, N., Wang, S., Genov, R., Wang, L., and Ho, D., Asynchronous Event-driven Encoder With Simultaneous Temporal Envelope and Phase Extraction for Cochlear Implants; TBCAS June 2020 620-630

Guo, R., see Liu, Y., TBCAS April 2020 274-282

Guo, Y., see Xiao, S., TBCAS Oct. 2020 942-950

Gupta, R., see Singha Roy, M., TBCAS Dec. 2020 1323-1332

Н

Habibollahi, M., see Wu, Y., TBCAS Oct. 2020 997-1007

Halter, R.J., see Rao, A., TBCAS Aug. 2020 787-799

Hammad, K., see Wu, Z., TBCAS Feb. 2020 65-74

Han, S., see Park, Y., TBCAS Aug. 2020 825-837

Hanna, H.A., Danial, L., Kvatinsky, S., and Daniel, R., Cytomorphic Electronics With Memristors for Modeling Fundamental Genetic Circuits; TBCAS June 2020 386-401

Hao, Z., see Ma, G., TBCAS June 2020 402-411

Haque, M.A., see Hedayatipour, A., TBCAS Oct. 2020 1108-1121

Hashim, Z.Q., Constantinou, L., and Triantis, I.F., Modelling Dynamically Re-Sizeable Electrodes (DRE) for Targeted Transcutaneous Measurements in Impedance Plethysmography; TBCAS Feb. 2020 104-112

He, Y., see Yu, Z., TBCAS Dec. 2020 1241-1252

Hedayatipour, A., Aslanzadeh, S., Hesari, S.H., Haque, M.A., and McFarlane, N., A Wearable CMOS Impedance to Frequency Sensing System for Non-Invasive Impedance Measurements; TBCAS Oct. 2020 1108-1121

Heidari, H., see Zuo, S., TBCAS Oct. 2020 971-984

Heidari, H., see Das, R., TBCAS April 2020 343-358

Heidari, H., see Tanwear, A., TBCAS Dec. 2020 1299-1310

Heidarpur, M., Khosravifar, P., Ahmadi, A., and Ahmadi, M., CORDIC-Astrocyte: Tripartite Glutamate-IP3-Ca²⁺ Interaction Dynamics on FPGA; TBCAS Feb. 2020 36-47

Hesari, S.H., see Hedayatipour, A., TBCAS Oct. 2020 1108-1121

Heydari, P., see Malekzadeh-Arasteh, O., TBCAS April 2020 332-342

Higarza, S.G., see Pernia, A.M., TBCAS June 2020 525-534

Hina, A., and Saadeh, W., A Noninvasive Glucose Monitoring SoC Based on Single Wavelength Photoplethysmography; TBCAS June 2020 504-515

Hirano, T., see Kikkawa, T., TBCAS Dec. 2020 1333-1345

Ho, D., see Guo, N., TBCAS June 2020 620-630

Ho, J.S., see Ng, K.A., TBCAS Aug. 2020 889-902

Ho, J.S., see Ng, K.A., TBCAS Dec. 2020 1441

Hoang, B., see Quang, L.D., TBCAS Dec. 2020 1371-1380

Hong, Q., Yan, R., Wang, C., and Sun, J., Memristive Circuit Implementation of Biological Nonassociative Learning Mechanism and Its Applications; TBCAS Oct. 2020 1036-1050

Horng, T., see Yu, S., TBCAS Feb. 2020 75-90

Hosseini, S., see Laursen, K., TBCAS June 2020 583-594

Hoyos, S., see Zavareh, A.T., TBCAS April 2020 257-273

Hsu, S., see You, K., TBCAS Aug. 2020 903-917

Hu, S., see Tang, F., TBCAS Oct. 2020 931-941

Hu, S., see Liu, Y., TBCAS April 2020 274-282

Huang, L., see Zhou, J., TBCAS April 2020 142-144

Huang, L., see Wei, Y., TBCAS April 2020 145-163

Huang, T.J., see Zhong, Z., TBCAS Oct. 2020 1065-1078

Huang, Z., see You, K., TBCAS Aug. 2020 903-917

Hung, C., see Atef, M., TBCAS Oct. 2020 930

Hung, C., see Wang, S., TBCAS June 2020 558-569

I

Ibrahim, B., see Sel, K., TBCAS Aug. 2020 757-774 Imamura, T., see Kikkawa, T., TBCAS Dec. 2020 1333-1345 Indiveri, G., see Azghadi, M.R., TBCAS Dec. 2020 1138-1159 Ito, H., see Kikkawa, T., TBCAS Dec. 2020 1333-1345 Ivorra, A., see Malik, S., TBCAS Aug. 2020 867-878 Iwata, A., see Kikkawa, T., TBCAS Dec. 2020 1333-1345

J

Jafari, R., see Sel, K., TBCAS Aug. 2020 757-774

Jain, M.C., see Mohammadi, S., TBCAS Feb. 2020 2-11

James, A., see Smagulova, K., TBCAS April 2020 164-172

James, A., Krestinskaya, O., and Maan, A., Recursive Threshold Logic—A Bioinspired Reconfigurable Dynamic Logic System With Crossbar Arrays; TBCAS Dec. 2020 1311-1322

Jee, D., see Kim, J., TBCAS Feb. 2020 12-19

Jen, C., see Quang, L.D., TBCAS Dec. 2020 1371-1380

Jia, Y., see Atef, M., TBCAS Oct. 2020 930

Jia, Y., Lee, B., Kong, F., Zeng, Z., Connolly, M., Mahmoudi, B., and Ghovanloo, M., Erratum to "A Software-Defined Radio Receiver for Wireless Recording From Freely Behaving Animals" [Dec 19 979-989]; TBCAS June 2020 631

Jia, Y., Guler, U., Lai, Y., Gong, Y., Weber, A., Li, W., and Ghovanloo, M., A Trimodal Wireless Implantable Neural Interface System-on-Chip; TBCAS Dec. 2020 1207-1217

Jiang, D., see Wu, Y., TBCAS Oct. 2020 997-1007

Jiang, D., see Zamani, M., TBCAS April 2020 221-231

Jiang, D., see Zhong, H., TBCAS Aug. 2020 738-745

Jiang, H., see Zhao, K., TBCAS Oct. 2020 985-996 Jiang, H., see Sun, Z., TBCAS Oct. 2020 951-960

Johnson, M.A., see Corey, R.M., TBCAS Oct. 2020 1088-1096

Joseph, W., see Song, M., TBCAS Dec. 2020 1218-1229

Jung, W.R., see Lee, H., TBCAS Dec. 2020 1393-1406

Juteau, N., and Gosselin, B., Wearable Wireless-Enabled Oscillometric Sphygmomanometer: A Flexible Ambulatory Tool for Blood Pressure Estimation; TBCAS Dec. 2020 1287-1298

K

Kadetotad, D., see Cherupally, S.K., TBCAS April 2020 198-208

Kang, J., see Lee, H., TBCAS Dec. 2020 1393-1406

Kang, W., see Lee, H., TBCAS Dec. 2020 1393-1406

Kartsch, V., see Zanghieri, M., TBCAS April 2020 244-256

Kassiri, H., see Yousefi, T., TBCAS Dec. 2020 1274-1286

Kaveh, R., Doong, J., Zhou, A., Schwendeman, C., Gopalan, K., Burghardt, F.L., Arias, A.C., Maharbiz, M.M., and Muller, R., Wireless User-Generic Ear EEG; TBCAS Aug. 2020 727-737

Ker, M., see Yen, T., TBCAS Oct. 2020 961-970

Khalil, K., Eldash, O., Kumar, A., and Bayoumi, M., Intelligent Fault-Prediction Assisted Self-Healing for Embryonic Hardware; *TBCAS Aug. 2020 852-866*

Khosravifar, P., see Heidarpur, M., TBCAS Feb. 2020 36-47

Kikkawa, T., Masui, Y., Toya, A., Ito, H., Hirano, T., Maeda, T., Ono, M., Murasaka, Y., Imamura, T., Matsumaru, T., Yamaguchi, M., Sugawara, M., Azhari, A., Song, H., Sasada, S., and Iwata, A., CMOS Gaussian Monocycle Pulse Transceiver for Radar-Based Microwave Imaging; TBCAS Dec. 2020 1333-1345

Kilgore, K.L., see Marefat, F., TBCAS Dec. 2020 1183-1194

Kim, H., Tang, H., Choi, W., and Park, J., An Energy-Quality Scalable STDP Based Sparse Coding Processor With On-Chip Learning Capability; TBCAS Feb. 2020 125-137

Kim, J., see Park, Y., TBCAS Aug. 2020 825-837

Kim, J., and Jee, D., Current/Voltage Dual-Mode Single-Wire Simultaneous Bidirectional Interface Architecture for Sensor System; TBCAS Feb. 2020 12-19

Kim, S., see Park, Y., TBCAS Aug. 2020 825-837

Kim, S., see Lee, H., TBCAS Dec. 2020 1393-1406

Kim, S.J., see Cherupally, S.K., TBCAS April 2020 198-208

Kim, S.J., see Lee, H., TBCAS Dec. 2020 1393-1406

Kirsch, M., see Chen, F., TBCAS Aug. 2020 671-680

Kokabi, H., see Omer, A.E., TBCAS Dec. 2020 1407-1420

Kong, F., see Jia, Y., TBCAS June 2020 631

Konijnenburg, M., see Lin, Q., TBCAS Aug. 2020 800-810

Konijnenburg, M., see Rocha, L.G., TBCAS Aug. 2020 715-726

Krestinskaya, O., see Smagulova, K., TBCAS April 2020 164-172

Krestinskaya, O., see James, A., TBCAS Dec. 2020 1311-1322

Kuang, L., see Zeng, J., TBCAS April 2020 359-372

Kumar, A., see Khalil, K., TBCAS Aug. 2020 852-866

Kurpad, V., see Pal, U.M., TBCAS Aug. 2020 879-888

Kvatinsky, S., see Hanna, H.A., TBCAS June 2020 386-401

L

Lai, Y., see Jia, Y., TBCAS Dec. 2020 1207-1217

Lammie, C., see Azghadi, M.R., TBCAS Dec. 2020 1138-1159

Lan, H., see Zhong, H., TBCAS Aug. 2020 738-745

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Le, N., see Ng, K.A., TBCAS Aug. 2020 889-902

Le, N., see Ng, K.A., TBCAS Dec. 2020 1441

Lee, B., see Jia, Y., TBCAS June 2020 631

Lee, B.H.Y., see Tang, T., TBCAS Dec. 2020 1253-1262

Lee, C., see Choi, J., TBCAS Aug. 2020 636-645

Lee, H., see Park, Y., TBCAS Aug. 2020 825-837

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Lee, Y., see Duan, M., TBCAS June 2020 463-476

Lei, J., see Luo, D., TBCAS Dec. 2020 1421-1430

Leong, K., see Ng, K.A., TBCAS Aug. 2020 889-902

Leong, K., see Ng, K.A., TBCAS Dec. 2020 1441

Li, J., see Tang, T., TBCAS Dec. 2020 1253-1262

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Li, P., see Tang, F., TBCAS Oct. 2020 931-941

Li, W., see Jia, Y., TBCAS Dec. 2020 1207-1217

Li, Y., see Sun, Z., TBCAS Oct. 2020 951-960

Li, Z., see Tang, F., TBCAS Oct. 2020 931-941

Lian, Y., see Zhao, Y., TBCAS April 2020 186-197

Lian, Y., see Zhao, B., TBCAS April 2020 283-296

Liang, X., see Tanwear, A., TBCAS Dec. 2020 1299-1310

Liao, Y., see Shan, S., TBCAS Dec. 2020 1362-1370

Lim, J., see Malekzadeh-Arasteh, O., TBCAS April 2020 332-342

Lin, C., see Lee, S., TBCAS Feb. 2020 113-124

Lin, J., see Shan, S., TBCAS Dec. 2020 1362-1370

Lin, L., see Li, J., TBCAS Dec. 2020 1263-1273

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Linares-Barranco, B., see Azghadi, M.R., TBCAS Dec. 2020 1138-1159

Liu, C.Y., see Malekzadeh-Arasteh, O., TBCAS April 2020 332-342

Liu, J., see Rao, X., TBCAS June 2020 595-605

Liu, J., see Shi, P., TBCAS Dec. 2020 1431-1440

Liu, Q., see Wei, Y., TBCAS April 2020 145-163

Liu, S., see Ng, K.A., TBCAS Aug. 2020 889-902

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Liu, Y., see Liu, Y., TBCAS April 2020 274-282

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Liu, Y., see Song, M., TBCAS Dec. 2020 1218-1229

Liu, Y., see Tanwear, A., TBCAS Dec. 2020 1299-1310

Lofink, F., see Zuo, S., TBCAS Oct. 2020 971-984

Lu, L., Mao, J., Wang, W., Ding, G., and Zhang, Z., A Study of Personal Recognition Method Based on EMG Signal; TBCAS Aug. 2020 681-691

Lu, S., see Shan, S., TBCAS Dec. 2020 1362-1370

Lu, Z., see Wang, Z., TBCAS April 2020 173-185

Luan, S., see Williams, I., TBCAS Oct. 2020 1079-1087

Luckasavitch, K., see Mohammadi, S., TBCAS Feb. 2020 2-11

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Luo, J., see Wei, Y., TBCAS April 2020 145-163

Luu, D.K., see Xu, J., TBCAS Oct. 2020 1024-1035

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M

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Maan, A., see James, A., TBCAS Dec. 2020 1311-1322

Maeda, T., see Kikkawa, T., TBCAS Dec. 2020 1333-1345

Magierowski, S., see Wu, Z., TBCAS Feb. 2020 65-74

Magno, M., see Dheman, K., TBCAS Oct. 2020 1122-1134

Maharbiz, M.M., see Kaveh, R., TBCAS Aug. 2020 727-737

Mahmoudi, B., see Jia, Y., TBCAS June 2020 631

Majerus, S.J.A., see Pashaei, V., TBCAS April 2020 305-318

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Malpartida-Cardenas, K., see Cacho-Soblechero, M., TBCAS June 2020 477-489

Mandal, S., see Pashaei, V., TBCAS April 2020 305-318

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Mao, J., see Zhao, B., TBCAS April 2020 283-296

Mao, J., see Lu, L., TBCAS Aug. 2020 681-691

Marchioni, A., see Mangia, M., TBCAS June 2020 545-557

Marefat, F., see Erfani, R., TBCAS Dec. 2020 1195-1206

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Martens, L., see Song, M., TBCAS Dec. 2020 1218-1229

Martinez, J.A., see Pernia, A.M., TBCAS June 2020 525-534

Masui, Y., see Kikkawa, T., TBCAS Dec. 2020 1333-1345

Matsumaru, T., see Kikkawa, T., TBCAS Dec. 2020 1333-1345

Mayer, P., see Dheman, K., TBCAS Oct. 2020 1122-1134

McFarlane, N., see Hedayatipour, A., TBCAS Oct. 2020 1108-1121

Mendez, M., see Pernia, A.M., TBCAS June 2020 525-534

Meng, W.L., see Choi, J., TBCAS Aug. 2020 636-645

Mills, P.C., see Manoufali, M., TBCAS June 2020 452-462

Miscourides, N., see Zeng, J., TBCAS April 2020 359-372

Moazeni, S., see Choi, J., TBCAS Aug. 2020 636-645

Mobashsher, A.T., see Manoufali, M., TBCAS June 2020 452-462

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Mohammed, B., see Manoufali, M., TBCAS June 2020 452-462

Mohseni, P., see Burdett, A., TBCAS Dec. 2020 1179-1182

Mohseni, P., see Erfani, R., TBCAS Dec. 2020 1195-1206

Mohseni, P., see Marefat, F., TBCAS Dec. 2020 1183-1194

Mondal, T., see Laursen, K., *TBCAS June 2020 583-594*

Moradi, F., see Das, R., TBCAS April 2020 343-358

Moradi, F., see Laursen, K., TBCAS June 2020 583-594

Moreaux, L.C., see Choi, J., TBCAS Aug. 2020 636-645

Morizio, J., see Zhong, Z., TBCAS Oct. 2020 1065-1078

Muller, J., see Chen, F., TBCAS Aug. 2020 671-680

Muller, J., see Chen, F., TBCAS Aug. 2020 671-680

Muller, J., see Chen, F., TBCAS Aug. 2020 671-680

Muller, R., see Kaveh, R., TBCAS Aug. 2020 727-737

Muller, R., see Ghanbari, M.M., TBCAS Dec. 2020 1381-1392

Mun, J.S., see Lee, H., TBCAS Dec. 2020 1393-1406

Murasaka, Y., see Kikkawa, T., TBCAS Dec. 2020 1333-1345

Murphy, E.K., see Rao, A., TBCAS Aug. 2020 787-799

Mylius, J., see Begly, C., TBCAS Oct. 2020 1051-1064

N

Na, D.L., see Lee, H., TBCAS Dec. 2020 1393-1406

Nadaraja, A.V., see Mohammadi, S., TBCAS Feb. 2020 2-11

Nanbakhsh, K., see Akgun, O.C., TBCAS Aug. 2020 658-670

Nazarpour, K., see Zuo, S., TBCAS Oct. 2020 971-984

Nazarpour, K., see Williams, I., TBCAS Oct. 2020 1079-1087

Nenadic, Z., see Malekzadeh-Arasteh, O., TBCAS April 2020 332-342

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Nguyen, A.T., see Xu, J., TBCAS June 2020 425-440

Nhu, C.N., see Quang, L.D., TBCAS Dec. 2020 1371-1380

Niekiel, F., see Zuo, S., TBCAS Oct. 2020 971-984

Null, D., see Corey, R.M., TBCAS Oct. 2020 1088-1096

0

Odame, K.M., see Rao, A., TBCAS Aug. 2020 787-799

Oelze, M.L., see Corey, R.M., TBCAS Oct. 2020 1088-1096

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Ozden, M., see Zuo, S., TBCAS Oct. 2020 971-984

P

Pagano, A., see Corey, R.M., TBCAS Oct. 2020 1088-1096

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Palange, E., see De Marcellis, A., TBCAS June 2020 441-451

Pamula, V.R., see Uehlin, J.P., TBCAS April 2020 319-331

Pandya, H.J., see Pal, U.M., TBCAS Aug. 2020 879-888

Panicker, M.R., see Malamal, G., TBCAS June 2020 570-582

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Pareschi, F., see Mangia, M., TBCAS June 2020 545-557

Parhi, K.K., see Liu, X., TBCAS June 2020 490-503

Park, J., see Kim, H., TBCAS Feb. 2020 125-137

Park, J.H., see Tang, T., TBCAS Dec. 2020 1253-1262

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Payvand, M., see Azghadi, M.R., TBCAS Dec. 2020 1138-1159

Paz, E., see Tanwear, A., TBCAS Dec. 2020 1299-1310

Pearton, S., see Shan, S., TBCAS Dec. 2020 1362-1370

Pei, X., see You, K., TBCAS Aug. 2020 903-917

Perlmutter, S.I., see Uehlin, J.P., TBCAS April 2020 319-331

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Pinna, A., see Chuquimia, O., TBCAS Dec. 2020 1442

Pollmann, E.H., see Choi, J., TBCAS Aug. 2020 636-645

Prieto, M.J., see Pernia, A.M., TBCAS June 2020 525-534

Prono, L., see Mangia, M., TBCAS June 2020 545-557

Pu, H., see Malekzadeh-Arasteh, O., TBCAS April 2020 332-342

Q

Qian, K., see Liu, Y., TBCAS April 2020 274-282

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R

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Ren, F., see Zhou, J., TBCAS April 2020 142-144

Ren, F., see Wei, Y., TBCAS April 2020 145-163

Ren, F., see Shan, S., TBCAS Dec. 2020 1362-1370

Renna, F., see Zamani, M., TBCAS April 2020 221-231

Ricconi, B., see Corey, R.M., TBCAS Oct. 2020 1088-1096

Rila, S., see Pal, U.M., TBCAS Aug. 2020 879-888

Roberts, D.J., see Mohammadi, S., TBCAS Feb. 2020 2-11

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Rodrigues, M.R.D., see Zamani, M., TBCAS April 2020 221-231

Rodriguez-Manzano, J., see Cacho-Soblechero, M., TBCAS June 2020 477-489

Rodriguez-Vazquez, A., see Fiorelli, R., TBCAS June 2020 606-619

Ros, P.M., see Barbruni, G.L., TBCAS Dec. 2020 1160-1178

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Roukes, M.L., see Choi, J., TBCAS Aug. 2020 636-645

