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EDUCATION

- <u>2000 – 2004</u>: **Ph.D. in Physics**, University of La Plata (Argentina). Thesis: *Propagation of High Energy Galactic Cosmic Rays*, passed with the maximum score (10).
- <u>1993 – 1999</u>: *Licenciado* in Physics (approx. equivalent to B.Sc. + M.Sc.), University of La Plata (Argentina). Cumulative GPA 9.57 (out of 10 max.).

PROFESSIONAL SKILLS & EXPERTISE

- Highly productive and creative with **100+** peer-reviewed research articles (see full list below).
- Very strong problem solving skills, versatility, and ability to learn quickly.
- Excellent team working ability and strong communication and presentation skills developed in different research groups in the USA, Europe, and South America.
- 2 yrs Technical Services Engineer with leading EHR vendor Epic Systems Corp.
- Sun Certified Programmer for Java 6 (2008); long programming experience with Fortran77, R, Perl, Python; familiar with Unix, Mac OS X, Windows, and many numerical applications.
- Extensive experience in computational and theoretical modeling: Monte Carlo method, partial differential equations, complex network theory, data mining, SVD/PCA/tSNE, regularized generalized linear modeling, random forests, SVM, AI.

RESEARCH INTERESTS

- Computational biology and bioinformatics applied to systems biology, single-cell biology, next-generation sequencing, high-multiplex proteomics, and new biotechnologies.
- Computational/mathematical modeling, AI, machine learning, biomedical database integration, data mining, complex network science, statistical analysis, data science.

CAREER HISTORY

- <u>Since 2014 (ongoing)</u>: **Staff Scientist** at the National Institutes of Health with appointments at the Trans-NIH Center for Human Immunology (2014-2018), CCR/NCI (2018-2021) and NIA (2021 to date).
- <u>2011- 2014</u>: Research Associate at University of Maryland (College Park & Baltimore, MD).
- <u>2009 – 2011</u>: EHR Technical Services Engineer at Epic Systems Corp (Verona, WI).
- <u>2006 – 2008</u>: Postdoctoral Research Associate at the Center for Complex Network Research (Barabási Lab) at Notre Dame (South Bend, IN) and Northeastern University (Boston, MA).
- <u>2006</u>: Visiting Scientist at University of New Mexico (Albuquerque, NM).
- <u>2004 - 2005</u>: Postdoctoral Fellow at the Abdus Salam ICTP (Trieste, Italy).
- <u>2004</u>: Guest Scientist at the Theory Division of Fermilab (Batavia, IL).
- <u>2000 – 2003</u>: Ph.D. Fellow of CONICET (Argentina).
- <u>1996 – 2003</u>: Teaching Assistant at the Physics Dept, University of La Plata (Argentina).

PUBLICATIONS IN PEER-REVIEWED JOURNALS (*equal contributions)

101) Candia J, Fantoni G, Delgado-Peraza F, Shehadeh N, Tanaka T, Moaddel R, Walker KA, Ferrucci L, *Variability of 7K and 11K SomaScan plasma proteomics assays*. DOI:10.1101/2024.08.06.606813 (preprint).

100) Olinger B, Banarjee R, Dey A, Tsitsipatis D, Tanaka T, Ram A, Nyunt T, Daya G, Peng Z, Cui L, Candia J, Simonsick EM, Gorospe M, Walker KA, Ferrucci L, Basisty N, *A plasma proteomic signature links secretome of senescent monocytes to aging- and obesity-related clinical outcomes in humans*. DOI:10.1101/2024.08.01.24311368 (preprint).

99) Martinez-Romero J, Mueller W, Fernandez ME, Price N, Candia J, Bernier M, Camandola S, Vieira Ligo-Teixeira C, Palliyaguru D, Meirelles O, Hu Y-H, Li Z, Deighan A, Serrano C, Escobar Velasquez N, Launer L, Ferrucci L, Allison D, Shiroma E, Churchill G, de Cabo R, *The blood has something to say: A hematology- based clock to measure aging in mice*. DOI:10.21203/rs.3.rs-3017838/v1 (preprint).

