

UNIVERSITY OF COLORADO SCHOOL OF MEDICINE  
*Curriculum vitae*

1. **Personal History**

**M. Cecilia Caino, Ph.D.**

Department of Pharmacology  
School of Medicine  
University of Colorado Anschutz Medical Campus  
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Country of birth: Argentina  
Race and Ethnicity: Hispanic/Latino  
Pronouns: She/her/hers  
Citizenship: United States

2. **Education**

- 1998 - 2002      **B.S.** (Major: Biology)  
2003 – 2004      **M.S. in Biology** (Molecular Genetics)  
Universidad Nacional de Mar del Plata, Facultad de Ciencias Exactas y Naturales, Mar del Plata, Argentina. Exchange Program with Fundacion Instituto Leloir, Buenos Aires, Argentina.  
G.P.A.: 9.19 out of 10. *Cum laude*.
- 2005 – 2010      **Ph.D. in Cellular Biology**  
Universidad de Buenos Aires, Facultad de Farmacia y Bioquimica, Buenos Aires, Argentina.  
Exchange Program with the University of Pennsylvania School of Medicine, Philadelphia, PA.  
G.P.A.: 10 out of 10. *Summa cum laude*.
- 2011 – 2016      **Postdoctoral training**  
The Wistar Institute, Philadelphia, PA.

3. **Academic Appointments**

- 2002              **Undergraduate Student**, Laboratory of Dr. Eduardo T. Canepa, Molecular Biology Department, University of Buenos Aires, Argentina.
- 2003 – 2004      **Graduate Student** (M.S. Candidate), Genetics & Molecular Physiology Group, Fundación Instituto Leloir, University of Buenos Aires, Argentina. Mentor: Dr. Pablo Wappner.
- M.S. Thesis: *Role for the oncogenic protein SPARC in migration during embryogenesis of the fruit-fly Drosophila melanogaster*. Research component performed at Fundación Instituto Leloir. Coursework, rotations and thesis defense components completed at University of Mar del Plata, School of Natural Sciences, Argentina.

- 08/2005 – 08/2010 **Visiting Graduate Student**, Pharmacology Department, University of Pennsylvania School of Medicine. Mentor: Dr. Marcelo G. Kazanietz.
- Ph.D. Thesis: *Protein kinase C isozyme-specific regulation of cancer cell biology using prostate cancer and lung cancer models*. Research component performed at University of Pennsylvania. Coursework, rotations and thesis defense components completed at University of Buenos Aires, School of Pharmacology and Biochemistry, Argentina.
- 09/2010 – 03/2011 **Postdoctoral fellow**, Pharmacology Department, University of Pennsylvania School of Medicine. Mentor: Dr. Marcelo G. Kazanietz.
- 04/2011 – 12/2016 **Postdoctoral fellow**, Prostate Cancer Discovery Program, The Wistar Institute  
Mentor: Dr. Dario C. Altieri.
- 09/2013 – 08/2016 **Ruth L. Kirschstein National Research Service Award Fellow**
- 01/2017 – 07/2017 **Staff Scientist**, Tumor Microenvironment and Metastasis Program, The Wistar Institute
- 08/2017 – present **Assistant Professor**, Department of Pharmacology, School of Medicine, University of Colorado Anschutz Medical Campus
- 2017 – present **Training Faculty Member**  
Pharmacology Graduate Program  
Biomedical Sciences Graduate Program  
Cancer Biology Graduate Program  
Cancer Research Experience for Undergraduate (CREU) Summer Fellowship Program
- 12/2017 – 6/2021 **Mentored Member**, Molecular and Cellular Oncogenesis Program, University of Colorado Cancer Center
- 7/2021 – present **Member**, Molecular and Cellular Oncogenesis Program, University of Colorado Cancer Center

#### **4. Honors, special recognitions and awards**

- 1997 2<sup>nd</sup> Prize in Scientific Essay: “Ethics dilemmas in Genetics”, Fundacion Instituto Leloir, Argentina
- 2005 Agencia Nacional de Promocion Cientifica y Tecnologica (ANPCyT) predoctoral fellow
- 2005 Graduated *Cum laude* from the M.S. Program, Universidad Nacional de Mar del Plata, Argentina
- 2005 Best GPA for M.S. in Biology. Rotary Club, Mar del Plata, Argentina
- 2007 Travel Award for Students. Growth Factor Signal Transduction Committee, Iowa State University, Ames IA
- 2010 Graduated *Summa cum laude* from the PhD Program, University of Buenos Aires, Argentina
- 2013 National Research Service Awards (NRSA) for individual postdoctoral fellows (F32)
- 2015 Trainee Travel Award, Wistar Trainee Association, Philadelphia PA
- 2019 Webb-Waring Biomedical Research Award, Boettcher Foundation, Denver CO
- 2021 Faculty Excellence in Research award, Department of Pharmacology
- 2022 MAVEN Senior Scientist, MAVEN Institute Scientific Leadership Development Program, Northwell Health