Rovatti, R., see Mangia, M., TBCAS June 2020 545-557

Roy, B., see Singha Roy, M., TBCAS Dec. 2020 1323-1332

Rudell, J.C., see Uehlin, J.P., TBCAS April 2020 319-331

Rusly, A., see Ng, K.A., TBCAS Aug. 2020 889-902

Rusly, A., see Ng, K.A., TBCAS Dec. 2020 1441

S

Saadeh, W., see Hina, A., TBCAS June 2020 504-515

Safavi-Naeini, S., see Omer, A.E., TBCAS Dec. 2020 1407-1420

Sahin, M., see Atef, M., TBCAS Oct. 2020 930

Sasada, S., see Kikkawa, T., TBCAS Dec. 2020 1333-1345

Sathe, V.S., see Uehlin, J.P., TBCAS April 2020 319-331

Sawan, M., see Yang, J., TBCAS Oct. 2020 1008-1023

Schmalz, J., see Zuo, S., TBCAS Oct. 2020 971-984

Schuerle, S., see Dheman, K., TBCAS Oct. 2020 1122-1134

Schwendeman, C., see Kaveh, R., TBCAS Aug. 2020 727-737

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Seo, J., see Cherupally, S.K., TBCAS April 2020 198-208

Serdijn, W.A., see Akgun, O.C., TBCAS Aug. 2020 658-670

Setti, G., see Mangia, M., TBCAS June 2020 545-557

Shahrjerdi, D., see You, K., TBCAS Aug. 2020 903-917

Shaker, G., see Omer, A.E., TBCAS Dec. 2020 1407-1420

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Shepard, K.L., see Shi, C., TBCAS June 2020 412-424

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Shoaran, M., see Zhu, B., TBCAS Aug. 2020 692-704

Shon, Y., see Lee, H., TBCAS Dec. 2020 1393-1406

Shroff, S., see Pal, U.M., TBCAS Aug. 2020 879-888

Shubair, R.M., see Omer, A.E., TBCAS Dec. 2020 1407-1420

Singer, A., see Yu, Z., TBCAS Dec. 2020 1241-1252

Singer, A.C., see Corey, R.M., TBCAS Oct. 2020 1088-1096

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Smith, W.A., see Uehlin, J.P., TBCAS April 2020 319-331

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Song, H., see Kikkawa, T., TBCAS Dec. 2020 1333-1345

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Stanchieri, G.D.P., see De Marcellis, A., TBCAS June 2020 441-451

Stancombe, A.E., see Alqadami, A.S.M., TBCAS Oct. 2020 1097-1107

Stanton, J.W., see Choi, J., TBCAS Aug. 2020 636-645

Su, J., see Zuo, S., TBCAS Oct. 2020 971-984

Sugawara, M., see Kikkawa, T., TBCAS Dec. 2020 1333-1345

Sun, J., see Hong, Q., TBCAS Oct. 2020 1036-1050

Sun, L., see Rao, X., TBCAS June 2020 595-605

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T

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Tang, T., Goh, W.L., Yao, L., and Gao, Y., A TDM-Based 16-Channel AFE ASIC With Enhanced System-Level CMRR for Wearable EEG Recording With Dry Electrodes; TBCAS June 2020 516-524

Tang, T., Yan, L., Park, J.H., Wu, H., Zhang, L., Li, J., Dong, Y., Lee, B.H.Y., and Yoo, J., An Active Concentric Electrode for Concurrent EEG Recording and Body-Coupled Communication (BCC) Data Transmission; *TBCAS Dec.* 2020 1253-1262

Tang, T., see Li, J., TBCAS Dec. 2020 1263-1273

Tanwear, A., Liang, X., Liu, Y., Vuckovic, A., Ghannam, R., Bohnert, T., Paz, E., Freitas, P.P., Ferreira, R., and Heidari, H., Spintronic Sensors Based on Magnetic Tunnel Junctions for Wireless Eye Movement Gesture Control; TBCAS Dec. 2020 1299-1310

Tavernier, F., see Lin, Q., TBCAS Aug. 2020 800-810

Tedjo, W., and Chen, T., An Integrated Biosensor System With a High-Density Microelectrode Array for Real-Time Electrochemical Imaging; TBCAS Feb. 2020 20-35

Tepwimonpetkun, S., see Ratametha, C., TBCAS Feb. 2020 48-64

Tetzlaff, R., see Chen, F., TBCAS Aug. 2020 671-680

Thuy, H.T.T., see Quang, L.D., TBCAS Dec. 2020 1371-1380

Tiurin, E., see Song, M., TBCAS Dec. 2020 1218-1229

Tokuda, T., see Ohta, J., TBCAS Aug. 2020 634-635

Toya, A., see Kikkawa, T., TBCAS Dec. 2020 1333-1345

Trakic, A., see Alqadami, A.S.M., TBCAS Oct. 2020 1097-1107

Triantis, I.F., see Hashim, Z.Q., TBCAS Feb. 2020 104-112

Tsou, C., see Lee, S., TBCAS Feb. 2020 113-124

Tudela-Pi, M., see Malik, S., TBCAS Aug. 2020 867-878

U

Uehlin, J.P., Smith, W.A., Pamula, V.R., Perlmutter, S.I., Rudell, J.C., and Sathe, V.S., A 0.0023 mm²/ch. Delta-Encoded, Time-Division Multiplexed Mixed-Signal ECoG Recording Architecture With Stimulus Artifact Suppression; TBCAS April 2020 319-331

V

Vaidya, J.S., see Pal, U.M., TBCAS Aug. 2020 879-888

Van Assche, J., and Gielen, G., Power Efficiency Comparison of Event-Driven and Fixed-Rate Signal Conversion and Compression for Biomedical Applications; TBCAS Aug. 2020 746-756

Van Helleputte, N., see Lin, Q., TBCAS Aug. 2020 800-810

Van Helleputte, N., see Rocha, L.G., TBCAS Aug. 2020 715-726

Van Helleputte, N., see Song, M., TBCAS Dec. 2020 1218-1229

Van Hoof, C., see Lin, Q., TBCAS Aug. 2020 800-810

Van Hoof, C., see Rocha, L.G., TBCAS Aug. 2020 715-726

Vandenbosch, G.A.E., see Zhang, K., TBCAS Aug. 2020 918-927

Varma, M., see Pal, U.M., TBCAS Aug. 2020 879-888

Vasquez, M.M., see Zhou, J., TBCAS Aug. 2020 705-714

Verhelst, M., see Rocha, L.G., TBCAS Aug. 2020 715-726

Verhoef, B., see Rocha, L.G., TBCAS Aug. 2020 715-726

Vishnu G.K., A., see Pal, U.M., TBCAS Aug. 2020 879-888

Visser, H.J., see Song, M., TBCAS Dec. 2020 1218-1229

Vuckovic, A., see Tanwear, A., TBCAS Dec. 2020 1299-1310

W

Wang, B., see Tang, F., TBCAS Oct. 2020 931-941

Wang, C., see Hong, Q., TBCAS Oct. 2020 1036-1050

Wang, C., see Zhou, J., TBCAS April 2020 142-144

Wang, C., see Wei, Y., TBCAS April 2020 145-163

Wang, F., see Chian, D., TBCAS Dec. 2020 1346-1361

Wang, G., Constandinou, T.G., and Tang, K., Editorial; TBCAS Feb. 2020 1

Wang, J.J., see Liu, Y., TBCAS April 2020 274-282

Wang, L., see Guo, N., TBCAS June 2020 620-630

Wang, S., and Hung, C., A 0.3V 10b 3MS/s SAR ADC With Comparator Calibration and Kickback Noise Reduction for Biomedical Applications; TBCAS June 2020 558-569

Wang, S., see Guo, N., TBCAS June 2020 620-630

Wang, W., see Lu, L., TBCAS Aug. 2020 681-691

Wang, X., see Wang, Z., TBCAS April 2020 173-185

Wang, X., see Ma, G., TBCAS June 2020 402-411

Wang, Y., see Wei, Y., TBCAS April 2020 145-163

Wang, Z., see Zhao, K., TBCAS Oct. 2020 985-996

Wang, Z., see Sun, Z., TBCAS Oct. 2020 951-960

Wang, Z., Wang, X., Lu, Z., Wu, W., and Zeng, Z., The Design of Memristive Circuit for Affective Multi-Associative Learning; *TBCAS April 2020 173-185*

Wang, Z., see Luo, D., TBCAS Dec. 2020 1421-1430

Wattanapanitch, W., see Ratametha, C., TBCAS Feb. 2020 48-64

Weber, A., see Jia, Y., TBCAS Dec. 2020 1207-1217

Wei, M., see Chen, Y., TBCAS April 2020 373-381

Wei, Y., see Zhou, J., TBCAS April 2020 142-144

Wei, Y., Zhou, J., Wang, Y., Liu, Y., Liu, Q., Luo, J., Wang, C., Ren, F., and Huang, L., A Review of Algorithm & Hardware Design for AI-Based Biomedical Applications; TBCAS April 2020 145-163 Welling, C.M., see Zhou, J., TBCAS Aug. 2020 705-714

Wen, C., see Chian, D., TBCAS Dec. 2020 1346-1361

Wheeler, M.B., see Corey, R.M., TBCAS Oct. 2020 1088-1096

White, K.C., see Corey, R.M., TBCAS Oct. 2020 1088-1096

Widloski, E.M., see Corey, R.M., TBCAS Oct. 2020 1088-1096

Williams, I., Brunton, E., Rapeaux, A., Liu, Y., Luan, S., Nazarpour, K., and Constandinou, T.G., SenseBack - An Implantable System for Bidirectional Neural Interfacing; TBCAS Oct. 2020 1079-1087

Wong, K., see Chian, D., TBCAS Dec. 2020 1346-1361

Wu, B., see You, K., TBCAS Aug. 2020 903-917

Wu, H., see Tang, T., TBCAS Dec. 2020 1253-1262

Wu, H., see Park, J.H., TBCAS Dec. 2020 1230-1240

Wu, T., see Xu, J., TBCAS June 2020 425-440

Wu, W., see Wang, Z., TBCAS April 2020 173-185

Wu, X., see Ma, G., TBCAS June 2020 402-411

Wu, Y., Jiang, D., Habibollahi, M., Almarri, N., and Demosthenous, A., Time Stamp – A Novel Time-to-Digital Demodulation Method for Bioimpedance Implant Applications; TBCAS Oct. 2020 997-1007

Wu, Y., see Liu, Y., TBCAS April 2020 274-282

Wu, Z., Hammad, K., Ghafar-Zadeh, E., and Magierowski, S., FPGA-Accelerated 3rd Generation DNA Sequencing; TBCAS Feb. 2020 65-74

\mathbf{X}

Xavier, D., see Orlando, C., TBCAS Aug. 2020 646-657

Xian, M., see Shan, S., TBCAS Dec. 2020 1362-1370

Xiao, S., Liu, W., Guo, Y., and Yu, Z., Low-Cost Adaptive Exponential Integrateand-Fire Neuron Using Stochastic Computing; TBCAS Oct. 2020 942-950

Xie, X., see Sun, Z., TBCAS Oct. 2020 951-960

Xu, J., Nguyen, A.T., Luu, D.K., Drealan, M., and Yang, Z., Noise Optimization Techniques for Switched-Capacitor Based Neural Interfaces; TBCAS Oct. 2020 1024-1035

Xu, J., Nguyen, A.T., Wu, T., Zhao, W., Luu, D.K., and Yang, Z., A Wide Dynamic Range Neural Data Acquisition System With High-Precision Delta-Sigma ADC and On-Chip EC-PC Spike Processor; TBCAS June 2020 425-440

Xu, J., see Duan, M., TBCAS June 2020 463-476

Xu, J., see Lin, Q., TBCAS Aug. 2020 800-810

Xu, K., see Song, M., TBCAS Dec. 2020 1218-1229

Xu, S., see Liu, Y., TBCAS April 2020 274-282

V

Yamaguchi, M., see Kikkawa, T., TBCAS Dec. 2020 1333-1345

Yan, L., see Tang, T., TBCAS Dec. 2020 1253-1262

Yan, R., see Hong, Q., TBCAS Oct. 2020 1036-1050

Yan, S., see Zhang, K., TBCAS Aug. 2020 918-927

Yang, G.Z., see Rosa, B.M.G., TBCAS Aug. 2020 775-786

Yang, H., see Zhao, B., TBCAS April 2020 283-296

Yang, J., and Sawan, M., From Seizure Detection to Smart and Fully Embedded Seizure Prediction Engine: A Review; TBCAS Oct. 2020 1008-1023

Yang, K., see Yu, Z., TBCAS Dec. 2020 1241-1252

Yang, T., see Tang, F., TBCAS Oct. 2020 931-941

Yang, Y., see Shan, S., TBCAS Dec. 2020 1362-1370

Yang, Z., see Xu, J., TBCAS Oct. 2020 1024-1035

Yang, Z., see Xu, J., TBCAS June 2020 425-440

Yao, L., see Tang, T., TBCAS April 2020 297-304

Yao, L., see Tang, T., TBCAS June 2020 516-524

Ye, D., see Lyu, L., TBCAS Aug. 2020 811-824

Yen, S., see Ng, K.A., TBCAS Aug. 2020 889-902

Yen, S., see Ng, K.A., TBCAS Dec. 2020 1441

Yen, T., and Ker, M., Design of Dual-Mode Stimulus Chip With Built-In High Voltage Generator for Biomedical Applications; TBCAS Oct. 2020 961-970

Yin, S., see Cherupally, S.K., TBCAS April 2020 198-208

Yoo, J., see Ng, K.A., TBCAS Aug. 2020 889-902

Yoo, J., see Tang, T., TBCAS Dec. 2020 1253-1262

Yoo, J., see Ng, K.A., TBCAS Dec. 2020 1441

Yoo, J., see Li, J., TBCAS Dec. 2020 1263-1273

Yoo, J., see Park, J.H., TBCAS Dec. 2020 1230-1240

You, K., Cuniberto, E., Hsu, S., Wu, B., Huang, Z., Pei, X., and Shahrjerdi, D., An Electrochemical Biochip for Measuring Low Concentrations of Analytes With Adjustable Temporal Resolutions; TBCAS Aug. 2020 903-917

Yousefi, T., Taghadosi, M., Dabbaghian, A., Siu, R., Grau, G., Zoidl, G., and Kassiri, H., An Energy-Efficient Optically-Enhanced Highly-Linear Implantable Wirelessly-Powered Bidirectional Optogenetic Neuro-Stimulator; TBCAS Dec. 2020 1274-1286

Yu, H., see Shi, P., TBCAS Dec. 2020 1431-1440

Yu, Q., see Liu, Y., TBCAS April 2020 274-282

Yu, S., and Horng, T., Highly Linear Phase-Canceling Self-Injection-Locked Ultrasonic Radar for Non-Contact Monitoring of Respiration and Heartbeat; TBCAS Feb. 2020 75-90

Yu, Z., see Xiao, S., TBCAS Oct. 2020 942-950

Yu, Z., Chen, J.C., Alrashdan, F.T., Avants, B.W., He, Y., Singer, A., Robinson, J.T., and Yang, K., MagNI: A Magnetoelectrically Powered and Controlled Wireless Neurostimulating Implant; TBCAS Dec. 2020 1241-1252

7

Zamani, M., Sokolic, J., Jiang, D., Renna, F., Rodrigues, M.R.D., and Demosthenous, A., Accurate, Very Low Computational Complexity Spike Sorting Using Unsupervised Matched Subspace Learning; TBCAS April 2020 221-231

Zanghieri, M., Benatti, S., Burrello, A., Kartsch, V., Conti, F., and Benini, L., Robust Real-Time Embedded EMG Recognition Framework Using Temporal Convolutional Networks on a Multicore IoT Processor; TBCAS April 2020 244-256

Zarifi, M.H., see Mohammadi, S., TBCAS Feb. 2020 2-11

Zavareh, A.T., and Hoyos, S., Kalman-Based Real-Time Functional Decomposition for the Spectral Calibration in Swept Source Optical Coherence Tomography; TBCAS April 2020 257-273

Zeng, J., Kuang, L., Miscourides, N., and Georgiou, P., A 128 × 128 Current-Mode Ultra-High Frame Rate ISFET Array With In-Pixel Calibration for Real-Time Ion Imaging; TBCAS April 2020 359-372

Zeng, Z., see Wang, Z., TBCAS April 2020 173-185

Zeng, Z., see Jia, Y., TBCAS June 2020 631

Zhan, X., see Liu, Y., TBCAS April 2020 274-282

Zhang, K., Vandenbosch, G.A.E., and Yan, S., A Novel Design Approach for Compact Wearable Antennas Based on Metasurfaces; TBCAS Aug. 2020 018-027

Zhang, L., see Tang, F., TBCAS Oct. 2020 931-941

Zhang, L., see Tang, T., TBCAS Dec. 2020 1253-1262

Zhang, M., see Ng, K.A., TBCAS Aug. 2020 889-902

Zhang, M., see Luo, D., TBCAS Dec. 2020 1421-1430

Zhang, M., see Ng, K.A., TBCAS Dec. 2020 1441

Zhang, P., see Zhong, Z., TBCAS Oct. 2020 1065-1078

Zhang, P., see Song, M., TBCAS Dec. 2020 1218-1229

Zhang, Y., see Shi, C., TBCAS June 2020 412-424

Zhang, Z., see Lu, L., TBCAS Aug. 2020 681-691

Zhao, B., Mao, J., Zhao, J., Yang, H., and Lian, Y., The Role and Challenges of Body Channel Communication in Wearable Flexible Electronics; TBCAS April 2020 283-296

Zhao, J., see Zhao, B., TBCAS April 2020 283-296

Zhao, K., Jiang, H., Wang, Z., Chen, P., Zhu, B., and Duan, X., Long-Term Bowel Sound Monitoring and Segmentation by Wearable Devices and Convolutional Neural Networks; TBCAS Oct. 2020 985-996

Zhao, W., see Xu, J., TBCAS June 2020 425-440

Zhao, Y., Shang, Z., and Lian, Y., A 13.34 μW Event-Driven Patient-Specific ANN Cardiac Arrhythmia Classifier for Wearable ECG Sensors; TBCAS April 2020 186-197

Zhong, H., Jiang, D., Lan, H., Duan, T., Gao, F., and Gao, F., Low-Cost Multi-Wavelength Photoacoustic Imaging Based on Portable Continuous-Wave Laser Diode Module; TBCAS Aug. 2020 738-745

Zhong, X., see Duan, M., TBCAS June 2020 463-476

Zhong, Z., Zhu, H., Zhang, P., Morizio, J., Huang, T.J., and Chakrabarty, K., Hardware Design and Fault-Tolerant Synthesis for Digital Acoustofluidic Biochips; TBCAS Oct. 2020 1065-1078 Zhou, A., see Kaveh, R., TBCAS Aug. 2020 727-737

Zhou, J., Wei, Y., Wang, C., Ren, F., and Huang, L., Guest Editorial: Special Section on AI-Based Biomedical Circuits and Systems; TBCAS April 2020 142, 144

Zhou, J., see Wei, Y., TBCAS April 2020 145-163

Zhou, J., see Rao, X., TBCAS June 2020 595-605

Zhou, J., Welling, C.M., Vasquez, M.M., Grego, S., and Chakrabarty, K., Sensor-Array Optimization Based on Time-Series Data Analytics for Sanitation-Related Malodor Detection; TBCAS Aug. 2020 705-714

Zhou, X., see Tang, F., TBCAS Oct. 2020 931-941

Zhu, B., see Zhao, K., TBCAS Oct. 2020 985-996

Zhu, B., Farivar, M., and Shoaran, M., ResOT: Resource-Efficient Oblique Trees for Neural Signal Classification; TBCAS Aug. 2020 692-704

Zhu, H., see Zhong, Z., TBCAS Oct. 2020 1065-1078

Zoidl, G., see Yousefi, T., TBCAS Dec. 2020 1274-1286

Zorzo, C., see Pernia, A.M., TBCAS June 2020 525-534

Zuo, S., Schmalz, J., Ozden, M., Gerken, M., Su, J., Niekiel, F., Lofink, F., Nazarpour, K., and Heidari, H., Ultrasensitive Magnetoelectric Sensing System for Pico-Tesla MagnetoMyoGraphy; TBCAS Oct. 2020 971-984

Subject Index

Numeric

III-V semiconductors

Ultrasensitive Magnetoelectric Sensing System for Pico-Tesla MagnetoMyoGraphy. Zuo, S., +, TBCAS Oct. 2020 971-984