98) Apps R*, Biancotto A*, Candia J*, Kotliarov K*, Perl S, Cheung F, Farmer R, Mulè MP, Rachmaninoff N, Chen J, Martins AJ, Shi R, Zhou H, Bansal N, Schum P, Olnes MJ, Milanez-Almeida P, Han KL, Sellers B, Cortese M, Hagan T, Rouphael N, Pulendran B, King L, Manischewitz J, Khurana S, Golding H, van der Most RG, Dickler HB, Germain RN, Schwartzberg PL, Tsang JS, *Acute and persistent responses after H5N1 vaccination in humans*. Cell Reports 43:114706 (2024).

97) Duggan MR, Peng Z, Sipilä PN, Lindbohm JV, Chen J, Lu Y, Davatzikos C, Erus G, Hohman TJ, Andrews SJ, Candia J, Tanaka T, Joynes CM, Alvarado CX, Nalls MA, Cordon J, Daya GN, An Y, Lewis A, Moghekar A, Palta P, Coresh J, Ferrucci L, Kivimäki M, Walker KA, *Proteomics identifies potential immunological drivers of post-infection brain atrophy and cognitive decline*. Nature Aging, DOI:10.1038/s43587-024-00682-4 (2024).

96) Duggan MR, Gomez GT, Joynes CM, Bilgel M, Chen J, Fattorelli N, Hohman TJ, Mancuso R, Cordon J, Castellano T, Koran MEI, Candia J, Lewis A, Moghekar A, Ashton NJ, Kac PR, Karikari TK, Blennow K, Zetterberg H, Martinez-Muriana A, De Strooper B, Thambisetty M, Ferrucci L, Gottesman RF, Coresh J, Resnick SM, Walker KA, *Proteome-wide analysis identifies plasma immune regulators of amyloid-beta progression*. Brain, Behavior, and Immunity,120:604 (2024).

95) Candia J, Ferrucci L, *Assessment of Gene Set Enrichment Analysis using curated RNA-seq-based benchmarks*. PLoS ONE 19:e0302696 (2024).

94) Kacar Z, Slud E, Levy D, Candia J, Budhu A, Forgues M, Wu X, Raziuddin A, Tran B, Shetty J, Pomyen Y, Chaisaingmongkol J, Rabibhadana S, Pupacdi B, Bhudhisawasdi V, Lertprasertsuke N, Auewarakul C, Sangrajrang S, Mahidol C, Ruchirawat M, Wang XW. *Characterization of tumor evolution by functional clonality and phylogenetics in hepatocellular carcinoma*. Communications Biology 7:383 (2024).

93) Roberts JA, Basu-Roy S, Shin J, Varma VR, Williamson A, Blackshear C, Griswold ME, Candia J, Elango P, Karikkinneth AC, Tanaka T, Ferrucci L, Thambisetty M, *Serum proteomic signatures of common health outcomes among older adults*. Gerontology 70:269 (2024).

92) Moaddel R, Ubaida-Mohien C, Tanaka T, Tian Q, Candia J, Moore AZ, Lovett J, Fantoni G, Shehadeh N, Turek L, Collingham V, Kaileh M, Chia CW, Sen R, Egan JM, Ferrucci L, *Cross-sectional analysis of healthy individuals across decades: aging signatures across multiple physiological compartments*. Aging Cell 23:e13902 (2024).

91) Dark H, Paterson C, Daya GN, Peng Z, Duggan MR, Bilgel M, An Y, Moghekar A, Davatzikos C, Resnick SM, Loupy K, Simpson M, Candia J, Mosley T, Coresh J, Palta P, Ferrucci L, Shapiro A, Williams SA, Walker KA, *Proteomic indicators of health predict Alzheimer's disease biomarker levels and dementia risk*. Annals of Neurology 95:260 (2024).

90) Panigrahi G, Candia J, Dorsey TH, Tang W, Ohara Y, Byun JS, Minas TZ, Zhang A, Ajao A, Cellini A, Yfantis HG, Flis AL, Mann D, Ioffe O, Wang XW, Liu H, Loffredo CA, Napoles AM, Ambs S, *Diabetes-*

associated breast cancer is molecularly distinct and shows a DNA damage repair deficiency. JCI Insight 8:e170105 (2023).