#### **5. Memberships in Professional Organizations**

- Lifetime Member Society for the Advancement of Chicanos/Hispanic & Native Americans in Science (SACNAS)
- 2010 – present Member, The American Association for Cancer Research (AACR)
- 2010 – present Member, AACR Women in Cancer Research
- 2010 – present Member, AACR Minorities in Cancer Research
- 2022 – present Member, World Mitochondria Society (WMS)

2022 – present Member, Endocrine Society

## 6. Major Committee and Service Responsibilities

### Thesis Committees

2017-2022	<i>Committee member</i> for Cassandra Smith (Structural Biology and Biochemistry)
2017	<i>External reviewer</i> for Irene Bertolini (University of Milan, Italy)
2019-2021	<i>Committee member</i> for Sean Korpela (Pharmacology)
2020-2022	<i>Committee member</i> for Kathleen O'Neill (Cancer Biology)
2021-present	<i>Committee member</i> for Nan Chen (Pharmacology)
2021-present	<i>Committee member</i> for Michael Orman (Pharmacology)
2021-present	<i>Committee chair</i> for Ashley Meng Wu (Cancer Biology)
2021-present	<i>Committee member</i> for Phoebe Cao (Cancer Biology)
2022-present	<i>Committee member</i> for Derek Johnson (Neurobiology)
2022-present	<i>Committee member</i> for Regan Miller (Cancer Biology)
2022-present	<i>Committee chair</i> for Parsa Haque (Cancer Biology)
2022-present	<i>Committee member</i> for Li-Wei Kuo (Cancer Biology)
2022-present	<i>Committee member</i> for Gregory Wright (Pharmacology)
2022-present	<i>Committee member</i> for Danielle Jeffrey (Pharmacology)

### Research Advisory Committees

2020-2021	<i>Advisory Committee member</i> for Christina Towers (postdoctoral fellow, K99)
2021-present	<i>Advisory Committee member</i> for Jordan Speidel (postdoctoral fellow, T32 Cancer Biology)

### Other service

2017 – present	Poster judge, Student Research Day, Pharmacology Program
2017 – present	Poster judge, Cancer Biology Program Retreat
2018	Department of Pharmacology IT specialist Recruitment
2018 – present	Poster judge, Cancer Biology Postdoctoral Day
2018 – present	Pharmacology Department Seminar Committee member
2018, 2019	Co-Chair of the Organizing Committee, Pharmacology Department Annual Retreat
2018 – present	Faculty Senator, Faculty Senate University of Colorado Anschutz Medical Campus
2020, 2022	Recruitment committee member, Cancer Research Experience for Undergraduates (CREU)
2021 – present	Recruitment committee member, Biomedical Sciences Graduate Program
2021 – present	Recruitment committee member, Pharmacology Program
2021, 2022	Co-Chair of the Organizing Committee, Cancer Biology Program Annual Retreat
2022 – present	Head Faculty, CANB Diversity, Equity, and Inclusion (DEI) task force
2022 – present	Steering Committee member, CANB graduate program
2022 – present	Member, Graduate School DEI task force
2022 – present	Departmental Well-being Committee chair

## 7. Inventions, Intellectual Property and Patents held or pending

Methods and Compositions for Inhibiting Mitochondrial Trafficking. Publication number: 20170000804. Type: Application. Filed: June 24, 2016. Publication date: January 5, 2017. Inventors: Dario C. Altieri, Maria Cecilia Caino. <https://patents.justia.com/patent/20170000804>.

Abstract: Methods for reducing, inhibiting or preventing cancer metastasis comprise blocking the movement of mitochondria within a cancer cell. Other methods involve interrupting or preventing oxidative phosphorylation pathways or respiration pathways in the cancer cell. In one embodiment, mitochondrial movement is induced by contact of the cell with PI3K inhibitors or antagonists. Methods for treating cancer involve a regimen of treating a

subject with a PI3K inhibitor or antagonist and treating the subject with a composition that blocks the movement of mitochondria within the subject's cells.