A

Acoustic signal processing

Deep Neural Network for Respiratory Sound Classification in Wearable Devices Enabled by Patient Specific Model Tuning. *Acharya*, *J.*, +, *TBCAS June 2020 535-544*

Long-Term Bowel Sound Monitoring and Segmentation by Wearable Devices and Convolutional Neural Networks. *Zhao, K.*, +, *TBCAS Oct.* 2020 985-996

Acoustic transducers

Hardware Design and Fault-Tolerant Synthesis for Digital Acoustofluidic Biochips. Zhong, Z., +, TBCAS Oct. 2020 1065-1078

Action potentials

Design of a Low Noise Bio-Potential Recorder With High Tolerance to Power-Line Interference Under 0.8 V Power Supply. *Luo*, *D*., +, *TBCAS Dec.* 2020 1421-1430

Aluminum compounds

Ultrasensitive Magnetoelectric Sensing System for Pico-Tesla MagnetoMyoGraphy. Zuo, S., +, TBCAS Oct. 2020 971-984

Amperometric sensors

An Integrated Biosensor System With a High-Density Microelectrode Array for Real-Time Electrochemical Imaging. *Tedjo, W.*, +, *TBCAS Feb. 2020 20-35*

Amplifiers

A 2.64-μ W 71-dB SNDR Discrete-Time Signal-Folding Amplifier for Reducing ADC's Resolution Requirement in Wearable ECG Acquisition Systems. *Ratametha*, C., +, TBCAS Feb. 2020 48-64

A TDM-Based 16-Channel AFE ASIC With Enhanced System-Level CMRR for Wearable EEG Recording With Dry Electrodes. *Tang, T.*, +, *TBCAS June 2020 516-524*

A Wide Dynamic Range Neural Data Acquisition System With High-Precision Delta-Sigma ADC and On-Chip EC-PC Spike Processor. *Xu, J.*, +, *TBCAS June 2020 425-440*

Noise Optimization Techniques for Switched-Capacitor Based Neural Interfaces. Xu, J., +, TBCAS Oct. 2020 1024-1035

Amplitude shift keying

A 2.4 GHz ISM Band OOK Transceiver With High Energy Efficiency for Biomedical Implantable Applications. Lee, S., +, TBCAS Feb. 2020 113-124

Analog circuits

Recursive Threshold Logic—A Bioinspired Reconfigurable Dynamic Logic System With Crossbar Arrays. *James, A.*, +, *TBCAS Dec. 2020 1311-1322*

Analog-digital conversion

- A 0.0023 mm²/ch. Delta-Encoded, Time-Division Multiplexed Mixed-Signal ECoG Recording Architecture With Stimulus Artifact Suppression. *Uehlin, J.P.*, +, *TBCAS April 2020 319-331*
- A 0.3V 10b 3MS/s SAR ADC With Comparator Calibration and Kickback Noise Reduction for Biomedical Applications. *Wang, S.*, +, *TBCAS June* 2020 558-569
- A 119dB Dynamic Range Charge Counting Light-to-Digital Converter For Wearable PPG/NIRS Monitoring Applications. *Lin, Q.*, +, *TBCAS Aug.* 2020 800-810
- A 128 × 128 Current-Mode Ultra-High Frame Rate ISFET Array With In-Pixel Calibration for Real-Time Ion Imaging. *Zeng, J.*, +, *TBCAS April* 2020 359-372
- A 2.64-μ W 71-dB SNDR Discrete-Time Signal-Folding Amplifier for Reducing ADC's Resolution Requirement in Wearable ECG Acquisition Systems. *Ratametha*, C., +, TBCAS Feb. 2020 48-64
- A Real-Time Depth of Anesthesia Monitoring System Based on Deep Neural Network With Large EDO Tolerant EEG Analog Front-End. *Park, Y.*, +, *TBCAS Aug. 2020 825-837*
- ATDM-Based 16-Channel AFE ASIC With Enhanced System-Level CMRR for Wearable EEG Recording With Dry Electrodes. *Tang, T.*, +, *TBCAS June 2020 516-524*
- A Wide Dynamic Range Neural Data Acquisition System With High-Precision Delta-Sigma ADC and On-Chip EC-PC Spike Processor. *Xu, J.*, +, *TBCAS June 2020 425-440*
- An Integrated Multi-Channel Biopotential Recording Analog Front-End IC With Area-Efficient Driven-Right-Leg Circuit. *Tang, T.*, +, *TBCAS April* 2020 297-304
- Asynchronous Event-driven Encoder With Simultaneous Temporal Envelope and Phase Extraction for Cochlear Implants. *Guo*, *N.*, +, *TBCAS June* 2020 620-630
- Charge-Redistribution Based Quadratic Operators for Neural Feature Extraction. Fiorelli, R., +, TBCAS June 2020 606-619
- Power Efficiency Comparison of Event-Driven and Fixed-Rate Signal Conversion and Compression for Biomedical Applications. *Van Assche, J.*, +, *TBCAS Aug. 2020 746-756*
- The Role and Challenges of Body Channel Communication in Wearable Flexible Electronics. Zhao, B., +, TBCAS April 2020 283-296

Animals

Erratum to "A Software-Defined Radio Receiver for Wireless Recording From Freely Behaving Animals" [Dec 19 979-989]. *Jia, Y.*, +, *TBCAS June 2020 631*

Antenna arrays

- Flexible Electromagnetic Cap for Head Imaging. Alqadami, A.S.M., +, TBCAS Oct. 2020 1097-1107
- Signal Separation and Tracking Algorithm for Multi-Person Vital Signs by Using Doppler Radar. *Chian, D.*, +, *TBCAS Dec. 2020 1346-1361*
- Towards A Pixel-Level Reconfigurable Digital Beamforming Core for Ultrasound Imaging. Malamal, G., +, TBCAS June 2020 570-582

Antenna feeds

A Novel Design Approach for Compact Wearable Antennas Based on Metasurfaces. Zhang, K., +, TBCAS Aug. 2020 918-927

Antenna radiation patterns

A Novel Design Approach for Compact Wearable Antennas Based on Metasurfaces. Zhang, K., +, TBCAS Aug. 2020 918-927

Antennas

A Millimeter-Scale Crystal-Less MICS Transceiver for Insertable Smart Pills. Song, M., +, TBCAS Dec. 2020 1218-1229

Application program interfaces

FPGA-Accelerated 3rd Generation DNA Sequencing. Wu, Z., +, TBCAS Feb. 2020 65-74

Application specific integrated circuits

A 1 MHz Miniaturized Electrical Impedance Tomography System for Prostate Imaging. Rao, A., +, TBCAS Aug. 2020 787-799

- A Low Power and Real-Time Architecture for Hough Transform Processing Integration in a Full HD-Wireless Capsule Endoscopy. *Orlando, C.*, +, *TBCAS Aug. 2020 646-657*
- Accurate, Very Low Computational Complexity Spike Sorting Using Unsupervised Matched Subspace Learning. *Zamani*, M., +, *TBCAS April 2020 221-231*
- Erratum to "A Low Power and Real-Time Architecture for Hough Transform Processing Integration in a Full HD-Wireless Capsule Endoscopy" [Aug 20 646-657]. *Chuquimia*, O., +, *TBCAS Dec. 2020 1442*

Artificial intelligence

Guest Editorial: Special Section on AI-Based Biomedical Circuits and Systems. Zhou, J., +, TBCAS April 2020 142-144

Auditory evoked potentials

Wireless User-Generic Ear EEG. Kaveh, R., +, TBCAS Aug. 2020 727-737

Avalanche photodiodes

Fully Integrated Time-Gated 3D Fluorescence Imager for Deep Neural Imaging. Choi, J., +, TBCAS Aug. 2020 636-645

В

Backpropagation

A Review of Algorithm & Hardware Design for AI-Based Biomedical Applications. Wei, Y., +, TBCAS April 2020 145-163

Backscatter

Optimizing Volumetric Efficiency and Backscatter Communication in Biosensing Ultrasonic Implants. *Ghanbari, M.M.*, +, *TBCAS Dec. 2020 1381-1392*

Biochemistry

- CORDIC-Astrocyte: Tripartite Glutamate-IP3-Ca²⁺ Interaction Dynamics on FPGA. *Heidarpur*, M., +, TBCAS Feb. 2020 36-47
- Cytomorphic Electronics With Memristors for Modeling Fundamental Genetic Circuits. *Hanna*, *H.A.*, +, *TBCAS June 2020 386-401*

Bioelectric phenomena

- A 1 MHz Miniaturized Electrical Impedance Tomography System for Prostate Imaging. Rao, A., +, TBCAS Aug. 2020 787-799
- Modelling Dynamically Re-Sizeable Electrodes (DRE) for Targeted Transcutaneous Measurements in Impedance Plethysmography. *Hashim, Z.Q.*, +, *TBCAS Feb. 2020 104-112*
- Wireless, Artefact Aware Impedance Sensor Node for Continuous Bio-Impedance Monitoring. *Dheman, K.*, +, *TBCAS Oct. 2020 1122-1134*

Bioelectric potentials

- An Energy-Efficient CMOS Dual-Mode Array Architecture for High-Density ECoG-Based Brain-Machine Interfaces. *Malekzadeh-Arasteh, O.*, +, *TBCAS April 2020 332-342*
- An Integrated Multi-Channel Biopotential Recording Analog Front-End IC With Area-Efficient Driven-Right-Leg Circuit. *Tang, T.*, +, *TBCAS April* 2020 297-304
- Biointegrated and Wirelessly Powered Implantable Brain Devices: A Review. Das, R., +, TBCAS April 2020 343-358
- Charge-Redistribution Based Quadratic Operators for Neural Feature Extraction. Fiorelli, R., +, TBCAS June 2020 606-619
- From Seizure Detection to Smart and Fully Embedded Seizure Prediction Engine: A Review. *Yang, J., +, TBCAS Oct. 2020 1008-1023*
- ImpediBands: Body Coupled Bio-Impedance Patches for Physiological Sensing Proof of Concept. Sel, K., +, TBCAS Aug. 2020 757-774
- ResOT: Resource-Efficient Oblique Trees for Neural Signal Classification. Zhu, B., +, TBCAS Aug. 2020 692-704
- SenseBack An Implantable System for Bidirectional Neural Interfacing. Williams, I., +, TBCAS Oct. 2020 1079-1087

Biological cells

Biological Living Cell in-Flow Detection Based on Microfluidic Chip and Compact Signal Processing Circuit. *Quang, L.D.*, +, *TBCAS Dec. 2020* 1371-1380

Biological organs

A 1 MHz Miniaturized Electrical Impedance Tomography System for Prostate Imaging. Rao, A., +, TBCAS Aug. 2020 787-799

- Bladder Volume Monitoring Using Electrical Impedance Tomography With Simultaneous Multi-Tone Tissue Stimulation and DFT-Based Impedance Calculation Inside an FPGA. Rosa, B.M.G., +, TBCAS Aug. 2020 775-786
- Long-Term Bowel Sound Monitoring and Segmentation by Wearable Devices and Convolutional Neural Networks. *Zhao, K.*, +, *TBCAS Oct.* 2020 985-996
- Towards a Portable Platform Integrated With Multispectral Noncontact Probes for Delineating Normal and Breast Cancer Tissue Based on Near-Infrared Spectroscopy. Pal., U.M., +, TBCAS Aug. 2020 879-888

Biological techniques

- A Dual-Sensing Thermo-Chemical ISFET Array for DNA-Based Diagnostics. Cacho-Soblechero, M., +, TBCAS June 2020 477-489
- A High Offset Distribution Tolerance High Resolution ISFET Array With Auto-Compensation for Long-Term Bacterial Metabolism Monitoring. *Duan, M., +, TBCAS June 2020 463-476*
- A Label-Free, Non-Intrusive, and Rapid Monitoring of Bacterial Growth on Solid Medium Using Microwave Biosensor. *Mohammadi, S.*, +, *TBCAS Feb. 2020 2-11*
- A Noise-Reduced Light-to-Frequency Converter for Sub-0.1% Perfusion Index Blood SpO₂ Sensing. *Tang, F., +, TBCAS Oct. 2020 931-941*
- An Electrochemical Biochip for Measuring Low Concentrations of Analytes With Adjustable Temporal Resolutions. *You, K.*, +, *TBCAS Aug. 2020 903-917*
- An Integrated Biosensor System With a High-Density Microelectrode Array for Real-Time Electrochemical Imaging. *Tedjo, W.*, +, *TBCAS Feb. 2020 20-35*
- Cytomorphic Electronics With Memristors for Modeling Fundamental Genetic Circuits. *Hanna*, *H.A.*, +, *TBCAS June 2020 386-401*
- Design of Dual-Mode Stimulus Chip With Built-In High Voltage Generator for Biomedical Applications. Yen, T., +, TBCAS Oct. 2020 961-970
- FPGA-Accelerated 3rd Generation DNA Sequencing. Wu, Z., +, TBCAS Feb. 2020 65-74
- Hardware Design and Fault-Tolerant Synthesis for Digital Acoustofluidic Biochips. Zhong, Z., +, TBCAS Oct. 2020 1065-1078

Biological tissues

- A 0.065-mm³ Monolithically-Integrated Ultrasonic Wireless Sensing Mote for Real-Time Physiological Temperature Monitoring. *Shi, C.*, +, *TBCAS June 2020 412-424*
- A Wearable CMOS Impedance to Frequency Sensing System for Non-Invasive Impedance Measurements. *Hedayatipour, A.*, +, *TBCAS Oct. 2020* 1108-1121
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- Bladder Volume Monitoring Using Electrical Impedance Tomography With Simultaneous Multi-Tone Tissue Stimulation and DFT-Based Impedance Calculation Inside an FPGA. Rosa, B.M.G., +, TBCAS Aug. 2020 775-786
- Injectable Sensors Based on Passive Rectification of Volume-Conducted Currents. Malik, S., +, TBCAS Aug. 2020 867-878
- Low-Cost Multi-Wavelength Photoacoustic Imaging Based on Portable Continuous-Wave Laser Diode Module. *Zhong, H.*, +, *TBCAS Aug. 2020 738-745*
- Motion Correction in Multimodal Intraoperative Imaging. *Chen, F.*, +, *TBCAS Aug. 2020 671-680*
- Towards A Pixel-Level Reconfigurable Digital Beamforming Core for Ultrasound Imaging. Malamal, G., +, TBCAS June 2020 570-582
- Towards a Portable Platform Integrated With Multispectral Noncontact Probes for Delineating Normal and Breast Cancer Tissue Based on Near-Infrared Spectroscopy. Pal, U.M., +, TBCAS Aug. 2020 879-888

Biology computing

- CORDIC-Astrocyte: Tripartite Glutamate-IP3-Ca²⁺ Interaction Dynamics on FPGA. *Heidarpur, M.*, +, *TBCAS Feb. 2020 36-47*
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Biomarkers

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Biomechanics

Robust Real-Time Embedded EMG Recognition Framework Using Temporal Convolutional Networks on a Multicore IoT Processor. *Zanghieri, M.*, +, *TBCAS April 2020 244-256*

Biomedical communication

A Fully Embedded Adaptive Real-Time Hand Gesture Classifier Leveraging HD-sEMG and Deep Learning. *Tam, S., +, TBCAS April 2020 232-243*

Biomedical electrodes

- A 3-Mbps, 802.11g-Based EMG Recording System With Fully Implantable 5-Electrode EMGxbrk Acquisition Device. *Ng, K.A.*, +, *TBCAS Aug. 2020 889-902*
- A Fully Embedded Adaptive Real-Time Hand Gesture Classifier Leveraging HD-sEMG and Deep Learning. *Tam, S.*, +, *TBCAS April 2020 232-243*
- A Real-Time Depth of Anesthesia Monitoring System Based on Deep Neural Network With Large EDO Tolerant EEG Analog Front-End. *Park, Y.*, +, *TBCAS Aug. 2020 825-837*
- A TDM-Based 16-Channel AFE ASIC With Enhanced System-Level CMRR for Wearable EEG Recording With Dry Electrodes. *Tang, T.*, +, *TBCAS June 2020 516-524*
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- Wireless User-Generic Ear EEG. Kaveh, R., +, TBCAS Aug. 2020 727-737 Wireless, Artefact Aware Impedance Sensor Node for Continuous Bio-Impedance Monitoring. Dheman, K., +, TBCAS Oct. 2020 1122-1134

Biomedical electronics

- A 1 MHz Miniaturized Electrical Impedance Tomography System for Prostate Imaging. *Rao, A.*, +, *TBCAS Aug. 2020 787-799*
- A 119dB Dynamic Range Charge Counting Light-to-Digital Converter For Wearable PPG/NIRS Monitoring Applications. *Lin, Q.*, +, *TBCAS Aug.* 2020 800-810
- A 3-Mbps, 802.11g-Based EMG Recording System With Fully Implantable 5-Electrode EMGxbrk Acquisition Device. *Ng, K.A.*, +, *TBCAS Aug. 2020 889.902*
- A 300 Mbps 37 pJ/bit Pulsed Optical Biotelemetry. *De Marcellis, A.*, +, *TBCAS June 2020 441-451*
- A 340 nW/Channel 110 dB PSRR Neural Recording Analog Front-End Using Replica-Biasing LNA, Level-Shifter Assisted PGA, and Averaged LFP Servo Loop in 65 nm CMOS. *Lyu*, *L.*, +, *TBCAS Aug. 2020 811-824*
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- A Wide Dynamic Range Neural Data Acquisition System With High-Precision Delta-Sigma ADC and On-Chip EC-PC Spike Processor. Xu, J., +, TBCAS June 2020 425-440
- An Energy-Efficient CMOS Dual-Mode Array Architecture for High-Density ECoG-Based Brain-Machine Interfaces. *Malekzadeh-Arasteh, O.*, +, *TBCAS April 2020 332-342*
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- Asynchronous Event-driven Encoder With Simultaneous Temporal Envelope and Phase Extraction for Cochlear Implants. *Guo, N.*, +, *TBCAS June* 2020 620-630
- Biointegrated and Wirelessly Powered Implantable Brain Devices: A Review. Das, R., +, TBCAS April 2020 343-358
- Charge-Redistribution Based Quadratic Operators for Neural Feature Extraction. Fiorelli, R., +, TBCAS June 2020 606-619
- ECG Authentication Hardware Design With Low-Power Signal Processing and Neural Network Optimization With Low Precision and Structured Compression. *Cherupally, S.K.,* +, *TBCAS April 2020 198-208*
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- Power Efficiency Comparison of Event-Driven and Fixed-Rate Signal Conversion and Compression for Biomedical Applications. *Van Assche, J.*, +, *TBCAS Aug. 2020 746-756*
- SenseBack An Implantable System for Bidirectional Neural Interfacing. Williams, I., +, TBCAS Oct. 2020 1079-1087
- Ultrasonically Powered Compact Implantable Dust for Optogenetics. *Laursen, K.*, +, *TBCAS June 2020 583-594*
- Wearable Wireless-Enabled Oscillometric Sphygmomanometer: A Flexible Ambulatory Tool for Blood Pressure Estimation. *Juteau*, *N.*, +, *TBCAS Dec.* 2020 1287-1298

Biomedical equipment

- ImpediBands: Body Coupled Bio-Impedance Patches for Physiological Sensing Proof of Concept. Sel, K., +, TBCAS Aug. 2020 757-774
- Injectable Sensors Based on Passive Rectification of Volume-Conducted Currents. Malik, S., +, TBCAS Aug. 2020 867-878
- Low-Complexity System and Algorithm for an Emergency Ventilator Sensor and Alarm. Corey, R.M., +, TBCAS Oct. 2020 1088-1096

Biomedical imaging

Guest Editorial: Special Issue on Selected Papers From IEEE BioCAS 2019. Ohta, J., +, TBCAS Aug. 2020 634-635

Biomedical measurement

- A Two-Electrode, Double-Pulsed Sensor Readout Circuit for Cardiae Troponin I Measurement. *Shan, S.*, +, *TBCAS Dec. 2020 1362-1370*
- ImpediBands: Body Coupled Bio-Impedance Patches for Physiological Sensing Proof of Concept. Sel, K., +, TBCAS Aug. 2020 757-774
- Modelling Dynamically Re-Sizeable Electrodes (DRE) for Targeted Transcutaneous Measurements in Impedance Plethysmography. *Hashim, Z.Q.*, +, *TBCAS Feb. 2020 104-112*
- Wireless, Artefact Aware Impedance Sensor Node for Continuous Bio-Impedance Monitoring. *Dheman, K.*, +, *TBCAS Oct. 2020 1122-1134*