89) Huth T, Dreher EC, Lemke S, Fritzsche S, Sugiyanto RN, Castven D, Ibberson D, Sticht C, Eiteneuer E, Jauch A, Pusch S, Albrecht T, Goeppert B, Candia J, Wang XW, Ji J, Marquardt JU, Nahnsen S, Schirmacher P, Roessler S, *Chromosome 8p-engineering reveals increased metastatic potential targetable by patient-specific synthetic lethality in liver cancer*. Science Advances 9:eadh1442 (2023).

88) Tin A, Fohner AE, Yang Q, Brody JA, Davies G, Yao J, Liu D, Caro I, Lindbohm JV, Duggan MR, Meirelles O, Harris SE, Gudmundsdottir V, Taylor AM, Henry A, Beiser AS, Shojaie A, Coors A, Fitzpatrick AL, Langenberg C, Satizabal CL, Sitlani CM, Wheeler E, Tucker-Drob EM, Bressler J, Coresh J, Bis JC, Candia J, Jennings LL, Pietzner M, Lathrop M, Lopez OL, Redmond P, Gerszten RE, Rich SS, Heckbert SR, Austin TR, Hughes TM, Tanaka T, Emilsson V, Vasan RS, Guo X, Zhu Y, Tzourio C, Rotter JI, Walker KA, Ferrucci L, Kivimäki M, Breteler MMB, Cox SR, Debette S, Mosley TH, Gudnason VG, Launer LJ, Psaty BM, Seshadri S, Fornage M, *Identification of circulating proteins associated with general cognitive function among middle-aged and older adults*. Communications Biology 6:1117 (2023).

87) Cordon J, Duggan MR, Gomez GT, Pucha A, Peng Z, Dark HE, Davatzikos C, Erus G, Lewis A, Moghekar A, Candia J, Ferrucci L, Kapogiannis D, Walker KA, *Identification of clinically relevant brain endothelial cell biomarkers in plasma*. Stroke 54:2853 (2023).

86) Roy R, Kuo P-L, Candia J, Sarantopoulou D, Ubaida-Mohien C, Hernandez D, Kaileh M, Arepalli S, Singh A, Bektas A, Kim J, Moore AZ, Tanaka T, McKelvey J, Zukley L, Nguyen C, Wallace T, Dunn C, Wood W, Piao Y, Coletta C, De S, Sen JM, Weng N, Sen R, Ferrucci L, *Epigenetic signature of human immune aging in the GESTALT study*. eLife 12:e86136 (2023).

85) Das JK, Banskota N, Candia J, Griswold ME, Orenduff M, de Cabo R, Corcoran DL, Das SK, De S, Huffman KM, Kraus VB, Kraus WE, Martin CK, Racette SB, Redman LM, Schilling B, Belsky DW, Ferrucci L, *Calorie restriction modulates the transcription of genes related to stress response and longevity in human muscle: The CALERIE study*. Aging Cell 22:e13963 (2023).

84) Minas TZ, Lord BD, Zhang AL, Candia J, Dorsey TH, Baker FS, Tang W, Bailey-Whyte M, Smith CJ, Obadi OM, Ajao A, Jordan SV, Tettey Y, Biritwum RB, Adjei AA, Mensah JE, Hoover RN, Hsing AW, Liu J, Loffredo CA, Yates C, Cook MB, Ambs S, *Circulating trans fatty acids are associated with prostate cancer in Ghanaian and American men*. Nature Communications 14:4322 (2023).

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82) Osawa Y, Candia J, Abe Y, Tajima T, Oguma Y, Arai Y, *Plasma amino acid signature for sarcopenic phenotypes in community-dwelling octogenarians: Results from the Kawasaki Aging Wellbeing Project*. Experimental Gerontology 178:112230 (2023).

81) Ferrucci L, Candia J, Ubaida-Mohien C, Lyashkov A, Banskota N, Leeuwenburgh C, Wohlgemuth S, Guralnik JM, Kaileh M, Zhang D, Sufit R, De S, Gorospe M, Munk R, Peterson CA, McDermott MM, *Transcriptomic and proteomic of gastrocnemius muscle in peripheral artery disease*. Circulation Research 132:1428 (2023) [Editorial: Jain I, Oropeza BP, Huang NF, *Multiomics Analyses of Peripheral Artery Disease Muscle Biopsies*. Circulation Research 132:1444 (2023).]