## **8. Review and Referee Work**

### **Grant review committees and study sections**

2018 – Argentinean National Cancer Institute, Argentina  
2018 – Chilean National Science and Technology Commission, Chile  
2019 – Medical Research Council, UK Research and Innovation, United Kingdom  
2019 – Pew-Stewart Scholars Program for Cancer Research, University of Colorado Cancer Center, Aurora, CO  
2019 – Wings of Hope, University of Colorado Cancer Center, Aurora, CO  
2019 – Worldwide Cancer Research, United Kingdom  
2020 – Early Career Reviewer (ECR), Tumor Cell Biology (TCB) study section, Center for Scientific Review, NIH  
2020 – UCCC/NORC Metabolism Grants, University of Colorado, Aurora, CO  
2021 – *Ad hoc* member, Tumor Cell Biology (TCB) study section, Center for Scientific Review, NIH  
2022 – *Ad hoc* member, Cell Biology Integrated Review Group (ZRG1 CB-M), Center for Scientific Review, NIH  
2022 – *Ad hoc* member, Cell Biology Integrated Review Group (ZRG1 MRAD-H (01) Q), Center for Scientific Review, NIH  
2022 – 2026, **Standing member**, Maximizing Investigators' Research Award D (MRAD), Center for Scientific Review, NIH

### **Ad-hoc Journal reviewer**

Molecular Carcinogenesis (1), PLoS ONE (1), Breast Cancer Research (2), Oncogenesis (1), Nature Methods (2), Journal of Experimental & Clinical Cancer Research (1), Molecular Cancer Research (4), Molecular Therapy (2), Mitochondrion (1), Frontiers in Immunology (1), Frontiers in Oncology (2).

### **Editorial Board Memberships**

2022 – *Associate Editor*, Frontiers in Oncology, Molecular and Cellular Oncology Section  
2022 – *Associate Editor*, Frontiers in Cell and Developmental Biology, Signaling Section

## **9. Invited Lectures, Presentations and Visiting Professorships**

2007 16<sup>th</sup> Annual Growth Factor Signal Transduction Symposium in Senescence, Aging and Cancer. Ames, Iowa  
2009 FASEB Summer Research conferences: Lipid signaling pathways in Cancer. Carefree, Arizona  
2015 Farestaie Institute Retreat. Mar del Plata, Buenos Aires (Argentina)  
2017 Spotlight Session on Cancer Metabolism on the ASBMB 2017 Annual Meeting. Chicago, Illinois  
2017 Cancer Biology Graduate Program, University of Colorado Anschutz Medical Campus  
2018 Endocrine Research Conference, University of Colorado Anschutz Medical Campus  
2018 Chalk Talk Workshop, Cancer Biology Postdoctoral Symposium  
2019 Hematology Division Seminar Series, University of Colorado Anschutz Medical Campus  
2019 Chalk Talk Workshop, T32 Training grant seminar series, Cancer Biology Program  
2021 Expectations of Basic Science Faculty, T35 Career Development Series, Cancer Biology Program. Apr 2 2021  
2021 Cancer Center Outreach Presentation to Health Career Freshmen at CU Denver. Nov 1 2021  
2021 Cancer Biology Program Seminar Series, Hillman Cancer Center, University of Pittsburgh, PA. Dec 3 2021  
2022 3<sup>rd</sup> International conference on Cell and Experimental Biology (CEB-2022), Boston, MA, Apr 18-20 2022  
2022 Department of Anesthesiology Seminar Series, University of Colorado, May 3 2022  
2022 13<sup>th</sup> World Targeting Mitochondria Congress, Berlin, Germany, Oct 26-28 2022  
2022 Cell Symposium: Multifaceted mitochondria. Seville, Spain, Nov 6-8 2022  
2023 4<sup>th</sup> International Conference on Cell and Experimental Biology (CEB-2023), Houston TX, Apr 24-26 2023  
2023 Endocrine Society Annual Meeting (ENDO 2023), Chicago IL, Jun 15-18 2023