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- An Active Concentric Electrode for Concurrent EEG Recording and Body-Coupled Communication (BCC) Data Transmission. *Tang, T.*, +, *TBCAS Dec. 2020 1253-1262*
- Guest Editorial: Special Issue on Selected Papers From IEEE BioCAS 2019. Ohta, J., +, TBCAS Aug. 2020 634-635
- Signal Separation and Tracking Algorithm for Multi-Person Vital Signs by Using Doppler Radar. Chian, D., +, TBCAS Dec. 2020 1346-1361
- Wearable Wireless-Enabled Oscillometric Sphygmomanometer: A Flexible Ambulatory Tool for Blood Pressure Estimation. *Juteau*, N., +, TBCAS Dec. 2020 1287-1298

Biomedical optical imaging

- Chip-Scale Angle-Selective Imager for In Vivo Microscopic Cancer Detection. Papageorgiou, E.P., +, TBCAS Feb. 2020 91-103
- Fully Integrated Time-Gated 3D Fluorescence Imager for Deep Neural Imaging. Choi, J., +, TBCAS Aug. 2020 636-645
- Kalman-Based Real-Time Functional Decomposition for the Spectral Calibration in Swept Source Optical Coherence Tomography. *Zavareh*, A.T., +, *TBCAS April 2020 257-273*

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Biomedical signal processing

Wearable Wireless-Enabled Oscillometric Sphygmomanometer: A Flexible Ambulatory Tool for Blood Pressure Estimation. *Juteau*, N., +, TBCAS Dec. 2020 1287-1298

Biomedical telemetry

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- SenseBack An Implantable System for Bidirectional Neural Interfacing. Williams, I., +, TBCAS Oct. 2020 1079-1087
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Biomedical transducers

Flexible Body-Conformal Ultrasound Patches for Image-Guided Neuromodulation. *Pashaei*, V., +, TBCAS April 2020 305-318

Biomedical ultrasonics

- A 0.065-mm³ Monolithically-Integrated Ultrasonic Wireless Sensing Mote for Real-Time Physiological Temperature Monitoring. *Shi, C.*, +, *TBCAS June 2020 412-424*
- A 1 MHz Miniaturized Electrical Impedance Tomography System for Prostate Imaging. Rao, A., +, TBCAS Aug. 2020 787-799
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- Towards A Pixel-Level Reconfigurable Digital Beamforming Core for Ultrasound Imaging. *Malamal, G.*, +, *TBCAS June 2020 570-582*

BioMEMS

Hardware Design and Fault-Tolerant Synthesis for Digital Acoustofluidic Biochips. Zhong, Z., +, TBCAS Oct. 2020 1065-1078

Biometrics (access control)

- A Study of Personal Recognition Method Based on EMG Signal. Lu, L., +, TBCAS Aug. 2020 681-691
- ECG Authentication Hardware Design With Low-Power Signal Processing and Neural Network Optimization With Low Precision and Structured Compression. *Cherupally, S.K.,* +, *TBCAS April 2020 198-208*

Biosensors

- A Label-Free, Non-Intrusive, and Rapid Monitoring of Bacterial Growth on Solid Medium Using Microwave Biosensor. *Mohammadi, S.*, +, *TBCAS Feb. 2020 2-11*
- A Wearable CMOS Impedance to Frequency Sensing System for Non-Invasive Impedance Measurements. *Hedayatipour, A.*, +, *TBCAS Oct. 2020* 1108-1121
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- Study of Real-Time Spatial and Temporal Behavior of Bacterial Biofilms Using 2-D Impedance Spectroscopy. *Begly, C.*, +, *TBCAS Oct. 2020 1051-1064*

Biothermics

- A 0.065-mm³ Monolithically-Integrated Ultrasonic Wireless Sensing Mote for Real-Time Physiological Temperature Monitoring. *Shi, C.*, +, *TBCAS June 2020 412-424*
- Wireless, Artefact Aware Impedance Sensor Node for Continuous Bio-Impedance Monitoring. Dheman, K., +, TBCAS Oct. 2020 1122-1134

Blind source separation

A VLSI Implementation of Independent Component Analysis for Biomedical Signal Separation Using CORDIC Engine. *Chen, Y., +, TBCAS April* 2020 373-381

ImpediBands: Body Coupled Bio-Impedance Patches for Physiological Sensing Proof of Concept. Sel, K., +, TBCAS Aug. 2020 757-774

Signal Separation and Tracking Algorithm for Multi-Person Vital Signs by Using Doppler Radar. Chian, D., +, TBCAS Dec. 2020 1346-1361

Blood

A Noise-Reduced Light-to-Frequency Converter for Sub-0.1% Perfusion Index Blood SpO₂ Sensing. *Tang, F.*, +, *TBCAS Oct. 2020 931-941*

A Noninvasive Glucose Monitoring SoC Based on Single Wavelength Photoplethysmography. *Hina*, A., +, *TBCAS June 2020 504-515*

Modelling Dynamically Re-Sizeable Electrodes (DRE) for Targeted Transcutaneous Measurements in Impedance Plethysmography. *Hashim, Z.Q.*, +, *TBCAS Feb. 2020 104-112*

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Blood pressure

Wearable Wireless-Enabled Oscillometric Sphygmomanometer: A Flexible Ambulatory Tool for Blood Pressure Estimation. *Juteau*, N., +, TBCAS Dec. 2020 1287-1298

Blood vessels

Flexible Body-Conformal Ultrasound Patches for Image-Guided Neuromodulation. *Pashaei*, V., +, TBCAS April 2020 305-318

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Bluetooth

SenseBack - An Implantable System for Bidirectional Neural Interfacing. Williams, I., +, TBCAS Oct. 2020 1079-1087

Body area networks

A Novel Design Approach for Compact Wearable Antennas Based on Metasurfaces. Zhang, K., +, TBCAS Aug. 2020 918-927

Body-Area Powering With Human Body-Coupled Power Transmission and Energy Harvesting ICs. *Li*, *J*., +, *TBCAS Dec. 2020 1263-1273*

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Body sensor networks

From Seizure Detection to Smart and Fully Embedded Seizure Prediction Engine: A Review. Yang, J., +, TBCAS Oct. 2020 1008-1023

Bootstrap circuits

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Boron alloys

Ultrasensitive Magnetoelectric Sensing System for Pico-Tesla MagnetoMyoGraphy. Zuo, S., +, TBCAS Oct. 2020 971-984

Brain

Biointegrated and Wirelessly Powered Implantable Brain Devices: A Review. Das, R., +, TBCAS April 2020 343-358

Equipment for Repetitive Transcranial Magnetic Stimulation. *Pernia*, A.M., +, TBCAS June 2020 525-534

Flexible Electromagnetic Cap for Head Imaging. Alqadami, A.S.M., +, TBCAS Oct. 2020 1097-1107

Fully Integrated Time-Gated 3D Fluorescence Imager for Deep Neural Imaging. Choi, J., +, TBCAS Aug. 2020 636-645

Implantable Sensor for Detecting Changes in the Loss Tangent of Cerebrospinal Fluid. *Manoufali*, M., +, TBCAS June 2020 452-462

Long-Term Non Anesthetic Preclinical Study Available Extra-Cranial Brain Activator (ECBA) System for the Future Minimally Invasive Human Neuro Modulation. *Lee, H.*, +, *TBCAS Dec. 2020 1393-1406*

Motion Correction in Multimodal Intraoperative Imaging. Chen, F., +, TBCAS Aug. 2020 671-680

ResOT: Resource-Efficient Oblique Trees for Neural Signal Classification. Zhu, B., +, TBCAS Aug. 2020 692-704

Brain models

Memristive Circuit Implementation of Biological Nonassociative Learning Mechanism and Its Applications. *Hong, Q.*, +, *TBCAS Oct. 2020 1036-1050*

Brain-computer interfaces

A 300 Mbps 37 pJ/bit Pulsed Optical Biotelemetry. *De Marcellis, A.*, +, *TBCAS June 2020 441-451*

An Energy-Efficient CMOS Dual-Mode Array Architecture for High-Density ECoG-Based Brain-Machine Interfaces. *Malekzadeh-Arasteh, O.*, +, *TBCAS April 2020 332-342*

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Wireless User-Generic Ear EEG. Kaveh, R., +, TBCAS Aug. 2020 727-737

Broadband antennas

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Calibration

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Cancer

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A Digital Controlled Pulse Generator for a Possible Tumor Therapy Combining Irreversible Electroporation With Nanosecond Pulse Stimulation. *Rao*, X., +, TBCAS June 2020 595-605

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Capacitance measurement

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Capacitors

A Noninvasive Glucose Monitoring SoC Based on Single Wavelength Photoplethysmography. *Hina, A.*, +, *TBCAS June 2020 504-515*

A Trimodal Wireless Implantable Neural Interface System-on-Chip. *Jia, Y.*, +, *TBCAS Dec. 2020 1207-1217*

Cardiology

Binary CorNET: Accelerator for HR Estimation From Wrist-PPG. *Rocha*, *L.G.*, +, *TBCAS Aug. 2020 715-726*

Cardiovascular system

ImpediBands: Body Coupled Bio-Impedance Patches for Physiological Sensing Proof of Concept. Sel, K., +, TBCAS Aug. 2020 757-774

Cellular biophysics

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Chemical sensors

A Dual-Sensing Thermo-Chemical ISFET Array for DNA-Based Diagnostics. Cacho-Soblechero, M., +, TBCAS June 2020 477-489

A High Offset Distribution Tolerance High Resolution ISFET Array With Auto-Compensation for Long-Term Bacterial Metabolism Monitoring. *Duan, M.*, +, *TBCAS June 2020 463-476*

Chemical variables measurement

An Electrochemical Biochip for Measuring Low Concentrations of Analytes With Adjustable Temporal Resolutions. *You, K.*, +, *TBCAS Aug. 2020 903-917*

Choppers (circuits)

Design of a Low Noise Bio-Potential Recorder With High Tolerance to Power-Line Interference Under 0.8 V Power Supply. *Luo*, *D*., +, *TBCAS Dec*. 2020 1421-1430

Circuits and systems

Guest Editorial: Special Issue on Selected Papers From IEEE BioCAS 2019. Ohta, J., +, TBCAS Aug. 2020 634-635

Guest Editorial: Special Section on AI-Based Biomedical Circuits and Systems. Zhou, J., +, TBCAS April 2020 142-144

Closed loop systems

Wearable Wireless-Enabled Oscillometric Sphygmomanometer: A Flexible Ambulatory Tool for Blood Pressure Estimation. *Juteau*, *N*., +, *TBCAS Dec.* 2020 1287-1298

CMOS analog integrated circuits

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CMOS digital integrated circuits

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Current/Voltage Dual-Mode Single-Wire Simultaneous Bidirectional Interface Architecture for Sensor System. Kim, J., +, TBCAS Feb. 2020 12-19

CMOS image sensors

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CMOS integrated circuits

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A 13.34 µW Event-Driven Patient-Specific ANN Cardiac Arrhythmia Classifier for Wearable ECG Sensors. *Zhao*, Y., +, *TBCAS April 2020 186-197*

A 2.4 GHz ISM Band OOK Transceiver With High Energy Efficiency for Biomedical Implantable Applications. *Lee, S.*, +, *TBCAS Feb. 2020 113-124*

A 2.64-μ W 71-dB SNDR Discrete-Time Signal-Folding Amplifier for Reducing ADC's Resolution Requirement in Wearable ECG Acquisition Systems. *Ratametha*, C., +, TBCAS Feb. 2020 48-64

- A Chip Integrity Monitor for Evaluating Moisture/Ion Ingress in mm-Sized Single-Chip Implants. *Akgun, O.C.*, +, *TBCAS Aug. 2020 658-670*
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A Wearable CMOS Impedance to Frequency Sensing System for Non-Invasive Impedance Measurements. *Hedayatipour, A.*, +, *TBCAS Oct. 2020*

Accurate, Very Low Computational Complexity Spike Sorting Using Unsupervised Matched Subspace Learning. *Zamani*, M., +, *TBCAS April 2020 221-231*

An Electrochemical Biochip for Measuring Low Concentrations of Analytes With Adjustable Temporal Resolutions. You, K., +, TBCAS Aug. 2020 903-917

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CMOS memory circuits

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Cobalt alloys

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Cochlear implants

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Comparators (circuits)

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Compensation

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Compressed sensing

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Computational complexity

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Computer simulation

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Computerized instrumentation

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Convolutional neural nets

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D

Data acquisition

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Data analysis

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Data communication

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Data compression

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Deep learning

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Delta-sigma modulation

A 280 μW, 108 dB DR PPG-Readout IC With Reconfigurable, 2nd-Order, Incremental ΔΣM Front-End for Direct Light-to-Digital Conversion. *Marefat, F., +, TBCAS Dec. 2020 1183-1194*

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Dielectric substrates

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Digital signal processing chips

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Discrete Fourier transforms

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Discrete wavelet transforms

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Elemental semiconductors

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Embedded systems

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Emotion recognition

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Encoding

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- Deep Neural Oracles for Short-Window Optimized Compressed Sensing of Biosignals. *Mangia, M.*, +, *TBCAS June 2020 545-557*

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Epidemics

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Error statistics

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F

Face recognition

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Failure analysis

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Fault diagnosis

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Fault tolerance

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Feature extraction

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- Accurate, Very Low Computational Complexity Spike Sorting Using Unsupervised Matched Subspace Learning. *Zamani*, M., +, *TBCAS April 2020* 221-231
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Field effect transistor switches

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Field programmable gate arrays

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Finite element analysis

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Frequency measurement

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Frequency modulation

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Fuzzy neural networks

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 \mathbf{G}

Gas sensors

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Genomics

FPGA-Accelerated 3rd Generation DNA Sequencing. Wu, Z., +, TBCAS Feb. 2020 65-74

Gesture recognition

A Fully Embedded Adaptive Real-Time Hand Gesture Classifier Leveraging HD-sEMG and Deep Learning. *Tam, S.*, +, *TBCAS April 2020 232-243*

A Wearable CMOS Impedance to Frequency Sensing System for Non-Invasive Impedance Measurements. *Hedayatipour, A.*, +, *TBCAS Oct. 2020 1108-1121*

An Optimal Electrical Impedance Tomography Drive Pattern for Human-Computer Interaction Applications. *Ma, G.*, +, *TBCAS June 2020 402-411*

Robust Real-Time Embedded EMG Recognition Framework Using Temporal Convolutional Networks on a Multicore IoT Processor. *Zanghieri, M.*, +, *TBCAS April 2020 244-256*

Glass

An Integrated Biosensor System With a High-Density Microelectrode Array for Real-Time Electrochemical Imaging. *Tedjo, W.*, +, *TBCAS Feb. 2020 20-35*

Glucose sensors

Non-Invasive Real-Time Monitoring of Glucose Level Using Novel Microwave Biosensor Based on Triple-Pole CSRR. *Omer, A.E.*, +, *TBCAS Dec.* 2020 1407-1420

Gold

A Two-Electrode, Double-Pulsed Sensor Readout Circuit for Cardiac Troponin I Measurement. Shan, S., +, TBCAS Dec. 2020 1362-1370

An Integrated Biosensor System With a High-Density Microelectrode Array for Real-Time Electrochemical Imaging. *Tedjo, W.*, +, *TBCAS Feb. 2020 20-35*

Gynecology

Towards a Portable Platform Integrated With Multispectral Noncontact Probes for Delineating Normal and Breast Cancer Tissue Based on Near-Infrared Spectroscopy. *Pal, U.M.*, +, *TBCAS Aug. 2020 879-888*

H

Handicapped aids

A Supervised Speech Enhancement Method for Smartphone-Based Binaural Hearing Aids. Sun, Z., +, TBCAS Oct. 2020 951-960

Handwritten character recognition

Application of Deep Compression Technique in Spiking Neural Network Chip. Liu, Y., +, TBCAS April 2020 274-282

Health care

Deep Neural Network for Respiratory Sound Classification in Wearable Devices Enabled by Patient Specific Model Tuning. *Acharya, J.*, +, *TBCAS June 2020 535-544*

Hearing aids

A Review of Algorithm & Hardware Design for AI-Based Biomedical Applications. Wei, Y., +, TBCAS April 2020 145-163

A Supervised Speech Enhancement Method for Smartphone-Based Binaural Hearing Aids. Sun, Z., +, TBCAS Oct. 2020 951-960

Heart beat

Signal Separation and Tracking Algorithm for Multi-Person Vital Signs by Using Doppler Radar. Chian, D., +, TBCAS Dec. 2020 1346-1361

Hemodynamics

ImpediBands: Body Coupled Bio-Impedance Patches for Physiological Sensing Proof of Concept. Sel, K., +, TBCAS Aug. 2020 757-774

Histopathology

Long-Term Non Anesthetic Preclinical Study Available Extra-Cranial Brain Activator (ECBA) System for the Future Minimally Invasive Human Neuro Modulation. *Lee, H.*, +, *TBCAS Dec. 2020 1393-1406*

Hough transforms

A Low Power and Real-Time Architecture for Hough Transform Processing Integration in a Full HD-Wireless Capsule Endoscopy. *Orlando, C.*, +, *TBCAS Aug. 2020 646-657*

Human computer interaction

An Optimal Electrical Impedance Tomography Drive Pattern for Human-Computer Interaction Applications. *Ma, G.*, +, *TBCAS June 2020 402-411*

Human-computer interaction

Spintronic Sensors Based on Magnetic Tunnel Junctions for Wireless Eye Movement Gesture Control. *Tanwear*, A., +, TBCAS Dec. 2020 1299-1310

Hyperthermia

A 0.065-mm³ Monolithically-Integrated Ultrasonic Wireless Sensing Mote for Real-Time Physiological Temperature Monitoring. *Shi, C.*, +, *TBCAS June 2020 412-424*

I

Image filtering

Kalman-Based Real-Time Functional Decomposition for the Spectral Calibration in Swept Source Optical Coherence Tomography. *Zavareh*, A.T., +, *TBCAS April 2020 257-273*

Image processing

1225-Channel Neuromorphic Retinal-Prosthesis SoC With Localized Temperature-Regulation. Park, J.H., +, TBCAS Dec. 2020 1230-1240

Image reconstruction

A 1 MHz Miniaturized Electrical Impedance Tomography System for Prostate Imaging. Rao, A., +, TBCAS Aug. 2020 787-799

Image registration

Motion Correction in Multimodal Intraoperative Imaging. Chen, F., +, TBCAS Aug. 2020 671-680

Image resolution

Towards A Pixel-Level Reconfigurable Digital Beamforming Core for Ultrasound Imaging. Malamal, G., +, TBCAS June 2020 570-582

Image sampling

Kalman-Based Real-Time Functional Decomposition for the Spectral Calibration in Swept Source Optical Coherence Tomography. *Zavareh*, A.T., +, *TBCAS April 2020 257-273*

Image sensors

An Integrated Biosensor System With a High-Density Microelectrode Array for Real-Time Electrochemical Imaging. *Tedjo, W.*, +, *TBCAS Feb. 2020 20-35*

Impedance

Optimizing Volumetric Efficiency and Backscatter Communication in Biosensing Ultrasonic Implants. *Ghanbari, M.M.*, +, *TBCAS Dec. 2020 1381-1392*

Impedance matching

A Millimeter-Scale Crystal-Less MICS Transceiver for Insertable Smart Pills. Song, M., +, TBCAS Dec. 2020 1218-1229

Body-Area Powering With Human Body-Coupled Power Transmission and Energy Harvesting ICs. Li, J., +, TBCAS Dec. 2020 1263-1273

Impedance measurement

Biological Living Cell in-Flow Detection Based on Microfluidic Chip and Compact Signal Processing Circuit. *Quang, L.D.*, +, *TBCAS Dec. 2020* 1371-1380

Implants

A Dual-Output Single-Stage Regulating Rectifier With PWM and Dual-Mode PFM Control for Wireless Powering of Biomedical Implants. *Erfani*, R., +, TBCAS Dec. 2020 1195-1206

A Millimeter-Scale Crystal-Less MICS Transceiver for Insertable Smart Pills. Song, M., +, TBCAS Dec. 2020 1218-1229

A Trimodal Wireless Implantable Neural Interface System-on-Chip. *Jia, Y.*, +, *TBCAS Dec. 2020 1207-1217*