80) Sirago G, Candia J, Franchi MV, Sarto F, Monti E, Toniolo L, Reggiani C, Giacomello E, Zampieri S, Hartnell LM, De Vito G, Sandri M, Ferrucci L, Narici, MV, *Upregulation of sarcolemmal hemichannels and inflammatory transcripts with neuromuscular junction instability during lower limb unloading in humans*. Biology 12:431 (2023).

79) Tanaka T, Talegawkar SA, Jin Y, Candia J, Fantoni G, Bandinelli S, Ferrucci L, *Proteomic mediators of overall cardiovascular health on all-cause mortality*. Nutrients 15:781 (2023).

78) Cheung F, Apps R, Dropulic D, Kotliarov Y, Chen J, Jordan T, Langweiler M, Candia J, Biancotto A, Han KL, Rachmaninoff N, Pietz H, Wang K, Tsang JS, Jeffrey I. Cohen, *Sex and prior exposure jointly shape innate immune responses to a live herpesvirus vaccine*. eLife 12:e80652 (2023).

77) Candia J, Daya GN, Tanaka T, Ferrucci L, Walker KA, *Assessment of Variability in the Plasma 7k SomaScan Proteomics Assay*. Scientific Reports 12:17147 (2022).

76) Sarto F, Stashuk DW, Franchi MV, Monti E, Zampieri S, Valli G, Sirago G, Candia J, Hartnell LM, Paganini M, McPhee JS, De Vito G, Ferrucci L, Reggiani C, Narici MV, *Effects of short-term unloading and active recovery on human motor unit properties, neuromuscular junction transmission and transcriptomic profile*. Journal of Physiology 600:4731 (2022).

75) Wang L*, Candia J*, Ma L*, Zhao Y*, Imberti L, Sottini A, Quiros-Roldan E, Dobbs K, Burbelo PD, Cohen JI, Delmonte OM, Forgues M, Liu H, Matthews HF, Shaw E, Stack MA, Weber S, Zhang Y, Lisco A, Sereti I, Su HC, Notarangelo LD, Wang XW, *Serological responses to human virome define clinical outcomes of Italian patients infected with SARS-CoV-2*. Int. J. Biol. Sci. 18:5591 (2022).

74) Tanaka T, Talegawkar SA, Jin Y, Candia J, Tian Q, Moaddel R, Simonsick EM, Ferrucci L, *Metabolomic profile of different dietary patterns and their association with frailty index in community-dwelling older men and women*. Nutrients 14:2237 (2022).

73) Pat N, Wang Y, Bartonicek A, Candia J, Stringaris A, *Explainable Machine Learning Approach to Predict and Explain the Relationship between Task-based fMRI and Individual Differences in Cognition*. Cerebral Cortex 1-22 (2022).

72) Osawa Y, Tanaka T, Semba RD, Fantoni G, Moaddel R, Candia J, Simonsick EM, Bandinelli S, Ferrucci L. *Plasma growth and differentiation factor 15 predict longitudinal changes in bone parameters in women, but not in men*. J Gerontol A Biol Sci Med Sci XX,1-8 (2022).

71) Minas TZ*, Candia J*, Dorsey TH, Baker F, Tang W, Kiely M, Smith CJ, Zhang AL, Jordan SV, Obadi OM, Ajao A, Tettey Y, Biritwum RB, Adjei AA, Mensah JE, Hoover RN, Jenkins FJ, Kittles R, Hsing AW, Wang XW, Loffredo CA, Yates C, Cook MB, Ambs S. *Serum proteomics links suppression of tumor immunity to ancestry and lethal prostate cancer*. Nature Communications 13:1759 (2022).

70) Osawa Y, Tanaka T, Semba RD, Fantoni G, Moaddel R, Candia J, Simonsick EM, Bandinelli S, Ferrucci L. *Proteins in the pathway from high red blood cell width distribution to all-cause mortality*. EBioMedicine 76:103816 (2022).

69) Yamaguchi Y, Zampino M, Tanaka T, Bandinelli S, Moaddel R, Fantoni G, Candia J, Ferrucci L, Semba RD. *The plasma proteome fingerprint associated with circulating carotenoids and retinol in older adults*. Journal of Nutrition 152:40 (2022).