## 10. Teaching Records

### Major presentations

- 2009 **Teaching Assistant**, DNA Damage Checkpoints (CAMB 650). University of Pennsylvania, School of Medicine. 36 hours per semester.
- 2017-2019 **Lecturer**, Frontiers in Pharmacology (PHCL 7600). University of Colorado, School of Medicine. 2 hours per semester.
- 2018-2021 **Lecturer**, Foundations in Biomedical Sciences (IDPT 7806). University of Colorado, School of Medicine. Two lectures (Cell Signaling, Cell Motility) and 2 paper discussions per semester, 8 hours per semester. Average enrollment 20 students.
- 2018-present **Faculty Facilitator**, Cancer Biology Journal Club (CANB 7613). University of Colorado, School of Medicine. 2 hours per semester.
- 2018-2020 **Lecturer**, Responsible Authorship for Responsible Conduct of Research (PHCL 7605). University of Colorado, School of Medicine. 2 hours per semester. Average enrollment 60 students.
- 2018-2020 **Group discussion leader**, Responsible Conduct of Research (PHCL 7605). University of Colorado, School of Medicine. Six discussion meeting dates, 12 hours per semester.
- 2019-present **Lecturer**, Receptors and Cell Signaling (PHCL 7606). University of Colorado, School of Medicine. Two lectures (Mitochondrial Signaling Pathways, Introduction to Cell Signaling) and 2 paper discussions per semester, 8 hours per semester. Average enrollment 15 students.

### Key administrative positions

- 2018-2020 **Course Co-Director** for Responsible Conduct of Research (PHCL 7605). University of Colorado, School of Medicine. Fall, 40 hours per semester.
- 2020-2022 **Course Co-Director** for Receptors and Cell Signaling (PHCL 7606). University of Colorado, School of Medicine. Spring, 60 hours per semester.
- 2022-2025 **Workshop Co-Developer and Facilitator** for Mentor Training Workshop. Molecular Biology, Pharmacology, Cell and Developmental Biology and Medical Scientist Training Programs, University of Colorado. *In collaboration with Port, Prekeris, Artinger, Reis, Brzezinski and Pietras.*

### Trainees and mentees

- 2004 Juan Manuel Gomez, Undergraduate student, Fundacion Instituto Leloir, Argentina
- 2005 Agustina Bertolin, Undergraduate student, Fundacion Instituto Leloir, Argentina
- 2007-2009 Vivian Von Burstin, Visiting graduate student, University of Pennsylvania
- 2008-2010 Mahlet Abera, Graduate Student from Pharmacology, University of Pennsylvania
- 2009-2011 Rachana Garg, Postdoctoral fellow, University of Pennsylvania
- 2012 Noreen Petrash, Summer undergraduate student, The Wistar Institute
- 2016-2017 Yuan Wang, Postdoctoral fellow, The Wistar Institute
- 2017 Ekta Agarwal, Postdoctoral fellow, The Wistar Institute

### Since starting at the University of Colorado

- 2017 – 2022 Madison Furnish, Graduate student from Pharmacology, University of Colorado
- Summer 2018 Mitchell Ellinwood, CREU summer undergraduate student, University of Colorado Cancer Center
- 2018 – present Dillon Boulton, Graduate student from Pharmacology, University of Colorado
- 2021 – 2022 Denisa Grofova, Master student from Modern Human Anatomy, University of Colorado
- Summer 2021 Sarah Kate Connor, CREU summer undergraduate student, University of Colorado Cancer Center
- Spring 2022 Bridget Hoag (rotation), Graduate student from Cancer Biology, University of Colorado
- Summer 2022 Jessica Garofalo, CREU summer undergraduate student, University of Colorado Cancer Center
- 2022 – present Masoom Raza, Postdoctoral fellow, University of Colorado
- 2022 – present John Meshki, Research Associate, University of Colorado
- Fall 2022 Chase Barker (rotation), Graduate student from Pharmacology, University of Colorado

2022	ShelInna Huynh, Undergraduate Training and Research Achievement in Cancer (U-TRAC) Program, University of Colorado Cancer Center
Fall 2022	Shahad Abdulsahib, Mentor Activation for Students (MAS) Program, SACNAS
2022 – 2023	Grecia Rivera, Women in STEM (WiSTEM) Mentorship Program, University of Colorado

## **11. Grant Support**

### **Active**

***Title: Understanding the MIRO2/GCN1 Signaling Axis for Therapeutic Gain in Lethal Prostate Cancer***

*Principal Investigator:* Caino

*Award Number:* W81XWH-21-1-0408

*Time commitments:* 2.4 calendar

*Supporting agency:* Department of Defense

*Period of performance:* 07/01/21 – 06/30/24

*Project goals:* This is a PCRP Idea Development Award for New Investigators.