An Energy-Efficient Optically-Enhanced Highly-Linear Implantable Wirelessly-Powered Bidirectional Optogenetic Neuro-Stimulator. *Youseft, T.*, +, *TBCAS Dec. 2020 1274-1286*

Erratum to "A 3-Mbps, 802.11g-Based EMG Recording System With Fully Implantable 5-Electrode EMG Acquisition Device" [Aug 20 889-902]. *Ng, K.A.*, +, *TBCAS Dec. 2020 1441*

Long-Term Non Anesthetic Preclinical Study Available Extra-Cranial Brain Activator (ECBA) System for the Future Minimally Invasive Human Neuro Modulation. *Lee, H.*, +, *TBCAS Dec. 2020 1393-1406*

MagNI: A Magnetoelectrically Powered and Controlled Wireless Neurostimulating Implant. Yu, Z., +, TBCAS Dec. 2020 1241-1252

Miniaturised Wireless Power Transfer Systems for Neurostimulation: A Review. Barbruni, G.L., +, TBCAS Dec. 2020 1160-1178

Optimizing Volumetric Efficiency and Backscatter Communication in Biosensing Ultrasonic Implants. *Ghanbari*, M.M., +, TBCAS Dec. 2020 1381-1392

In vivo

Long-Term Non Anesthetic Preclinical Study Available Extra-Cranial Brain Activator (ECBA) System for the Future Minimally Invasive Human Neuro Modulation. *Lee, H.*, +, *TBCAS Dec. 2020 1393-1406*

Independent component analysis

A VLSI Implementation of Independent Component Analysis for Biomedical Signal Separation Using CORDIC Engine. *Chen, Y., +, TBCAS April* 2020 373-381

Indium compounds

An Integrated Biosensor System With a High-Density Microelectrode Array for Real-Time Electrochemical Imaging. *Tedjo, W.*, +, *TBCAS Feb. 2020* 20-35

Inductive power transmission

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Infrared imaging

Motion Correction in Multimodal Intraoperative Imaging. Chen, F., +, TBCAS Aug. 2020 671-680

Towards a Portable Platform Integrated With Multispectral Noncontact Probes for Delineating Normal and Breast Cancer Tissue Based on Near-Infrared Spectroscopy. *Pal, U.M.*, +, *TBCAS Aug. 2020 879-888*

Infrared spectra

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Infrared spectroscopy

A 119dB Dynamic Range Charge Counting Light-to-Digital Converter For Wearable PPG/NIRS Monitoring Applications. *Lin, Q.*, +, *TBCAS Aug.* 2020 800-810

Towards a Portable Platform Integrated With Multispectral Noncontact Probes for Delineating Normal and Breast Cancer Tissue Based on Near-Infrared Spectroscopy. Pal, U.M., +, TBCAS Aug. 2020 879-888

Ink jet printing

An Energy-Efficient Optically-Enhanced Highly-Linear Implantable Wirelessly-Powered Bidirectional Optogenetic Neuro-Stimulator. *Yousefi, T.*, +, *TBCAS Dec. 2020 1274-1286*

Instrumentation amplifiers

An Integrated Multi-Channel Biopotential Recording Analog Front-End IC With Area-Efficient Driven-Right-Leg Circuit. *Tang, T., +, TBCAS April 2020 297-304*

Integrated circuit design

A 128 × 128 Current-Mode Ultra-High Frame Rate ISFET Array With In-Pixel Calibration for Real-Time Ion Imaging. *Zeng, J.*, +, *TBCAS April* 2020 359-372

A Noise-Reduced Light-to-Frequency Converter for Sub-0.1% Perfusion Index Blood SpO₂ Sensing. *Tang, F.*, +, *TBCAS Oct. 2020 931-941*

Current/Voltage Dual-Mode Single-Wire Simultaneous Bidirectional Interface Architecture for Sensor System. Kim, J., +, TBCAS Feb. 2020 12-19

Design of Dual-Mode Stimulus Chip With Built-In High Voltage Generator for Biomedical Applications. Yen, T., +, TBCAS Oct. 2020 961-970

Noise Optimization Techniques for Switched-Capacitor Based Neural Interfaces. Xu, J., +, TBCAS Oct. 2020 1024-1035

Integrated circuit layout

Noise Optimization Techniques for Switched-Capacitor Based Neural Interfaces. Xu, J., +, TBCAS Oct. 2020 1024-1035

Integrated circuit measurement

A Chip Integrity Monitor for Evaluating Moisture/Ion Ingress in mm-Sized Single-Chip Implants. Akgun, O.C., +, TBCAS Aug. 2020 658-670

Integrated circuit modeling

Biological Living Cell in-Flow Detection Based on Microfluidic Chip and Compact Signal Processing Circuit. *Quang, L.D.*, +, *TBCAS Dec. 2020* 1371-1380

Integrated circuit noise

Noise Optimization Techniques for Switched-Capacitor Based Neural Interfaces. Xu, J., +, TBCAS Oct. 2020 1024-1035

Integrated circuit packaging

A Chip Integrity Monitor for Evaluating Moisture/Ion Ingress in mm-Sized Single-Chip Implants. Akgun, O.C., +, TBCAS Aug. 2020 658-670

Integrated circuit reliability

Design of Dual-Mode Stimulus Chip With Built-In High Voltage Generator for Biomedical Applications. Yen, T., +, TBCAS Oct. 2020 961-970

Integrated circuits

Editorial: Special Issue on Selected Papers From ISICAS 2020 Guest Editors' Introduction. Atef, M., +, TBCAS Oct. 2020 930

Miniaturised Wireless Power Transfer Systems for Neurostimulation: A Review. Barbruni, G.L., +, TBCAS Dec. 2020 1160-1178

Integrated optoelectronics

A 119dB Dynamic Range Charge Counting Light-to-Digital Converter For Wearable PPG/NIRS Monitoring Applications. *Lin, Q.*, +, *TBCAS Aug.* 2020 800-810

Interference

An Active Concentric Electrode for Concurrent EEG Recording and Body-Coupled Communication (BCC) Data Transmission. *Tang, T.*, +, *TBCAS Dec. 2020 1253-1262*

Interference suppression

A 0.3V 10b 3MS/s SAR ADC With Comparator Calibration and Kickback Noise Reduction for Biomedical Applications. *Wang, S.*, +, *TBCAS June* 2020 558-569

Internet of Things

Robust Real-Time Embedded EMG Recognition Framework Using Temporal Convolutional Networks on a Multicore IoT Processor. *Zanghieri, M.*, +, *TBCAS April 2020 244-256*

Interpolation

Kalman-Based Real-Time Functional Decomposition for the Spectral Calibration in Swept Source Optical Coherence Tomography. *Zavareh*, A.T., +, *TBCAS April 2020 257-273*

Inverse problems

Bladder Volume Monitoring Using Electrical Impedance Tomography With Simultaneous Multi-Tone Tissue Stimulation and DFT-Based Impedance Calculation Inside an FPGA. Rosa, B.M.G., +, TBCAS Aug. 2020 775-786

Ion sensitive field effect transistors

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A Dual-Sensing Thermo-Chemical ISFET Array for DNA-Based Diagnostics. Cacho-Soblechero, M., +, TBCAS June 2020 477-489

A High Offset Distribution Tolerance High Resolution ISFET Array With Auto-Compensation for Long-Term Bacterial Metabolism Monitoring. Duan, M., +, TBCAS June 2020 463-476

Iron alloys

Ultrasensitive Magnetoelectric Sensing System for Pico-Tesla MagnetoMyoGraphy. Zuo, S., +, TBCAS Oct. 2020 971-984

K

Kalman filters

Kalman-Based Real-Time Functional Decomposition for the Spectral Calibration in Swept Source Optical Coherence Tomography. *Zavareh*, A.T., +, TBCAS April 2020 257-273

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Lab-on-a-chip

A 128 × 128 Current-Mode Ultra-High Frame Rate ISFET Array With In-Pixel Calibration for Real-Time Ion Imaging. *Zeng, J.*, +, *TBCAS April* 2020 359-372

A Noise-Reduced Light-to-Frequency Converter for Sub-0.1% Perfusion Index Blood SpO₂ Sensing. *Tang, F.*, +, *TBCAS Oct. 2020 931-941*

An Electrochemical Biochip for Measuring Low Concentrations of Analytes With Adjustable Temporal Resolutions. *You*, *K.*,+, *TBCAS Aug. 2020 903-917* Hardware Design and Fault-Tolerant Synthesis for Digital Acoustofluidic Biochips. *Zhong*, *Z.*,+, *TBCAS Oct. 2020 1065-1078*

Laser applications in medicine

Low-Cost Multi-Wavelength Photoacoustic Imaging Based on Portable Continuous-Wave Laser Diode Module. *Zhong, H.*, +, *TBCAS Aug. 2020* 738-745

Learning (artificial intelligence)

A Noninvasive Glucose Monitoring SoC Based on Single Wavelength Photoplethysmography. *Hina, A.*, +, *TBCAS June 2020 504-515*

A Real-Time Depth of Anesthesia Monitoring System Based on Deep Neural Network With Large EDO Tolerant EEG Analog Front-End. *Park, Y.*, +, *TBCAS Aug. 2020 825-837*

A Study of Personal Recognition Method Based on EMG Signal. Lu, L., +, TBCAS Aug. 2020 681-691

A Supervised Speech Enhancement Method for Smartphone-Based Binaural Hearing Aids. Sun, Z., +, TBCAS Oct. 2020 951-960

Accurate, Very Low Computational Complexity Spike Sorting Using Unsupervised Matched Subspace Learning. *Zamani*, M., +, *TBCAS April 2020 221-231*

An Energy-Quality Scalable STDP Based Sparse Coding Processor With On-Chip Learning Capability. Kim, H., +, TBCAS Feb. 2020 125-137

An On-Chip Processor for Chronic Neurological Disorders Assistance Using Negative Affectivity Classification. *Aslam, A.R.*, +, *TBCAS Aug. 2020 838-851*

Binary CorNET: Accelerator for HR Estimation From Wrist-PPG. *Rocha, L.G.*, +, *TBCAS Aug. 2020 715-726*

Deep Neural Network for Respiratory Sound Classification in Wearable Devices Enabled by Patient Specific Model Tuning. *Acharya, J.*, +, *TBCAS June 2020 535-544*

Deep Neural Oracles for Short-Window Optimized Compressed Sensing of Biosignals. *Mangia, M.*, +, *TBCAS June 2020 545-557*

From Seizure Detection to Smart and Fully Embedded Seizure Prediction Engine: A Review. *Yang, J., +, TBCAS Oct. 2020 1008-1023*

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Long-Term Bowel Sound Monitoring and Segmentation by Wearable Devices and Convolutional Neural Networks. *Zhao, K.*, +, *TBCAS Oct.* 2020 985-996

Memristive Circuit Implementation of Biological Nonassociative Learning Mechanism and Its Applications. *Hong, Q.*, +, *TBCAS Oct. 2020 1036-1050*

Molecular and DNA Artificial Neural Networks via Fractional Coding. *Liu*, X., +, *TBCAS June 2020 490-503*

ResOT: Resource-Efficient Oblique Trees for Neural Signal Classification. Zhu, B., +, TBCAS Aug. 2020 692-704

Sensor-Array Optimization Based on Time-Series Data Analytics for Sanitation-Related Malodor Detection. Zhou, J., +, TBCAS Aug. 2020 705-714

The Design of Memristive Circuit for Affective Multi-Associative Learning. Wang, Z., +, TBCAS April 2020 173-185

Who is the Winner? Memristive-CMOS Hybrid Modules: CNN-LSTM Versus HTM. Smagulova, K., +, TBCAS April 2020 164-172

Lenses

An Energy-Efficient Optically-Enhanced Highly-Linear Implantable Wirelessly-Powered Bidirectional Optogenetic Neuro-Stimulator. *Yousefi, T.*, +, *TBCAS Dec. 2020 1274-1286*

Spintronic Sensors Based on Magnetic Tunnel Junctions for Wireless Eye Movement Gesture Control. *Tanwear, A.*, +, *TBCAS Dec. 2020 1299-1310*

Light emitting diodes

A 280 μW, 108 dB DR PPG-Readout IC With Reconfigurable, 2nd-Order, Incremental ΔΣΜ Front-End for Direct Light-to-Digital Conversion. *Marefat, F., +, TBCAS Dec. 2020 1183-1194*

An Energy-Efficient Optically-Enhanced Highly-Linear Implantable Wirelessly-Powered Bidirectional Optogenetic Neuro-Stimulator. *Yousefi, T.*, +, *TBCAS Dec. 2020 1274-1286*

Ultrasonically Powered Compact Implantable Dust for Optogenetics. *Laursen, K.*, +, *TBCAS June 2020 583-594*

Logic arrays

Recursive Threshold Logic—A Bioinspired Reconfigurable Dynamic Logic System With Crossbar Arrays. *James, A.*, +, *TBCAS Dec. 2020 1311-1322*

Logic design

CORDIC-Astrocyte: Tripartite Glutamate-IP3-Ca²⁺ Interaction Dynamics on FPGA. *Heidarpur, M.*, +, *TBCAS Feb. 2020 36-47*

Low-Cost Adaptive Exponential Integrate-and-Fire Neuron Using Stochastic Computing. Xiao, S., +, TBCAS Oct. 2020 942-950

Recursive Threshold Logic—A Bioinspired Reconfigurable Dynamic Logic System With Crossbar Arrays. *James, A.*, +, *TBCAS Dec. 2020 1311-1322*

Logic gates

Recursive Threshold Logic—A Bioinspired Reconfigurable Dynamic Logic System With Crossbar Arrays. *James, A., +, TBCAS Dec. 2020 1311-1322*

Long short term memory

On-Device Reliability Assessment and Prediction of Missing Photoplethysmographic Data Using Deep Neural Networks. *Singha Roy, M.*, +, *TBCAS Dec. 2020 1323-1332*

Low noise amplifiers

A 2.4 GHz ISM Band OOK Transceiver With High Energy Efficiency for Biomedical Implantable Applications. *Lee, S., +, TBCAS Feb. 2020 113-124*

A 340 nW/Channel 110 dB PSRR Neural Recording Analog Front-End Using Replica-Biasing LNA, Level-Shifter Assisted PGA, and Averaged LFP Servo Loop in 65 nm CMOS. Lyu, L., +, TBCAS Aug. 2020 811-824

A TDM-Based 16-Channel AFE ASIC With Enhanced System-Level CMRR for Wearable EEG Recording With Dry Electrodes. *Tang, T.*, +, *TBCAS June 2020 516-524*

Low-power electronics

A 0.065-mm³ Monolithically-Integrated Ultrasonic Wireless Sensing Mote for Real-Time Physiological Temperature Monitoring. *Shi, C.*, +, *TBCAS June 2020 412-424*

A 0.3V 10b 3MS/s SAR ADC With Comparator Calibration and Kickback Noise Reduction for Biomedical Applications. *Wang, S.*, +, *TBCAS June* 2020 558-569

A 119dB Dynamic Range Charge Counting Light-to-Digital Converter For Wearable PPG/NIRS Monitoring Applications. *Lin, Q.*, +, *TBCAS Aug.* 2020 800-810

A 2.4 GHz ISM Band OOK Transceiver With High Energy Efficiency for Biomedical Implantable Applications. *Lee, S.*, +, *TBCAS Feb. 2020 113-124*

A 2.64-μ W 71-dB SNDR Discrete-Time Signal-Folding Amplifier for Reducing ADC's Resolution Requirement in Wearable ECG Acquisition Systems. *Ratametha*, C., +, TBCAS Feb. 2020 48-64

A 280 μW, 108 dB DR PPG-Readout IC With Reconfigurable, 2nd-Order, Incremental ΔΣΜ Front-End for Direct Light-to-Digital Conversion. Marefat, F., +, TBCAS Dec. 2020 1183-1194

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A Noise-Reduced Light-to-Frequency Converter for Sub-0.1% Perfusion Index Blood SpO₂ Sensing. *Tang, F.*, +, *TBCAS Oct. 2020 931-941*

A Wide Dynamic Range Neural Data Acquisition System With High-Precision Delta-Sigma ADC and On-Chip EC-PC Spike Processor. *Xu*, *J*., +, *TBCAS June 2020 425-440*

Asynchronous Event-driven Encoder With Simultaneous Temporal Envelope and Phase Extraction for Cochlear Implants. *Guo*, N., +, *TBCAS June* 2020 620-630

Charge-Redistribution Based Quadratic Operators for Neural Feature Extraction. Fiorelli, R., +, TBCAS June 2020 606-619

ECG Authentication Hardware Design With Low-Power Signal Processing and Neural Network Optimization With Low Precision and Structured Compression. *Cherupally, S.K.,* +, *TBCAS April 2020 198-208*

Low-Cost Adaptive Exponential Integrate-and-Fire Neuron Using Stochastic Computing. Xiao, S., +, TBCAS Oct. 2020 942-950

Lung

ImpediBands: Body Coupled Bio-Impedance Patches for Physiological Sensing Proof of Concept. Sel, K., +, TBCAS Aug. 2020 757-774

Lung cancer

Biological Living Cell in-Flow Detection Based on Microfluidic Chip and Compact Signal Processing Circuit. *Quang, L.D.*, +, *TBCAS Dec. 2020* 1371-1380

M

Mach-Zehnder interferometers

Kalman-Based Real-Time Functional Decomposition for the Spectral Calibration in Swept Source Optical Coherence Tomography. Zavareh, A.T., +, TBCAS April 2020 257-273

Magnetic field measurement

Ultrasensitive Magnetoelectric Sensing System for Pico-Tesla MagnetoMyoGraphy. Zuo, S., +, TBCAS Oct. 2020 971-984

Magnetic sensors

Spintronic Sensors Based on Magnetic Tunnel Junctions for Wireless Eye Movement Gesture Control. *Tanwear, A., +, TBCAS Dec. 2020 1299-1310* Ultrasensitive Magnetoelectric Sensing System for Pico-Tesla MagnetoMyoGraphy. *Zuo, S., +, TBCAS Oct. 2020 971-984*

Magnetoelectric effects

MagNI: A Magnetoelectrically Powered and Controlled Wireless Neurostimulating Implant. Yu, Z., +, TBCAS Dec. 2020 1241-1252

Magnetostrictive devices

Ultrasensitive Magnetoelectric Sensing System for Pico-Tesla MagnetoMyoGraphy. Zuo, S., +, TBCAS Oct. 2020 971-984

Mathematical analysis

Kalman-Based Real-Time Functional Decomposition for the Spectral Calibration in Swept Source Optical Coherence Tomography. *Zavareh*, A.T., +, TBCAS April 2020 257-273

Matrix multiplication

A VLSI Implementation of Independent Component Analysis for Biomedical Signal Separation Using CORDIC Engine. *Chen, Y., +, TBCAS April* 2020 373-381

Maximum power point trackers

Body-Area Powering With Human Body-Coupled Power Transmission and Energy Harvesting ICs. Li, J., +, TBCAS Dec. 2020 1263-1273

Measurement systems

A Chip Integrity Monitor for Evaluating Moisture/Ion Ingress in mm-Sized Single-Chip Implants. *Akgun, O.C.*, +, *TBCAS Aug. 2020 658-670*

Medical computing

Low-Complexity System and Algorithm for an Emergency Ventilator Sensor and Alarm. Corey, R.M., +, TBCAS Oct. 2020 1088-1096

Memristive Circuit Implementation of Biological Nonassociative Learning Mechanism and Its Applications. *Hong, Q.*, +, *TBCAS Oct. 2020 1036-1050* ResOT: Resource-Efficient Oblique Trees for Neural Signal Classification. *Zhu, B.*, +, *TBCAS Aug. 2020 692-704*

Medical disorders

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Deep Learning Approach for Epileptic Focus Localization. *Daoud, H.*, +, TBCAS April 2020 209-220

Equipment for Repetitive Transcranial Magnetic Stimulation. *Pernia, A.M.*, +, *TBCAS June 2020 525-534*

From Seizure Detection to Smart and Fully Embedded Seizure Prediction Engine: A Review. *Yang, J.*, +, *TBCAS Oct. 2020 1008-1023*

Medical image processing

A 1 MHz Miniaturized Electrical Impedance Tomography System for Prostate Imaging. Rao, A., +, TBCAS Aug. 2020 787-799

A Low Power and Real-Time Architecture for Hough Transform Processing Integration in a Full HD-Wireless Capsule Endoscopy. *Orlando, C.*, +, *TBCAS Aug. 2020 646-657*