68) Roberts JA, Varma VR, An Y, Varma S, Candia J, Fantoni G, Tiwari V, Anerillas C, Williamson A, Saito A, Loeffler T, Schilcher I, Moaddel R, Khadeer M, Lovett J, Tanaka T, Pletnikova O, Troncoso JC, Bennett DA, Albert MS, Yu K, Niu M, Haroutunian V, Zhang B, Peng J, Croteau DL, Resnick SM, Gorospe M, Bohr VA, Ferrucci L, Thambisetty M. *A Brain Proteomic Signature of Incipient Alzheimer's Disease in Young APOE ε4 Carriers Identifies Novel Drug Targets*. Science Advances 7:eabi8178 (2021).

67) Ma L, Wang L, Khatib SA, Chang C-W, Heinrich S, Dominguez DA, Forgues M, Candia J, Hernandez MO, Kelly M, Zhao Y, Tran B, Hernandez JM, Davis JL, Kleiner DE, Wood BJ, Greten TF, Wang XW. *Single-cell atlas of tumor cell evolution in response to therapy in hepatocellular carcinoma and intrahepatic cholangiocarcinoma*. Journal of Hepatology 75:1397 (2021).

66) Landino K, Tanaka T, Fantoni G, Candia J, Bandinelli S, Ferrucci L. *Characterization of the plasma proteomic profile of frailty phenotype*. GeroScience 43:1029 (2021).

65) Han K, Singh K, Rodman MJ, Hassanzadeh S, Baumer Y, Huffstutler RD, Chen J, Candia J, Cheung F, Stagliano KER, Pirooznia M, Powell-Wiley TM, Sack MN. *Identification and Validation of Nutrient State-Dependent Serum Protein Mediators of Human CD4+ T Cell Responsiveness*. Nutrients 13:1492 (2021).

64) Matsuda K, Migueles SA, Huang J, Bolkhovitinov L, Stuccio S, Griesman T, Pullano AA, Kang BH, Ishida E, Zimmerman M, Kashyap N, Martins KM, Stadlbauer D, Pederson J, Patamawenu A, Wright N, Shofner T, Evans S, Liang CJ, Candia J, Biancotto A, Fantoni G, Poole A, Smith J, Alexander J, Gurwith M, Krammer F, Connors M. *A Replication Competent Adenovirus-Vectored Influenza Vaccine Induces Durable Systemic and Mucosal Immunity*. Journal of Clinical Investigation 131:e140794 (2021).

63) Zampino M, Tanaka T, Ubaida-Mohien C, Fantoni G, <u>Candia J</u>, Semba R, Ferrucci L. *A plasma proteomic signature of skeletal muscle mitochondrial function*. International Journal of Molecular Sciences 21:9540 (2020) .

62) Tanaka T, Basisty N, Fantoni G, <u>Candia J</u>, Moore AZ, Biancotto A, Schilling B, Bandinelli S, Ferrucci L. *Plasma proteomic biomarker signature of age predicts health and life span*. eLife 9:e61073 (2020).

61) <u>Candia J</u>*, Bayarsaikhan E*, Tandon M*, Budhu A, Forgues M, Tovuu L-O, Tudev U, Lack J, Chao A, Chinburen J, Wang XW. *The genomic landscape of Mongolian hepatocellular carcinoma*. Nature Communications 11:4383 (2020).

60) Liu J, Tang W, Budhu A, Forgues M, Hernandez MO, <u>Candia J</u>, Kim Y, Bowman ED, Ambs S, Zhao Y, Tran B, Wu X, Koh C, Surana P, Liang TJ, Guarnera M, Mann D, Rajaure M, Greten TF, Wang Z, Yu H, Wang XW. *A Viral Exposure Signature Defines Early Onset of Hepatocellular Carcinoma*. Cell 182:1-12 (2020).

59) Tanaka T, Lavery R, Varma V, Fantoni G, Colpo M, Thambisetty M, <u>Candia J</u>, Resnick SM, Bennett DA, Biancotto A, Bandinelli S, Ferrucci L. *Plasma proteomic signatures predict dementia and cognitive impairment*. Alzheimer's & Dementia: Translational Research & Clinical Interventions e12018 (2020).

58) Osawa Y, Semba RD, Fantoni G, <u>Candia J</u>, Biancotto A, Tanaka T, Bandinelli S, Ferrucci L. *Plasma proteomic signature of the risk of developing mobility disability: A 9-year follow-up*. Aging Cell e13132 (2020).