A Noninvasive Glucose Monitoring SoC Based on Single Wavelength Photoplethysmography. *Hina, A.*, +, *TBCAS June 2020 504-515*

Bladder Volume Monitoring Using Electrical Impedance Tomography With Simultaneous Multi-Tone Tissue Stimulation and DFT-Based Impedance Calculation Inside an FPGA. Rosa, B.M.G., +, TBCAS Aug. 2020 775-786

Flexible Body-Conformal Ultrasound Patches for Image-Guided Neuromodulation. *Pashaei*, V., +, TBCAS April 2020 305-318

- Flexible Electromagnetic Cap for Head Imaging. Alqadami, A.S.M., +, TBCAS Oct. 2020 1097-1107
- Kalman-Based Real-Time Functional Decomposition for the Spectral Calibration in Swept Source Optical Coherence Tomography. *Zavareh*, A.T., +, *TBCAS April 2020 257-273*
- Motion Correction in Multimodal Intraoperative Imaging. Chen, F., +, TBCAS Aug. 2020 671-680
- Towards A Pixel-Level Reconfigurable Digital Beamforming Core for Ultrasound Imaging. *Malamal*, G., +, TBCAS June 2020 570-582
- Towards a Portable Platform Integrated With Multispectral Noncontact Probes for Delineating Normal and Breast Cancer Tissue Based on Near-Infrared Spectroscopy. *Pal, U.M.*, +, *TBCAS Aug. 2020 879-888*

Medical Internet of Things

Hardware Implementation of Deep Network Accelerators Towards Healthcare and Biomedical Applications. *Azghadi, M.R.*, +, *TBCAS Dec. 2020* 1138-1159

Medical services

- Guest Editorial: Special Issue on Selected Papers From IEEE BioCAS 2019. Ohta, J., +, TBCAS Aug. 2020 634-635
- Hardware Implementation of Deep Network Accelerators Towards Healthcare and Biomedical Applications. *Azghadi, M.R.*, +, *TBCAS Dec. 2020* 1138-1159

Medical signal detection

- Charge-Redistribution Based Quadratic Operators for Neural Feature Extraction. Fiorelli, R., +, TBCAS June 2020 606-619
- From Seizure Detection to Smart and Fully Embedded Seizure Prediction Engine: A Review. *Yang, J., +, TBCAS Oct. 2020 1008-1023*
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- ImpediBands: Body Coupled Bio-Impedance Patches for Physiological Sensing Proof of Concept. Sel, K., +, TBCAS Aug. 2020 757-774

Medical signal processing

- A 0.0023 mm²/ch. Delta-Encoded, Time-Division Multiplexed Mixed-Signal ECoG Recording Architecture With Stimulus Artifact Suppression. *Uehlin, J.P., +, TBCAS April 2020 319-331*
- A 13.34 µW Event-Driven Patient-Specific ANN Cardiac Arrhythmia Classifier for Wearable ECG Sensors. Zhao, Y., +, TBCAS April 2020 186-197
- A 2.64-μ W 71-dB SNDR Discrete-Time Signal-Folding Amplifier for Reducing ADC's Resolution Requirement in Wearable ECG Acquisition Systems. Ratametha, C., +, TBCAS Feb. 2020 48-64
- A 3-Mbps, 802.11g-Based EMG Recording System With Fully Implantable 5-Electrode EMGxbrk Acquisition Device. *Ng, K.A.*, +, *TBCAS Aug. 2020 889-902*
- A Fully Embedded Adaptive Real-Time Hand Gesture Classifier Leveraging HD-sEMG and Deep Learning. *Tam, S.*, +, *TBCAS April 2020 232-243*
- A Real-Time Depth of Anesthesia Monitoring System Based on Deep Neural Network With Large EDO Tolerant EEG Analog Front-End. *Park, Y.*, +, *TBCAS Aug. 2020 825-837*
- A Review of Algorithm & Hardware Design for AI-Based Biomedical Applications. Wei, Y., +, TBCAS April 2020 145-163
- A Study of Personal Recognition Method Based on EMG Signal. Lu, L., +, TBCAS Aug. 2020 681-691
- ATDM-Based 16-Channel AFE ASIC With Enhanced System-Level CMRR for Wearable EEG Recording With Dry Electrodes. *Tang, T.*, +, *TBCAS June 2020 516-524*
- A VLSI Implementation of Independent Component Analysis for Biomedical Signal Separation Using CORDIC Engine. *Chen, Y., +, TBCAS April 2020 373-381*
- Accurate, Very Low Computational Complexity Spike Sorting Using Unsupervised Matched Subspace Learning. *Zamani*, *M*., +, *TBCAS April 2020* 221-231
- An Energy-Efficient CMOS Dual-Mode Array Architecture for High-Density ECoG-Based Brain-Machine Interfaces. *Malekzadeh-Arasteh, O.*, +, *TBCAS April 2020 332-342*
- An On-Chip Processor for Chronic Neurological Disorders Assistance Using Negative Affectivity Classification. Aslam, A.R., +, TBCAS Aug. 2020 838-851

- Binary CorNET: Accelerator for HR Estimation From Wrist-PPG. *Rocha*, L.G., +, TBCAS Aug. 2020 715-726
- Bladder Volume Monitoring Using Electrical Impedance Tomography With Simultaneous Multi-Tone Tissue Stimulation and DFT-Based Impedance Calculation Inside an FPGA. Rosa, B.M.G., +, TBCAS Aug. 2020 775-786
- Charge-Redistribution Based Quadratic Operators for Neural Feature Extraction. Fiorelli, R., +, TBCAS June 2020 606-619
- Deep Learning Approach for Epileptic Focus Localization. Daoud, H., +, TBCAS April 2020 209-220
- Deep Neural Network for Respiratory Sound Classification in Wearable Devices Enabled by Patient Specific Model Tuning. *Acharya, J.*, +, *TBCAS June 2020 535-544*
- Deep Neural Oracles for Short-Window Optimized Compressed Sensing of Biosignals. *Mangia*, M., +, TBCAS June 2020 545-557
- ECG Authentication Hardware Design With Low-Power Signal Processing and Neural Network Optimization With Low Precision and Structured Compression. *Cherupally, S.K.*, +, *TBCAS April 2020 198-208*
- From Seizure Detection to Smart and Fully Embedded Seizure Prediction Engine: A Review. *Yang, J., +, TBCAS Oct. 2020 1008-1023*
- Highly Linear Phase-Canceling Self-Injection-Locked Ultrasonic Radar for Non-Contact Monitoring of Respiration and Heartbeat. Yu, S., +, TBCAS Feb. 2020 75-90
- ImpediBands: Body Coupled Bio-Impedance Patches for Physiological Sensing Proof of Concept. Sel, K., +, TBCAS Aug. 2020 757-774
- Long-Term Bowel Sound Monitoring and Segmentation by Wearable Devices and Convolutional Neural Networks. *Zhao, K.*, +, *TBCAS Oct.* 2020 985-996
- Molecular and DNA Artificial Neural Networks via Fractional Coding. *Liu*, *X*., +, *TBCAS June 2020 490-503*
- Power Efficiency Comparison of Event-Driven and Fixed-Rate Signal Conversion and Compression for Biomedical Applications. *Van Assche, J.*, +, *TBCAS Aug. 2020 746-756*
- ResOT: Resource-Efficient Oblique Trees for Neural Signal Classification. Zhu, B., +, TBCAS Aug. 2020 692-704
- Robust Real-Time Embedded EMG Recognition Framework Using Temporal Convolutional Networks on a Multicore IoT Processor. *Zanghieri, M.*, +, *TBCAS April 2020 244-256*
- Ultrasensitive Magnetoelectric Sensing System for Pico-Tesla MagnetoMyoGraphy. Zuo, S., +, TBCAS Oct. 2020 971-984
- Wireless User-Generic Ear EEG. Kaveh, R., +, TBCAS Aug. 2020 727-737 Meetings
 - Editorial: Special Issue on Selected Papers From ISICAS 2020 Guest Editors' Introduction. *Atef, M.*, +, *TBCAS Oct. 2020 930*
 - Guest Editorial: Selected Papers From the 2020 IEEE International Solid-State Circuits Conference. *Burdett, A.*, +, *TBCAS Dec. 2020 1179-1182*
 - Guest Editorial: Special Issue on Selected Papers From IEEE BioCAS 2019. Ohta, J., +, TBCAS Aug. 2020 634-635

Memristors

- Cytomorphic Electronics With Memristors for Modeling Fundamental Genetic Circuits. *Hanna*, H.A., +, TBCAS June 2020 386-401
- Hardware Implementation of Deep Network Accelerators Towards Healthcare and Biomedical Applications. *Azghadi, M.R.*, +, *TBCAS Dec. 2020* 1/38-1/59
- Memristive Circuit Implementation of Biological Nonassociative Learning Mechanism and Its Applications. *Hong, Q.*, +, *TBCAS Oct. 2020 1036-1050*
- Recursive Threshold Logic—A Bioinspired Reconfigurable Dynamic Logic System With Crossbar Arrays. *James, A.*, +, *TBCAS Dec. 2020 1311-1322*
- The Design of Memristive Circuit for Affective Multi-Associative Learning. Wang, Z., +, TBCAS April 2020 173-185
- Who is the Winner? Memristive-CMOS Hybrid Modules: CNN-LSTM Versus HTM. *Smagulova*, K., +, *TBCAS April 2020 164-172*

Metamaterial antennas

A Novel Design Approach for Compact Wearable Antennas Based on Metasurfaces. Zhang, K., +, TBCAS Aug. 2020 918-927

Microcontrollers

Equipment for Repetitive Transcranial Magnetic Stimulation. *Pernia, A.M.*, +, *TBCAS June 2020 525-534*

Low-Complexity System and Algorithm for an Emergency Ventilator Sensor and Alarm. Corey, R.M., +, TBCAS Oct. 2020 1088-1096

The Role and Challenges of Body Channel Communication in Wearable Flexible Electronics. Zhao, B., +, TBCAS April 2020 283-296

Microelectrodes

An Integrated Biosensor System With a High-Density Microelectrode Array for Real-Time Electrochemical Imaging. *Tedjo, W.*, +, *TBCAS Feb. 2020 20-35*

Study of Real-Time Spatial and Temporal Behavior of Bacterial Biofilms Using 2-D Impedance Spectroscopy. *Begly, C.*, +, *TBCAS Oct. 2020 1051-1064*

Microfluidics

An Integrated Biosensor System With a High-Density Microelectrode Array for Real-Time Electrochemical Imaging. *Tedjo, W.*, +, *TBCAS Feb. 2020 20-35*

Biological Living Cell in-Flow Detection Based on Microfluidic Chip and Compact Signal Processing Circuit. *Quang, L.D.*, +, *TBCAS Dec. 2020* 1371-1380

Hardware Design and Fault-Tolerant Synthesis for Digital Acoustofluidic Biochips. Zhong, Z., +, TBCAS Oct. 2020 1065-1078

Micromechanical devices

Ultrasonically Powered Compact Implantable Dust for Optogenetics. *Laursen, K.*, +, *TBCAS June 2020 583-594*

Microorganisms

A High Offset Distribution Tolerance High Resolution ISFET Array With Auto-Compensation for Long-Term Bacterial Metabolism Monitoring. *Duan, M.*, +, *TBCAS June 2020 463-476*

A Label-Free, Non-Intrusive, and Rapid Monitoring of Bacterial Growth on Solid Medium Using Microwave Biosensor. *Mohammadi, S.*, +, *TBCAS Feb. 2020 2-11*

Microprocessor chips

A Wide Dynamic Range Neural Data Acquisition System With High-Precision Delta-Sigma ADC and On-Chip EC-PC Spike Processor. *Xu*, *J*., +, *TBCAS June 2020 425-440*

Microsensors

An Electrochemical Biochip for Measuring Low Concentrations of Analytes With Adjustable Temporal Resolutions. *You, K.*, +, *TBCAS Aug. 2020 903-917*

An Integrated Biosensor System With a High-Density Microelectrode Array for Real-Time Electrochemical Imaging. *Tedjo, W.*, +, *TBCAS Feb. 2020* 20-35

Study of Real-Time Spatial and Temporal Behavior of Bacterial Biofilms Using 2-D Impedance Spectroscopy. *Begly, C.*, +, *TBCAS Oct. 2020 1051-1064*

Microstrip

Non-Invasive Real-Time Monitoring of Glucose Level Using Novel Microwave Biosensor Based on Triple-Pole CSRR. *Omer, A.E.*, +, *TBCAS Dec.* 2020 1407-1420

Microstrip antennas

A Novel Design Approach for Compact Wearable Antennas Based on Metasurfaces. Zhang, K., +, TBCAS Aug. 2020 918-927

Microwave detectors

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Microwave imaging

CMOS Gaussian Monocycle Pulse Transceiver for Radar-Based Microwave Imaging. *Kikkawa, T.*, +, *TBCAS Dec. 2020 1333-1345*

Flexible Electromagnetic Cap for Head Imaging. *Alqadami, A.S.M.*, +, TBCAS Oct. 2020 1097-1107

Microwave measurement

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Microwave resonators

A Label-Free, Non-Intrusive, and Rapid Monitoring of Bacterial Growth on Solid Medium Using Microwave Biosensor. *Mohammadi, S.*, +, *TBCAS Feb. 2020 2-11*

Minimization

ECG Authentication Hardware Design With Low-Power Signal Processing and Neural Network Optimization With Low Precision and Structured Compression. *Cherupally, S.K.,* +, *TBCAS April 2020 198-208*

Mixed analog digital integrated circuits

Charge-Redistribution Based Quadratic Operators for Neural Feature Extraction. Fiorelli, R., +, TBCAS June 2020 606-619

Modulation

Design of a Low Noise Bio-Potential Recorder With High Tolerance to Power-Line Interference Under 0.8 V Power Supply. *Luo*, *D*., +, *TBCAS Dec*. 2020 1421-1430

Optimizing Volumetric Efficiency and Backscatter Communication in Biosensing Ultrasonic Implants. *Ghanbari*, M.M., +, TBCAS Dec. 2020 1381-1392

Moisture

A Chip Integrity Monitor for Evaluating Moisture/Ion Ingress in mm-Sized Single-Chip Implants. *Akgun, O.C.*, +, *TBCAS Aug. 2020 658-670*

Molecular biophysics

Cytomorphic Electronics With Memristors for Modeling Fundamental Genetic Circuits. *Hanna, H.A.*, +, *TBCAS June 2020 386-401*

Towards a Portable Platform Integrated With Multispectral Noncontact Probes for Delineating Normal and Breast Cancer Tissue Based on Near-Infrared Spectroscopy. *Pal, U.M.*, +, *TBCAS Aug. 2020 879-888*

Monopole antennas

A Novel Design Approach for Compact Wearable Antennas Based on Metasurfaces. Zhang, K., +, TBCAS Aug. 2020 918-927

MOSFET

A Dual-Sensing Thermo-Chemical ISFET Array for DNA-Based Diagnostics. Cacho-Soblechero, M., +, TBCAS June 2020 477-489

A High Offset Distribution Tolerance High Resolution ISFET Array With Auto-Compensation for Long-Term Bacterial Metabolism Monitoring. *Duan, M.*, +, *TBCAS June 2020 463-476*

Multifrequency antennas

A Novel Design Approach for Compact Wearable Antennas Based on Metasurfaces. Zhang, K., +, TBCAS Aug. 2020 918-927

Multilayer perceptrons

Deep Learning Approach for Epileptic Focus Localization. Daoud, H., +, TBCAS April 2020 209-220

Molecular and DNA Artificial Neural Networks via Fractional Coding. Liu, X, +, TBCAS June 2020 490-503

N

Nanoparticles

A Two-Electrode, Double-Pulsed Sensor Readout Circuit for Cardiac Troponin I Measurement. Shan, S., +, TBCAS Dec. 2020 1362-1370

Nanosensor

An Electrochemical Biochip for Measuring Low Concentrations of Analytes With Adjustable Temporal Resolutions. *You, K.*, +, *TBCAS Aug. 2020 903-917*

Narrowband

Signal Separation and Tracking Algorithm for Multi-Person Vital Signs by Using Doppler Radar. Chian, D., +, TBCAS Dec. 2020 1346-1361

Neural chips

An Energy-Quality Scalable STDP Based Sparse Coding Processor With On-Chip Learning Capability. Kim, H., +, TBCAS Feb. 2020 125-137

Application of Deep Compression Technique in Spiking Neural Network Chip. Liu, Y., +, TBCAS April 2020 274-282

Charge-Redistribution Based Quadratic Operators for Neural Feature Extraction. Fiorelli, R., +, TBCAS June 2020 606-619

Intelligent Fault-Prediction Assisted Self-Healing for Embryonic Hardware. Khalil, K., +, TBCAS Aug. 2020 852-866

Noise Optimization Techniques for Switched-Capacitor Based Neural Interfaces. Xu, J., +, TBCAS Oct. 2020 1024-1035

SenseBack - An Implantable System for Bidirectional Neural Interfacing. Williams, I., +, TBCAS Oct. 2020 1079-1087

Neural engineering

Miniaturised Wireless Power Transfer Systems for Neurostimulation: A Review. Barbruni, G.L., +, TBCAS Dec. 2020 1160-1178

Neural implants

MagNI: A Magnetoelectrically Powered and Controlled Wireless Neurostimulating Implant. Yu, Z., +, TBCAS Dec. 2020 1241-1252

Neural networks

A 13.34 μW Event-Driven Patient-Specific ANN Cardiac Arrhythmia Classifier for Wearable ECG Sensors. *Zhao*, Y, +, *TBCAS April 2020 186-197*

A Study of Personal Recognition Method Based on EMG Signal. Lu, L., +, TBCAS Aug. 2020 681-691

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Molecular and DNA Artificial Neural Networks via Fractional Coding. *Liu*, *X.*, +, *TBCAS June 2020 490-503*

ResOT: Resource-Efficient Oblique Trees for Neural Signal Classification. Zhu, B., +, TBCAS Aug. 2020 692-704

The Design of Memristive Circuit for Affective Multi-Associative Learning. Wang, Z., +, TBCAS April 2020 173-185

Neuromodulation

A Trimodal Wireless Implantable Neural Interface System-on-Chip. *Jia*, *Y*, +, *TBCAS Dec*. 2020 1207-1217

Neuromorphic engineering

Hardware Implementation of Deep Network Accelerators Towards Healthcare and Biomedical Applications. *Azghadi, M.R.*, +, *TBCAS Dec. 2020* 1/38-1/59

Low-Cost Adaptive Exponential Integrate-and-Fire Neuron Using Stochastic Computing. Xiao, S., +, TBCAS Oct. 2020 942-950

Neuromorphics

1225-Channel Neuromorphic Retinal-Prosthesis SoC With Localized Temperature-Regulation. Park, J.H., +, TBCAS Dec. 2020 1230-1240

Neuromuscular stimulation

Injectable Sensors Based on Passive Rectification of Volume-Conducted Currents. *Malik, S.*, +, *TBCAS Aug. 2020 867-878*

Neurons

Recursive Threshold Logic—A Bioinspired Reconfigurable Dynamic Logic System With Crossbar Arrays. *James, A.*, +, *TBCAS Dec. 2020 1311-1322* **Neurophysiology**

A 300 Mbps 37 pJ/bit Pulsed Optical Biotelemetry. De Marcellis, A., +, TBCAS June 2020 441-451

An Energy-Efficient CMOS Dual-Mode Array Architecture for High-Density ECoG-Based Brain-Machine Interfaces. *Malekzadeh-Arasteh, O.*, +, *TBCAS April 2020 332-342*

An Energy-Quality Scalable STDP Based Sparse Coding Processor With On-Chip Learning Capability. Kim, H., +, TBCAS Feb. 2020 125-137

Asynchronous Event-driven Encoder With Simultaneous Temporal Envelope and Phase Extraction for Cochlear Implants. *Guo*, *N.*, +, *TBCAS June* 2020 620-630

Biointegrated and Wirelessly Powered Implantable Brain Devices: A Review. Das, R., +, TBCAS April 2020 343-358

Charge-Redistribution Based Quadratic Operators for Neural Feature Extraction. Fiorelli, R., +, TBCAS June 2020 606-619

CORDIC-Astrocyte: Tripartite Glutamate-IP3-Ca²⁺ Interaction Dynamics on FPGA. *Heidarpur*; M., +, TBCAS Feb. 2020 36-47

Equipment for Repetitive Transcranial Magnetic Stimulation. *Pernia, A.M.*, +, *TBCAS June 2020 525-534*

Flexible Body-Conformal Ultrasound Patches for Image-Guided Neuromodulation. Pashaei, V., +, TBCAS April 2020 305-318

Implantable Sensor for Detecting Changes in the Loss Tangent of Cerebrospinal Fluid. *Manoufali*, M., +, TBCAS June 2020 452-462

Memristive Circuit Implementation of Biological Nonassociative Learning Mechanism and Its Applications. *Hong, Q.*, +, *TBCAS Oct. 2020 1036-1050* Motion Correction in Multimodal Intraoperative Imaging. *Chen, F.*, +, *TBCAS Aug. 2020 671-680*

ResOT: Resource-Efficient Oblique Trees for Neural Signal Classification. Zhu, B., +, TBCAS Aug. 2020 692-704

SenseBack - An Implantable System for Bidirectional Neural Interfacing. Williams, I., +, TBCAS Oct. 2020 1079-1087

The Design of Memristive Circuit for Affective Multi-Associative Learning. Wang, Z., +, TBCAS April 2020 173-185

Neurostimulation

An Energy-Efficient Optically-Enhanced Highly-Linear Implantable Wirelessly-Powered Bidirectional Optogenetic Neuro-Stimulator. *Yousefi, T.*, +, *TBCAS Dec. 2020 1274-1286*

Long-Term Non Anesthetic Preclinical Study Available Extra-Cranial Brain Activator (ECBA) System for the Future Minimally Invasive Human Neuro Modulation. *Lee, H.*, +, *TBCAS Dec. 2020 1393-1406*

MagNI: A Magnetoelectrically Powered and Controlled Wireless Neurostimulating Implant. Yu, Z., +, TBCAS Dec. 2020 1241-1252

Miniaturised Wireless Power Transfer Systems for Neurostimulation: A Review. Barbruni, G.L., +, TBCAS Dec. 2020 1160-1178

Newton method

Bladder Volume Monitoring Using Electrical Impedance Tomography With Simultaneous Multi-Tone Tissue Stimulation and DFT-Based Impedance Calculation Inside an FPGA. Rosa, B.M.G., +, TBCAS Aug. 2020 775-786

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Object detection

A Low Power and Real-Time Architecture for Hough Transform Processing Integration in a Full HD-Wireless Capsule Endoscopy. *Orlando, C.*, +, *TBCAS Aug. 2020 646-657*

Erratum to "A Low Power and Real-Time Architecture for Hough Transform Processing Integration in a Full HD-Wireless Capsule Endoscopy" [Aug 20 646-657]. *Chuquimia*, O., +, *TBCAS Dec. 2020 1442*

Operational amplifiers

A Dual-Sensing Thermo-Chemical ISFET Array for DNA-Based Diagnostics. Cacho-Soblechero, M., +, TBCAS June 2020 477-489

A Noninvasive Glucose Monitoring SoC Based on Single Wavelength Photoplethysmography. *Hina, A.*, +, *TBCAS June 2020 504-515*

Design of a Low Noise Bio-Potential Recorder With High Tolerance to Power-Line Interference Under 0.8 V Power Supply. *Luo*, *D*., +, *TBCAS Dec.* 2020 1421-1430

Optical communication equipment

A 300 Mbps 37 pJ/bit Pulsed Optical Biotelemetry. De Marcellis, A., +, TBCAS June 2020 441-451

Optical microscopy

Chip-Scale Angle-Selective Imager for In Vivo Microscopic Cancer Detection. Papageorgiou, E.P., +, TBCAS Feb. 2020 91-103

Optical tomography

Kalman-Based Real-Time Functional Decomposition for the Spectral Calibration in Swept Source Optical Coherence Tomography. *Zavareh*, A.T., +, TBCAS April 2020 257-273

Optimization

Noise Optimization Techniques for Switched-Capacitor Based Neural Interfaces. Xu, J., +, TBCAS Oct. 2020 1024-1035

Oscillators

A Dual-Sensing Thermo-Chemical ISFET Array for DNA-Based Diagnostics. Cacho-Soblechero, M., +, TBCAS June 2020 477-489

P

Pain

Design and Implementation of an Intelligent Analgesic Bracelet Based on Wrist-ankle Acupuncture. Shi, P., +, TBCAS Dec. 2020 1431-1440

Parallel processing

CORDIC-Astrocyte: Tripartite Glutamate-IP3-Ca²⁺ Interaction Dynamics on FPGA. *Heidarpur*; M., +, *TBCAS Feb. 2020 36-47*

Patient diagnosis

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Patient monitoring

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A Wearable CMOS Impedance to Frequency Sensing System for Non-Invasive Impedance Measurements. *Hedayatipour*, A., +, TBCAS Oct. 2020 1108-1121

Binary CorNET: Accelerator for HR Estimation From Wrist-PPG. *Rocha*, L.G., +, TBCAS Aug. 2020 715-726

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ImpediBands: Body Coupled Bio-Impedance Patches for Physiological Sensing Proof of Concept. Sel, K., +, TBCAS Aug. 2020 757-774

Long-Term Bowel Sound Monitoring and Segmentation by Wearable Devices and Convolutional Neural Networks. *Zhao, K.*, +, *TBCAS Oct.* 2020 985-996

Modelling Dynamically Re-Sizeable Electrodes (DRE) for Targeted Transcutaneous Measurements in Impedance Plethysmography. *Hashim, Z.Q.*, +, *TBCAS Feb. 2020 104-112*

ResOT: Resource-Efficient Oblique Trees for Neural Signal Classification. Zhu, B., +, TBCAS Aug. 2020 692-704

Wireless, Artefact Aware Impedance Sensor Node for Continuous Bio-Impedance Monitoring. *Dheman, K.*, +, *TBCAS Oct. 2020 1122-1134*

Patient treatment

A Digital Controlled Pulse Generator for a Possible Tumor Therapy Combining Irreversible Electroporation With Nanosecond Pulse Stimulation. *Rao*, X, +, TBCAS June 2020 595-605

Equipment for Repetitive Transcranial Magnetic Stimulation. *Pernia, A.M.*, +, *TBCAS June 2020 525-534*

Flexible Body-Conformal Ultrasound Patches for Image-Guided Neuromodulation. *Pashaei*, V., +, TBCAS April 2020 305-318

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Pattern classification

An On-Chip Processor for Chronic Neurological Disorders Assistance Using Negative Affectivity Classification. *Aslam, A.R.*, +, *TBCAS Aug. 2020 838-851*

ResOT: Resource-Efficient Oblique Trees for Neural Signal Classification. Zhu, B., +, TBCAS Aug. 2020 692-704

Sensor-Array Optimization Based on Time-Series Data Analytics for Sanitation-Related Malodor Detection. Zhou, J., +, TBCAS Aug. 2020 705-714

Permittivity

Flexible Electromagnetic Cap for Head Imaging. Alqadami, A.S.M., +, TBCAS Oct. 2020 1097-1107

Implantable Sensor for Detecting Changes in the Loss Tangent of Cerebrospinal Fluid. *Manoufali, M.*, +, *TBCAS June 2020 452-462*

pH measurement

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An Integrated Biosensor System With a High-Density Microelectrode Array for Real-Time Electrochemical Imaging. *Tedjo, W.*, +, *TBCAS Feb. 2020 20-35*

Phantoms

Bladder Volume Monitoring Using Electrical Impedance Tomography With Simultaneous Multi-Tone Tissue Stimulation and DFT-Based Impedance Calculation Inside an FPGA. Rosa, B.M.G., +, TBCAS Aug. 2020 775-786

Flexible Electromagnetic Cap for Head Imaging. Alqadami, A.S.M., +, TBCAS Oct. 2020 1097-1107

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Modelling Dynamically Re-Sizeable Electrodes (DRE) for Targeted Transcutaneous Measurements in Impedance Plethysmography. *Hashim, Z.Q.*, +, *TBCAS Feb. 2020 104-112*

Phase detectors

Time Stamp – A Novel Time-to-Digital Demodulation Method for Bioimpedance Implant Applications. Wu, Y., +, TBCAS Oct. 2020 997-1007

Photoacoustic effect

Low-Cost Multi-Wavelength Photoacoustic Imaging Based on Portable Continuous-Wave Laser Diode Module. *Zhong, H.*, +, *TBCAS Aug. 2020* 738-745

Photoconductivity

A 119dB Dynamic Range Charge Counting Light-to-Digital Converter For Wearable PPG/NIRS Monitoring Applications. *Lin, Q.*, +, *TBCAS Aug.* 2020 800-810

A Noise-Reduced Light-to-Frequency Converter for Sub-0.1% Perfusion Index Blood SpO₂ Sensing. *Tang, F.*, +, *TBCAS Oct. 2020 931-941*

Photodetectors

Fully Integrated Time-Gated 3D Fluorescence Imager for Deep Neural Imaging. Choi, J., +, TBCAS Aug. 2020 636-645

Photodiodes

A 280 μW, 108 dB DR PPG-Readout IC With Reconfigurable, 2nd-Order, Incremental ΔΣM Front-End for Direct Light-to-Digital Conversion. *Marefat, F., +, TBCAS Dec. 2020 1183-1194*

A 300 Mbps 37 pJ/bit Pulsed Optical Biotelemetry. *De Marcellis, A.*, +, *TBCAS June 2020 441-451*

Chip-Scale Angle-Selective Imager for In Vivo Microscopic Cancer Detection. Papageorgiou, E.P., +, TBCAS Feb. 2020 91-103

Photoemission

A 119dB Dynamic Range Charge Counting Light-to-Digital Converter For Wearable PPG/NIRS Monitoring Applications. *Lin, Q.*, +, *TBCAS Aug.* 2020 800-810

A Noise-Reduced Light-to-Frequency Converter for Sub-0.1% Perfusion Index Blood SpO₂ Sensing. *Tang, F., +, TBCAS Oct. 2020 931-941*

Photon counting

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Photoplethsymography

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On-Device Reliability Assessment and Prediction of Missing Photoplethysmographic Data Using Deep Neural Networks. *Singha Roy, M.*, +, *TBCAS Dec. 2020 1323-1332*

Photoplethysmography

A 119dB Dynamic Range Charge Counting Light-to-Digital Converter For Wearable PPG/NIRS Monitoring Applications. *Lin, Q.*, +, *TBCAS Aug.* 2020 800-810

A Noninvasive Glucose Monitoring SoC Based on Single Wavelength Photoplethysmography. *Hina*, A., +, *TBCAS June 2020 504-515*

Binary CorNET: Accelerator for HR Estimation From Wrist-PPG. Rocha, L.G., +, TBCAS Aug. 2020 715-726

Current/Voltage Dual-Mode Single-Wire Simultaneous Bidirectional Interface Architecture for Sensor System. Kim, J., +, TBCAS Feb. 2020 12-19

PI control

Highly Linear Phase-Canceling Self-Injection-Locked Ultrasonic Radar for Non-Contact Monitoring of Respiration and Heartbeat. Yu, S., +, TBCAS Feb. 2020 75-90

Piezoelectric devices

Optimizing Volumetric Efficiency and Backscatter Communication in Biosensing Ultrasonic Implants. Ghanbari, M.M., +, TBCAS Dec. 2020 1381-1392

Piezoelectric materials

Ultrasensitive Magnetoelectric Sensing System for Pico-Tesla MagnetoMyoGraphy. Zuo, S., +, TBCAS Oct. 2020 971-984

Piezoelectric transducers

A 0.065-mm³ Monolithically-Integrated Ultrasonic Wireless Sensing Mote for Real-Time Physiological Temperature Monitoring. *Shi*, *C.*, +, *TBCAS June 2020 412-424*

Flexible Body-Conformal Ultrasound Patches for Image-Guided Neuromodulation. *Pashaei*, V., +, TBCAS April 2020 305-318

Ultrasensitive Magnetoelectric Sensing System for Pico-Tesla MagnetoMyoGraphy. Zuo, S., +, TBCAS Oct. 2020 971-984

Plethysmography

Modelling Dynamically Re-Sizeable Electrodes (DRE) for Targeted Transcutaneous Measurements in Impedance Plethysmography. *Hashim, Z.Q.*, +, *TBCAS Feb. 2020 104-112*

Pneumodynamics

Deep Neural Network for Respiratory Sound Classification in Wearable Devices Enabled by Patient Specific Model Tuning. *Acharya, J.*, +, *TBCAS June 2020 535-544*

ImpediBands: Body Coupled Bio-Impedance Patches for Physiological Sensing Proof of Concept. Sel, K., +, TBCAS Aug. 2020 757-774

Low-Complexity System and Algorithm for an Emergency Ventilator Sensor and Alarm. Corey, R.M., +, TBCAS Oct. 2020 1088-1096

Motion Correction in Multimodal Intraoperative Imaging. Chen, F., +, TBCAS Aug. 2020 671-680

Portable instruments

A Wearable CMOS Impedance to Frequency Sensing System for Non-Invasive Impedance Measurements. *Hedayatipour*, A., +, TBCAS Oct. 2020 1108-1121

Power aware computing

An Energy-Quality Scalable STDP Based Sparse Coding Processor With On-Chip Learning Capability. Kim, H., +, TBCAS Feb. 2020 125-137

Power consumption

Application of Deep Compression Technique in Spiking Neural Network Chip. Liu, Y., +, TBCAS April 2020 274-282

Asynchronous Event-driven Encoder With Simultaneous Temporal Envelope and Phase Extraction for Cochlear Implants. *Guo*, *N.*, +, *TBCAS June* 2020 620-630

Power demand

1225-Channel Neuromorphic Retinal-Prosthesis SoC With Localized Temperature-Regulation. Park, J.H., +, TBCAS Dec. 2020 1230-1240

Power supply circuits

A 340 nW/Channel 110 dB PSRR Neural Recording Analog Front-End Using Replica-Biasing LNA, Level-Shifter Assisted PGA, and Averaged LFP Servo Loop in 65 nm CMOS. *Lyu*, *L.*, +, *TBCAS Aug. 2020 811-824*

Power transmission

Body-Area Powering With Human Body-Coupled Power Transmission and Energy Harvesting ICs. Li, J., +, TBCAS Dec. 2020 1263-1273

Predictive model

On-Device Reliability Assessment and Prediction of Missing Photoplethysmographic Data Using Deep Neural Networks. *Singha Roy, M.*, +, *TBCAS Dec. 2020 1323-1332*

Prosthetics

1225-Channel Neuromorphic Retinal-Prosthesis SoC With Localized Temperature-Regulation. *Park, J.H.*, +, *TBCAS Dec. 2020 1230-1240*

A 0.3V 10b 3MS/s SAR ADC With Comparator Calibration and Kickback Noise Reduction for Biomedical Applications. *Wang, S.*, +, *TBCAS June* 2020 558-569

A 3-Mbps, 802.11g-Based EMG Recording System With Fully Implantable 5-Electrode EMGxbrk Acquisition Device. Ng, K.A., +, TBCAS Aug. 2020 889-902

A Fully Embedded Adaptive Real-Time Hand Gesture Classifier Leveraging HD-sEMG and Deep Learning. *Tam, S.*, +, *TBCAS April 2020 232-243*

Accurate, Very Low Computational Complexity Spike Sorting Using Unsupervised Matched Subspace Learning. *Zamani*, M., +, *TBCAS April 2020 221-231*

Biointegrated and Wirelessly Powered Implantable Brain Devices: A Review. Das, R., +, TBCAS April 2020 343-358

Injectable Sensors Based on Passive Rectification of Volume-Conducted Currents. *Malik*, S., +, TBCAS Aug. 2020 867-878

ResOT: Resource-Efficient Oblique Trees for Neural Signal Classification. Zhu, B., +, TBCAS Aug. 2020 692-704

SenseBack - An Implantable System for Bidirectional Neural Interfacing. Williams, I., +, TBCAS Oct. 2020 1079-1087

Time Stamp – A Novel Time-to-Digital Demodulation Method for Bioimpedance Implant Applications. Wu, Y, +, TBCAS Oct. 2020 997-1007

Proteins

Cytomorphic Electronics With Memristors for Modeling Fundamental Genetic Circuits. *Hanna*, *H.A.*, +, *TBCAS June 2020 386-401*

Implantable Sensor for Detecting Changes in the Loss Tangent of Cerebrospinal Fluid. *Manoufali, M.*, +, *TBCAS June 2020 452-462*

Towards a Portable Platform Integrated With Multispectral Noncontact Probes for Delineating Normal and Breast Cancer Tissue Based on Near-Infrared Spectroscopy. *Pal, U.M.*, +, *TBCAS Aug. 2020 879-888*

Pulse generators

A Digital Controlled Pulse Generator for a Possible Tumor Therapy Combining Irreversible Electroporation With Nanosecond Pulse Stimulation. *Rao*, X., +, TBCAS June 2020 595-605

Pulse width modulation

A Dual-Output Single-Stage Regulating Rectifier With PWM and Dual-Mode PFM Control for Wireless Powering of Biomedical Implants. *Erfani*, R., +, TBCAS Dec. 2020 1195-1206

Q

Q factor

Implantable Sensor for Detecting Changes in the Loss Tangent of Cerebrospinal Fluid. *Manoufali*, M., +, TBCAS June 2020 452-462

Q factor measurement

A Label-Free, Non-Intrusive, and Rapid Monitoring of Bacterial Growth on Solid Medium Using Microwave Biosensor. *Mohammadi, S.*, +, *TBCAS Feb. 2020 2-11*

Quantization (signal)

A 119dB Dynamic Range Charge Counting Light-to-Digital Converter For Wearable PPG/NIRS Monitoring Applications. *Lin, Q.*, +, *TBCAS Aug.* 2020 800-810

A Noise-Reduced Light-to-Frequency Converter for Sub-0.1% Perfusion Index Blood SpO₂ Sensing. *Tang, F.*, +, *TBCAS Oct. 2020 931-941*

R

Radar

CMOS Gaussian Monocycle Pulse Transceiver for Radar-Based Microwave Imaging. *Kikkawa*, T., +, TBCAS Dec. 2020 1333-1345

Radar antennas

Signal Separation and Tracking Algorithm for Multi-Person Vital Signs by Using Doppler Radar. *Chian, D.*, +, *TBCAS Dec. 2020 1346-1361*

Radar detection

Highly Linear Phase-Canceling Self-Injection-Locked Ultrasonic Radar for Non-Contact Monitoring of Respiration and Heartbeat. Yu, S., +, TBCAS Feb. 2020 75-90

Radio transceivers

The Role and Challenges of Body Channel Communication in Wearable Flexible Electronics. Zhao, B., +, TBCAS April 2020 283-296

Radiofrequency measurement

Study of Real-Time Spatial and Temporal Behavior of Bacterial Biofilms Using 2-D Impedance Spectroscopy. *Begly, C.*, +, *TBCAS Oct. 2020 1051-1064*

Readout electronics

- A 119dB Dynamic Range Charge Counting Light-to-Digital Converter For Wearable PPG/NIRS Monitoring Applications. *Lin, Q.*, +, *TBCAS Aug.* 2020 800-810
- A 128 × 128 Current-Mode Ultra-High Frame Rate ISFET Array With In-Pixel Calibration for Real-Time Ion Imaging. *Zeng, J.*, +, *TBCAS April* 2020 359-372
- A Noninvasive Glucose Monitoring SoC Based on Single Wavelength Photoplethysmography. *Hina, A.*, +, *TBCAS June 2020 504-515*
- A Two-Electrode, Double-Pulsed Sensor Readout Circuit for Cardiac Troponin I Measurement. Shan, S., +, TBCAS Dec. 2020 1362-1370
- Ultrasensitive Magnetoelectric Sensing System for Pico-Tesla MagnetoMyoGraphy. Zuo, S., +, TBCAS Oct. 2020 971-984

Real-time systems

- ECG Authentication Hardware Design With Low-Power Signal Processing and Neural Network Optimization With Low Precision and Structured Compression. *Cherupally, S.K.,* +, *TBCAS April 2020 198-208*
- Erratum to "A Low Power and Real-Time Architecture for Hough Transform Processing Integration in a Full HD-Wireless Capsule Endoscopy" [Aug 20 646-657]. *Chuquimia*, O., +, TBCAS Dec. 2020 1442

Receivers

- A Millimeter-Scale Crystal-Less MICS Transceiver for Insertable Smart Pills. Song, M., +, TBCAS Dec. 2020 1218-1229
- Erratum to "A Software-Defined Radio Receiver for Wireless Recording From Freely Behaving Animals" [Dec 19 979-989]. *Jia, Y.*, +, *TBCAS June* 2020 631