57) Celik H, Lindblad K, Popescu B, Gui G, Goswami M, Valdez J, DeStefano C, Lai C, Thompson J, Ghannam J, Fantoni G, Biancotto A, <u>Candia J</u>, Cheung F, Sukumar G, Dalgard C, Smith R, Larochelle A, Dillon L, Hourigan C. *Highly multiplexed proteomic assessment of human bone marrow in acute myeloid leukemia*. Blood Advances 4:367-379 (2020).

56) Semba RD, Gonzalez-Freire M, Tanaka T, Biancotto A, Zhang P, Shardell M, Moaddel R, <u>CHI Consortium</u>, Ferrucci L. *Elevated Plasma Growth and Differentiation Factor 15 Is Associated With Slower Gait Speed and Lower Physical Performance in Healthy Community-Dwelling Adults*. J Gerontol A Biol Sci Med Sci 75:175–180 (2020).

55) Cheung F, <u>CHI Consortium</u>. *A Figure One Web Tool for Visualization of Experimental Designs*. Journal of Open Research Software 8:6 (2020).

54) Karmaus PWF, Shi M, Perl S, Biancotto A, <u>Candia J,</u> Cheung F, Kotliarov Y, Young NS, Fessler MB, CHI Consortium. *Effects of rosuvastatin on the immune system in healthy volunteers with normal serum cholesterol*. JCI Insight 4:e131530 (2019).

53) Lee BH, Kelly G, Bradford S, Davila M, Guo XV, Amir EAD, Thrash EM, Solga MD, Lannigan J, Sellers B, <u>Candia J</u>, Tsang J, Montgomery RR, Tamaki SJ, Sigdel TK, Sarwal MM, Lanier LL, Tian Y, Kim C, Hinz D, Peters B, Sette A, Rahman AH. *A Modified Injector and Sample Acquisition Protocol Can Improve Data Quality and Reduce Inter-Instrument Variability of the Helios Mass Cytometer.* Cytometry Part A, 95A:1019–1030 (2019).

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51) Ciucci T, Vacchio MS, Gao Y, Tomassoni Ardori F, <u>Candia J</u>, Mehta M, Zhao Y, Tran B, Pepper M, Tessarollo L, McGavern DB, Bosselut R. *The emergence and functional fitness of memory CD4+ T cells require the transcription factor Thpok*. Immunity 50:91-105 (2019).

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17) <u>Candia J</u>. *Irreversible growth of binary mixtures on small-world networks*. Phys Rev E 74:031101 (2006).

16) Manías V, <u>Candia J</u>, Albano EV. *Corner wetting in a far-from-equilibrium magnetic growth model*. Eur Phys J B 47:563 (2005).

15) <u>Candia J</u>. *Detectable neutrino fluxes due to enhanced cosmic ray densities in the Galactic Centre region*. J Cosmol Astrop Phys 11:002 (2005).

14) Beacom JF, <u>Candia J</u>. *Shower power: isolating the prompt atmospheric neutrino flux using electron neutrinos*. J Cosmol Astrop Phys 11:009 (2004).

13) <u>Candia J</u>, Roulet E. *Diffusion and drift of cosmic rays in highly turbulent magnetic fields*. J Cosmol Astrop Phys 10:007 (2004).

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10) <u>Candia J</u>, Albano EV. *Order-disorder criticality, wetting, and morphological phase transitions in the irreversible growth of far-from-equilibrium magnetic films*. J Magn Magn Mater 260:338 (2003).

9) <u>Candia J</u>, Roulet E, Epele LN. *Turbulent diffusion and drift in galactic magnetic fields and the explanation of the knee in the cosmic ray spectrum*. J High Energy Phys 12:033 (2002).

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7) <u>Candia J</u>, Albano EV. *Quasi-wetting and morphological phase transitions in confined far-from-equilibrium magnetic thin films*. J Chem Phys 117:6699 (2002).

6) <u>Candia J</u>, Albano EV. *Interfacial phase transitions in a far-from-equilibrium magnetic growth model*. J Phys: Condens Matter 14:4927 (2002).

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4) <u>Candia J</u>, Albano EV. *Irreversible growth of a binary mixture confined in a thin film geometry with competing walls*. Phys Rev Lett 88:016103 (2001).