Recording

A 340 nW/Channel 110 dB PSRR Neural Recording Analog Front-End Using Replica-Biasing LNA, Level-Shifter Assisted PGA, and Averaged LFP Servo Loop in 65 nm CMOS. Lyu, L., +, TBCAS Aug. 2020 811-824

Rectification

Injectable Sensors Based on Passive Rectification of Volume-Conducted Currents. *Malik, S.*, +, *TBCAS Aug. 2020 867-878*

Rectifiers

- A Dual-Output Single-Stage Regulating Rectifier With PWM and Dual-Mode PFM Control for Wireless Powering of Biomedical Implants. *Erfani*, R., +, TBCAS Dec. 2020 1195-1206
- Body-Area Powering With Human Body-Coupled Power Transmission and Energy Harvesting ICs. Li, J., +, TBCAS Dec. 2020 1263-1273
- Ultrasonically Powered Compact Implantable Dust for Optogenetics. *Laursen, K.*, +, *TBCAS June 2020 583-594*

Recurrent neural networks

- A Review of Algorithm & Hardware Design for AI-Based Biomedical Applications. Wei, Y., +, TBCAS April 2020 145-163
- A Supervised Speech Enhancement Method for Smartphone-Based Binaural Hearing Aids. Sun, Z., +, TBCAS Oct. 2020 951-960
- Deep Neural Network for Respiratory Sound Classification in Wearable Devices Enabled by Patient Specific Model Tuning. *Acharya, J.*, +, *TBCAS June 2020 535-544*
- Who is the Winner? Memristive-CMOS Hybrid Modules: CNN-LSTM Versus HTM. *Smagulova, K.*, +, *TBCAS April 2020 164-172*

Regression analysis

- A Noninvasive Glucose Monitoring SoC Based on Single Wavelength Photoplethysmography. *Hina*, A., +, *TBCAS June 2020 504-515*
- Molecular and DNA Artificial Neural Networks via Fractional Coding. Liu, X, +, $TBCAS June\ 2020\ 490-503$
- Sensor-Array Optimization Based on Time-Series Data Analytics for Sanitation-Related Malodor Detection. Zhou, J., +, TBCAS Aug. 2020 705-714

Reliability

On-Device Reliability Assessment and Prediction of Missing Photoplethysmographic Data Using Deep Neural Networks. *Singha Roy, M.*, +, *TBCAS Dec. 2020 1323-1332*

Resistors

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Resonant frequency

Optimizing Volumetric Efficiency and Backscatter Communication in Biosensing Ultrasonic Implants. *Ghanbari*, M.M., +, TBCAS Dec. 2020 1381-1392

Retina

1225-Channel Neuromorphic Retinal-Prosthesis SoC With Localized Temperature-Regulation. *Park, J.H.*, +, *TBCAS Dec. 2020 1230-1240*

Reviews

- A Review of Algorithm & Hardware Design for AI-Based Biomedical Applications. Wei, Y., +, TBCAS April 2020 145-163
- Biointegrated and Wirelessly Powered Implantable Brain Devices: A Review. Das, R., +, TBCAS April 2020 343-358
- From Seizure Detection to Smart and Fully Embedded Seizure Prediction Engine: A Review. *Yang, J.*, +, *TBCAS Oct. 2020 1008-1023*

S

Safety

Design and Implementation of an Intelligent Analgesic Bracelet Based on Wrist-ankle Acupuncture. Shi, P., +, TBCAS Dec. 2020 1431-1440

Semiconductor lasers

- A 300 Mbps 37 pJ/bit Pulsed Optical Biotelemetry. De Marcellis, A., +, TBCAS June 2020 441-451
- Low-Cost Multi-Wavelength Photoacoustic Imaging Based on Portable Continuous-Wave Laser Diode Module. *Zhong, H.*, +, *TBCAS Aug. 2020* 738-745

Sensitivity

Non-Invasive Real-Time Monitoring of Glucose Level Using Novel Microwave Biosensor Based on Triple-Pole CSRR. *Omer, A.E.*, +, *TBCAS Dec.* 2020 1407-1420

Sensor arrays

- A Chip Integrity Monitor for Evaluating Moisture/Ion Ingress in mm-Sized Single-Chip Implants. *Akgun, O.C.*, +, *TBCAS Aug. 2020 658-670*
- A Dual-Sensing Thermo-Chemical ISFET Array for DNA-Based Diagnostics. Cacho-Soblechero, M., +, TBCAS June 2020 477-489
- An Integrated Biosensor System With a High-Density Microelectrode Array for Real-Time Electrochemical Imaging. *Tedjo, W.*, +, *TBCAS Feb. 2020 20-35*
- Sensor-Array Optimization Based on Time-Series Data Analytics for Sanitation-Related Malodor Detection. *Zhou, J., +, TBCAS Aug. 2020 705-714*Study of Real-Time Spatial and Temporal Behavior of Bacterial Biofilms Using 2-D Impedance Spectroscopy. *Begly, C., +, TBCAS Oct. 2020 1051-1064*

Sensors

- A 119dB Dynamic Range Charge Counting Light-to-Digital Converter For Wearable PPG/NIRS Monitoring Applications. *Lin, Q.*, +, *TBCAS Aug.* 2020 800-810
- A 13.34 µW Event-Driven Patient-Specific ANN Cardiac Arrhythmia Classifier for Wearable ECG Sensors. Zhao, Y, +, TBCAS April 2020 186-197
- A Two-Electrode, Double-Pulsed Sensor Readout Circuit for Cardiae Troponin I Measurement. Shan, S., +, TBCAS Dec. 2020 1362-1370
- Biological Living Cell in-Flow Detection Based on Microfluidic Chip and Compact Signal Processing Circuit. *Quang, L.D.*, +, *TBCAS Dec. 2020* 1371-1380
- Current/Voltage Dual-Mode Single-Wire Simultaneous Bidirectional Interface Architecture for Sensor System. *Kim, J.*, +, *TBCAS Feb. 2020 12-19* ImpediBands: Body Coupled Bio-Impedance Patches for Physiological Sensing Proof of Concept. *Sel, K.*, +, *TBCAS Aug. 2020 757-774*

Signal classification

- A 13.34 µW Event-Driven Patient-Specific ANN Cardiac Arrhythmia Classifier for Wearable ECG Sensors. *Zhao, Y.,* +, *TBCAS April 2020 186-197*
- A Fully Embedded Adaptive Real-Time Hand Gesture Classifier Leveraging HD-sEMG and Deep Learning. *Tam, S.*, +, *TBCAS April 2020 232-243*
- A Review of Algorithm & Hardware Design for AI-Based Biomedical Applications. Wei, Y., +, TBCAS April 2020 145-163
- Accurate, Very Low Computational Complexity Spike Sorting Using Unsupervised Matched Subspace Learning. Zamani, M., +, TBCAS April 2020 221-231

An On-Chip Processor for Chronic Neurological Disorders Assistance Using Negative Affectivity Classification. *Aslam, A.R.*, +, *TBCAS Aug. 2020 838-851*

Deep Learning Approach for Epileptic Focus Localization. Daoud, H., +, TBCAS April 2020 209-220

Deep Neural Network for Respiratory Sound Classification in Wearable Devices Enabled by Patient Specific Model Tuning. *Acharya, J.*, +, *TBCAS June 2020 535-544*

ResOT: Resource-Efficient Oblique Trees for Neural Signal Classification. Zhu, B., +, TBCAS Aug. 2020 692-704

Robust Real-Time Embedded EMG Recognition Framework Using Temporal Convolutional Networks on a Multicore IoT Processor. *Zanghieri, M.*, +, *TBCAS April 2020 244-256*

Signal processing

A VLSI Implementation of Independent Component Analysis for Biomedical Signal Separation Using CORDIC Engine. *Chen, Y.*, +, *TBCAS April* 2020 373-381

Low-Complexity System and Algorithm for an Emergency Ventilator Sensor and Alarm. Corey, R.M., +, TBCAS Oct. 2020 1088-1096

Signal processing algorithms

Guest Editorial: Special Section on AI-Based Biomedical Circuits and Systems. Zhou, J., +, TBCAS April 2020 142-144

Signal reconstruction

Deep Neural Oracles for Short-Window Optimized Compressed Sensing of Biosignals. *Mangia*, M., +, TBCAS June 2020 545-557

ImpediBands: Body Coupled Bio-Impedance Patches for Physiological Sensing Proof of Concept. Sel, K., +, TBCAS Aug. 2020 757-774

Signal sampling

Power Efficiency Comparison of Event-Driven and Fixed-Rate Signal Conversion and Compression for Biomedical Applications. *Van Assche, J.*, +, *TBCAS Aug. 2020 746-756*

Silicon

A Chip Integrity Monitor for Evaluating Moisture/Ion Ingress in mm-Sized Single-Chip Implants. *Akgun, O.C.*, +, *TBCAS Aug. 2020 658-670*

Silicon alloys

Ultrasensitive Magnetoelectric Sensing System for Pico-Tesla MagnetoMyoGraphy. Zuo, S., +, TBCAS Oct. 2020 971-984

Skin

Design and Implementation of an Intelligent Analgesic Bracelet Based on Wrist-ankle Acupuncture. Shi, P., +, TBCAS Dec. 2020 1431-1440

Wireless, Artefact Aware Impedance Sensor Node for Continuous Bio-Impedance Monitoring. *Dheman, K.*, +, *TBCAS Oct. 2020 1122-1134*

Smart phones

A Supervised Speech Enhancement Method for Smartphone-Based Binaural Hearing Aids. Sun, Z., +, TBCAS Oct. 2020 951-960

Software radio

Erratum to "A Software-Defined Radio Receiver for Wireless Recording From Freely Behaving Animals" [Dec 19 979-989]. *Jia, Y.*, +, *TBCAS June 2020 631*

Solid-state circuits

Guest Editorial: Selected Papers From the 2020 IEEE International Solid-State Circuits Conference. *Burdett, A., +, TBCAS Dec. 2020 1179-1182*

Spatial resolution

An Energy-Efficient Optically-Enhanced Highly-Linear Implantable Wirelessly-Powered Bidirectional Optogenetic Neuro-Stimulator. *Yousefi, T., +, TBCAS Dec. 2020 1274-1286*

Spatiotemporal phenomena

An Energy-Quality Scalable STDP Based Sparse Coding Processor With On-Chip Learning Capability. Kim, H., +, TBCAS Feb. 2020 125-137

Special issues and sections

Editorial: Special Issue on Selected Papers From ISICAS 2020 Guest Editors' Introduction. *Atef, M.*, +, *TBCAS Oct. 2020 930*

Guest Editorial: Selected Papers From the 2020 IEEE International Solid-State Circuits Conference. *Burdett*, A., +, *TBCAS Dec*. 2020 1179-1182 Guest Editorial: Special Issue on Selected Papers From IEEE BioCAS 2019. *Ohta*, J., +, *TBCAS Aug*. 2020 634-635

Guest Editorial: Special Section on AI-Based Biomedical Circuits and Systems. Zhou, J., +, TBCAS April 2020 142-144

Speech enhancement

A Supervised Speech Enhancement Method for Smartphone-Based Binaural Hearing Aids. Sun, Z., +, TBCAS Oct. 2020 951-960

Speech intelligibility

A Supervised Speech Enhancement Method for Smartphone-Based Binaural Hearing Aids. Sun, Z., +, TBCAS Oct. 2020 951-960

SPICE

The Design of Memristive Circuit for Affective Multi-Associative Learning. Wang, Z., +, TBCAS April 2020 173-185

Spintronics

Spintronic Sensors Based on Magnetic Tunnel Junctions for Wireless Eye Movement Gesture Control. *Tanwear, A., +, TBCAS Dec. 2020 1299-1310*

Split ring resonators

A Label-Free, Non-Intrusive, and Rapid Monitoring of Bacterial Growth on Solid Medium Using Microwave Biosensor. *Mohammadi, S.*, +, *TBCAS Feb.* 2020 2-11

Non-Invasive Real-Time Monitoring of Glucose Level Using Novel Microwave Biosensor Based on Triple-Pole CSRR. *Omer, A.E.*, +, *TBCAS Dec.* 2020 1407-1420

SQUID magnetometers

Ultrasensitive Magnetoelectric Sensing System for Pico-Tesla MagnetoMyoGraphy. Zuo, S., +, TBCAS Oct. 2020 971-984

SQUID magnetometry

Ultrasensitive Magnetoelectric Sensing System for Pico-Tesla MagnetoMyoGraphy. Zuo, S., +, TBCAS Oct. 2020 971-984

SRAM chips

Application of Deep Compression Technique in Spiking Neural Network Chip. Liu, Y., +, TBCAS April 2020 274-282

Statistical analysis

Sensor-Array Optimization Based on Time-Series Data Analytics for Sanitation-Related Malodor Detection. Zhou, J., +, TBCAS Aug. 2020 705-714

Stimulated emission

A Trimodal Wireless Implantable Neural Interface System-on-Chip. *Jia, Y.*, +, *TBCAS Dec. 2020 1207-1217*

Stochastic processes

Cytomorphic Electronics With Memristors for Modeling Fundamental Genetic Circuits. *Hanna*, *H.A.*, +, *TBCAS June 2020 386-401*

Low-Cost Adaptive Exponential Integrate-and-Fire Neuron Using Stochastic Computing. Xiao, S., +, TBCAS Oct. 2020 942-950

Strain sensors

Flexible Body-Conformal Ultrasound Patches for Image-Guided Neuromodulation. *Pashaei*, V, +, TBCAS April 2020 305-318

Sugar

A Noninvasive Glucose Monitoring SoC Based on Single Wavelength Photoplethysmography. *Hina*, A., +, *TBCAS June 2020 504-515*

Support vector machines

A Noninvasive Glucose Monitoring SoC Based on Single Wavelength Photoplethysmography. *Hina*, A., +, *TBCAS June 2020 504-515*

A Review of Algorithm & Hardware Design for AI-Based Biomedical Applications. *Wei, Y.*, +, *TBCAS April 2020 145-163*

An On-Chip Processor for Chronic Neurological Disorders Assistance Using Negative Affectivity Classification. *Aslam, A.R.*, +, *TBCAS Aug. 2020*

Robust Real-Time Embedded EMG Recognition Framework Using Temporal Convolutional Networks on a Multicore IoT Processor. *Zanghieri, M.*, +, *TBCAS April 2020 244-256*

Surgery

Deep Learning Approach for Epileptic Focus Localization. *Daoud, H.*, +, TBCAS April 2020 209-220

Injectable Sensors Based on Passive Rectification of Volume-Conducted Currents. *Malik*, S., +, TBCAS Aug. 2020 867-878

Switched capacitor networks

Noise Optimization Techniques for Switched-Capacitor Based Neural Interfaces. Xu, J., +, TBCAS Oct. 2020 1024-1035

System-on-chip

1225-Channel Neuromorphic Retinal-Prosthesis SoC With Localized Temperature-Regulation. Park, J.H., +, TBCAS Dec. 2020 1230-1240

A 128 × 128 Current-Mode Ultra-High Frame Rate ISFET Array With In-Pixel Calibration for Real-Time Ion Imaging. *Zeng, J.*, +, *TBCAS April* 2020 359-372

A Trimodal Wireless Implantable Neural Interface System-on-Chip. *Jia*, Y, +, *TBCAS Dec.* 2020 1207-1217

Current/Voltage Dual-Mode Single-Wire Simultaneous Bidirectional Interface Architecture for Sensor System. Kim, J., +, TBCAS Feb. 2020 12-19

T

Telemedicine

SenseBack - An Implantable System for Bidirectional Neural Interfacing. Williams, I., +, TBCAS Oct. 2020 1079-1087

Temperature control

1225-Channel Neuromorphic Retinal-Prosthesis SoC With Localized Temperature-Regulation. *Park, J.H.*, +, *TBCAS Dec. 2020 1230-1240*

Temperature measurement

A 0.065-mm³ Monolithically-Integrated Ultrasonic Wireless Sensing Mote for Real-Time Physiological Temperature Monitoring. *Shi, C.*, +, *TBCAS June 2020 412-424*

Temperature sensors

A 0.065-mm³ Monolithically-Integrated Ultrasonic Wireless Sensing Mote for Real-Time Physiological Temperature Monitoring. *Shi, C.*, +, *TBCAS June 2020 412-424*

A Dual-Sensing Thermo-Chemical ISFET Array for DNA-Based Diagnostics. Cacho-Soblechero, M., +, TBCAS June 2020 477-489

Thermal noise

Noise Optimization Techniques for Switched-Capacitor Based Neural Interfaces. Xu, J., +, TBCAS Oct. 2020 1024-1035

Thin film sensors

Study of Real-Time Spatial and Temporal Behavior of Bacterial Biofilms Using 2-D Impedance Spectroscopy. *Begly, C.*, +, *TBCAS Oct. 2020 1051-1064*

Threshold voltage

Design of a Low Noise Bio-Potential Recorder With High Tolerance to Power-Line Interference Under 0.8 V Power Supply. *Luo*, *D*., +, *TBCAS Dec.* 2020 1421-1430

Time-digital conversion

Time Stamp – A Novel Time-to-Digital Demodulation Method for Bioimpedance Implant Applications. Wu, Y, +, TBCAS Oct. 2020 997-1007

Transceivers

A 2.4 GHz ISM Band OOK Transceiver With High Energy Efficiency for Biomedical Implantable Applications. *Lee, S.*, +, *TBCAS Feb. 2020 113-124*

CMOS Gaussian Monocycle Pulse Transceiver for Radar-Based Microwave Imaging. *Kikkawa*, *T*., +, *TBCAS Dec. 2020 1333-1345*

Transconductance

Design of a Low Noise Bio-Potential Recorder With High Tolerance to Power-Line Interference Under 0.8 V Power Supply. *Luo*, *D*., +, *TBCAS Dec*. 2020 1421-1430

Transcranial magnetic stimulation

Equipment for Repetitive Transcranial Magnetic Stimulation. *Pernia, A.M.*, +, *TBCAS June 2020 525-534*

Transforms

Erratum to "A Low Power and Real-Time Architecture for Hough Transform Processing Integration in a Full HD-Wireless Capsule Endoscopy" [Aug 20 646-657]. *Chuquimia*, O., +, TBCAS Dec. 2020 1442

Transmission lines

A Novel Design Approach for Compact Wearable Antennas Based on Metasurfaces. Zhang, K., +, TBCAS Aug. 2020 918-927

Tumors

A Digital Controlled Pulse Generator for a Possible Tumor Therapy Combining Irreversible Electroporation With Nanosecond Pulse Stimulation. *Rao*, *X.*, +, *TBCAS June 2020 595-605*

Chip-Scale Angle-Selective Imager for *In Vivo* Microscopic Cancer Detection. *Papageorgiou*, E.P., +, TBCAS Feb. 2020 91-103

Towards a Portable Platform Integrated With Multispectral Noncontact Probes for Delineating Normal and Breast Cancer Tissue Based on Near-Infrared Spectroscopy. Pal, U.M., +, TBCAS Aug. 2020 879-888

Tunneling magnetoresistance

Spintronic Sensors Based on Magnetic Tunnel Junctions for Wireless Eye Movement Gesture Control. *Tanwear*, A., +, TBCAS Dec. 2020 1299-1310

TI

UHF antennas

A Novel Design Approach for Compact Wearable Antennas Based on Metasurfaces. Zhang, K., +, TBCAS Aug. 2020 918-927

UHF detectors

A Label-Free, Non-Intrusive, and Rapid Monitoring of Bacterial Growth on Solid Medium Using Microwave Biosensor. *Mohammadi, S.*, +, *TBCAS Feb.* 2020 2-11

UHF measurement

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UHF oscillators

A 2.4 GHz ISM Band OOK Transceiver With High Energy Efficiency for Biomedical Implantable Applications. *Lee, S.*, +, *TBCAS Feb. 2020 113-124*

UHF power amplifiers

A 2.4 GHz ISM Band OOK Transceiver With High Energy Efficiency for Biomedical Implantable Applications. *Lee, S.*, +, *TBCAS Feb. 2020 113-124*

Ultra wideband technology

CMOS Gaussian Monocycle Pulse Transceiver for Radar-Based Microwave Imaging. *Kikkawa*, *T*., +, *TBCAS Dec. 2020 1333-1345*

Ultrasonic therapy

Flexible Body-Conformal Ultrasound Patches for Image-Guided Neuromodulation. *Pashaei*, V., +, TBCAS April 2020 305-318

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Unsupervised learning

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 \mathbf{V}

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