3) <u>Candia J</u>, Albano EV. *Monte Carlo simulation of the irreversible growth of magnetic thin films*. J Appl Phys 90:5395 (2001).

2) <u>Candia J</u>, Albano EV. *Comparative study of an Eden model for the irreversible growth of spins and the equilibrium Ising model*. Phys Rev E 63:066127 (2001).

1) <u>Candia J</u>, Albano EV. *Non-equilibrium wetting transition in a magnetic Eden model*. Eur Phys J B 16:531 (2000).

BOOK CHAPTERS

3) <u>Candia J</u> (in press) SomaScan Bioinformatics: Normalization, Quality Control, and Assessment of Pre-Analytical Variation. In: Ruiz Romero C, Calamia V and Lourido L (Eds), Protein Arrays: Methods and Applications, Electronic ISSN 1940-6029, Print ISSN 1064-3745, Springer Nature. DOI:10.1101/2024.02.09.579724 (preprint).

2) <u>Candia J</u>, Banavar J, Losert W (2015) *Uncovering Phenotypes with Supercells: Applications to Single-Cell Sequencing*. In: Wang X (Ed), *Single Cell Sequencing and Systems Immunology*, Translational Bioinformatics (Vol. 5), ISBN 978-94-017-9752-8, ISBN 978-94-017-9753-5 (eBook), Springer, Chapter 2.

1) Pawling A, Yan P, <u>Candia J</u>, Schoenharl T and Madey G (2010) *Anomaly detection in streaming sensor data*. In: Cuzzocrea A (Ed), *Intelligent Techniques for Warehousing and Mining Sensor Network Data*, DOI: 10.4018/978-1-60566-328-9 IGI Global – Hershey, PA.

SOFTWARE

2) <u>Candia J</u>. *mutSigMapper*. R package available under GPLv3 license at <u>https://github.com/juliancandia/mutSigMapper</u>

1) <u>Candia J</u>, Tsang JS. *eNetXplorer*. R package available under GPLv3 license at <u>https://github.com/juliancandia/eNetXplorer</u>

INVITED AND CONTRIBUTED TALKS (selected)

- *Assessment of Variability and Normalization Methods Using the Plasma 7k SomaScan Assay v4.1*. Keynote Speaker at the 2023 SomaLogic User Group Meeting, Boston, 5/23/2023.
- *Toward causality in clinical proteomics: advantages and challenges of highly specific tools*. Invited seminar at the 2022 HUPO World Congress, Cancún, 12/5/2022.
- *Assessment of Variability and Normalization Methods Using the Plasma 7k SomaScan Assay v4.1*. SomaLogic-sponsored webinar through GenomeWeb, 11/30/2022. Co-presented with Keenan Walker.
- *Computational Approaches to Characterize Alternative Splicing in Peripheral Arterial Disease*. 15th Annual Research on Aging Showcase, Johns Hopkins School of Medicine, 4/8/2022. Best presentation award winner (2nd place).
- *Serological response to human virome defines clinical outcome of Italian patients infected with SARS-CoV-2*. 17th Annual NCI Staff Scientists / Staff Clinicians Retreat (virtual), 4/30/2021. Outstanding Oral Presentation Award based on scientific merit and overall quality with $1,500 travel award.
- *The genomic landscape of Mongolian hepatocellular carcinoma*. 3rd Annual Chinese-American Liver Society (CALS) Annual Symposium (virtual), 10/30/2020. Best presentation award.
- *Nonlinear Mixed-Effects Modeling of Proteomics Antibody-Based Multiplex Assays: A Bioinformatics Post-Hoc Approach to Improve Signal-to-Noise Ratios*. ISMB/ECCB Conference, Prague, 07/25/2017.
- *Meta-Analysis of CHI's SOMAscan Data: Assessing Variability, Reproducibility, and Reusability*. 1st SOMAscan Users Workshop. Center for Human Immunology, NIH, 03/27/2017.
- *Flow Cytometry Bioinformatics*. Notable Labs, 01/11/2017.

- *Exploring Protein Biomarkers with the SOMAscan Assay: From Wet-Lab to Bioinformatics*. Icahn School of Medicine at Mt. Sinai, 8/24/2016.
- *SomaLogic SOMAscan proteomics assay* (co-presented with A. Biancotto) in the "Genomics and Immunology Science Brown Bag Series", Clinical Genomics Program, NIAID, NIH, 3/09/2016.
- *Machine learning algorithms for flow cytometry analysis of human disease*. Institute of Inflammation and Ageing Seminar, University of Birmingham (UK), 11/17/2015.
- *Unbiased Learning from Big Data: Multidimensional Approaches for Data-Driven Biomedical Research*. Division of Biostatistics and Bioinformatics, University of Maryland (Baltimore), 06/24/14.
- *Uncovering Differential Multi-microRNA Signatures of Acute Myeloid and Lymphoblastic Leukemias with a Machine-Learning-Based Network Approach*. "2014 Joint Summits on Translational Science", American Medical Informatics Association (AMIA), 04/07-11/14, San Francisco.
- *From molecules to cells to organisms: understanding health and disease with multidimensional single-cell methods*. Invited Talk at the American Physical Society March Meeting, Baltimore, 03/21/2013.
- *Solving the Puzzle of Cell Heterogeneity vs Disease Phenotype with Supercells*. Invited talk at the UMD-NCI Cancer Technology Workshop, UMD, College Park, 01/18/2013.
- *Cell Averaging and Classification of Multidimensional Single-Cell Data: Solving the Puzzle of Heterogeneity vs Disease Phenotype with Supercells*. Pacific Symposium on Biocomputing 2013, Kona, Hawaii, 01/03/2013.
- *Uncovering Cell Subpopulations in Health and Disease: a Network Analysis of Multidimensional Single-Cell Data*. FOCIS-CHI Lecture Series "Bedside to Bench and Back", NIH, Bethesda, 03/21/2012.

AWARDS

- Scientific/Medical NIA Director's Award (2024).
- Length of Service Award for 10 years of Federal service (2024).
- Performance awards obtained every year since joining NIH (2014-2023).
- NIA Quadrennial performance review graded "Outstanding to Exceptional" for the period 2018-2022.
- NIAID Quadrennial performance review graded "Outstanding" for the period 2014-2018.
- Award from the NIH T32 Training Program in Cancer Biology (2012-2014).
- Awards to perform research at Fermilab, ICTP, UNM, Notre Dame, Northeastern, UMD.
- Award from CONICET (Argentina) to perform research for a Ph.D. degree (2000-2004). This was one out of approximately 250 awards granted to candidates in all Ph.D. programs in Sciences, Technology, and Humanities in Argentina.
- Awards from Fundación Antorchas (Argentina) to perform research in undergraduate (1998-1999), graduate (2000) and postdoc (2004) roles.
- "Dr. J.V. González" Award for highest GPA from the University of La Plata (2000).

MENTORING

- Mentor for NIH OITE Summer Internship Program (2022). Mentee: Sachin Kammula (undergraduate student at Johns Hopkins University, Baltimore).
- Mentor for UMD-NCI Partnership for Integrative Cancer Research (2019-2021). Mentee: Zeynep Kacar (Ph.D. Candidate at the University of Maryland, College Park).
- Mentor for NIH OITE Summer Internship Program (2019). Mentee: Ashwin Kammula (undergraduate student at the University of Maryland, College Park).
- Mentor for NIH Data Science Mentoring Program (2017). Mentee: Dr. Thomas Ciucci (Postdoctoral Fellow at Remy Bosselut's Lab, LICB, NCI).

EDITOR AND REVIEWER SERVICE

- Editor for Scientific Reports, Nature Portfolio (since 2023).
- Editor for Clinical and Experimental Medicine, Springer Nature (2019-2021).
- Reviewer for Bioinformatics, J. Gerontol.: Biol. Sci., PLoS One, J. Transl. Med., Cytometry Part A, J. Royal Soc. Interface, Nature Comm., AMIA Transl. Bioinformatics, AMIA Joint Summits on Transl. Science, Clin. Cancer Res., Comm. Biol., J. Proteom., Cell & Bioscience, and others.
- Grant reviewer for Hartstichting—Dutch Heart Foundation (2023).
- NIH Stadtman Search Computational Biology/Bioinformatics/Biostatistics/Mathematics Committee member (2021, 2022, 2023).

LANGUAGES

- Fluent in English, Spanish, and Italian.