*Specific aims:* i) Examine the impact of MIRO2/GCN1 signaling on aggressiveness of metastatic prostate cancer (mPC). ii) Identify molecular vulnerabilities of mPC, focusing on the MIRO2 network.

***Title: Regulation of mitochondrial dynamics pathways in mammalian cells***

*Principal Investigator:* Caino

*Award Number:* R35 GM142774

*Time commitments:* 6 calendar

*Supporting agency:* National Institute of General Medical Sciences (NIGMS)

*Period of performance:* 06/15/21 – 04/30/26

*Project goals:* This is a Maximizing Investigator's Research Award (MIRA) for Early Stage Investigators

*Specific aims:* The overall goal is to reach a comprehensive understanding on the mechanisms that govern mitochondrial dynamics and the interplay between mitochondrial transport with other aspects of mitochondrial and cellular biology.

***Title: A novel mitochondrial signaling pathway regulates tumor cell metastasis***

*Principal Investigator:* Caino

*Award Number:* AWD-193249

*Time commitments:* 1.2 calendar

*Supporting agency:* Boettcher Foundation

*Period of performance:* 07/01/19 – 06/30/22 (no cost extension to 12/31/22)

*Project goals:* This is a Webb-Waring Biomedical Research Award for Early Stage Investigators.

*Specific aims:* i) Examine the universality of MIRO2's regulation of tumor cell-intrinsic phenotypes. ii) Study the mechanisms by which MIRO2 regulates tumor cell biology. iii) Dissect the contribution of MIRO2's functional domains to cellular signaling cascades in melanoma.

***Title: The role of MIRO2 in tumor cell invasion and metastasis***

*Principal Investigator:* Boulton

*Award Number:* F31 CA271652

*Role:* Caino is Sponsor

*Supporting agency:* National Cancer Institute

*Period of performance:* 04/01/22 – 03/31/25

*Project goals:* This is a F31 individual fellowship for Dillon Boulton, Dr. Caino is the Sponsor.

*Specific aims:* 1) determine the role of MIRO2 in tumor cell invasion and breast cancer metastasis and 2) determine the mechanism in which MIRO2 regulates tumor cell invasion.

### **Completed**

**Title: Mitochondrial Hsp90s Regulation of Tumor Bioenergetics and Metastasis**

*Principal Investigator:* Caino

*Award Number:* F32 CA177018

*Time commitments:* 12 calendar months

*Supporting agency:* National Cancer Institute

*Period of performance:* 09/23/13-09/22/16

*Project goals:* This is a NIH National Research Service Award (NRSA) fellowship for postdoctoral fellows.

*Specific aims:* The major goals of this project were: i) to elucidate the molecular requirements for mtHsp90s modulation of the autophagy initiating complex in FAK activation and tumor cell motility under metabolic stress; ii) to study the involvement of the UPR in mtHsp90s-mediated regulation of cytoskeletal dynamics in tumor cells; and iii) to validate the role of mtHsp90s in animal models of metastasis *in vivo*.

**Title: Metabolic Reprogramming in Prostate Cancer Therapy**

*Principal Investigator:* Altieri

*Award Number:* Challenge Award

*Time commitments:* 12 calendar months

*Supporting agency:* Prostate Cancer Foundation

*Period of performance:* 08/01/2015-07/31/2017

*Project goals:* This is a MPI Challenge award for a team of 3 senior investigators (Altieri, Languino, Gabrilovich) and 1 junior investigator (Caino).

*Specific aims:* Project 4 (Caino) aimed to determine how mitochondria travel along the cytoskeletal network in tumor cells, and characterize the role of the cytoskeletal protein, Syntaphilin (SNPH) as a putative novel metastasis suppressor gene in prostate cancer.

**Title: Institutional Research Grant**

*Principal Investigator:* Richer and Tentler

*Award Number:* IRG-16-184-56

*Time commitments:* 0.6 calendar each PI, no salary support requested

*Supporting agency:* American Cancer Society

*Period of performance:* 1/1/2017 – 12/31/2020

*Project goals:* The purpose of this grant program is to support the development of exceptional research projects that will help lead to the conquest of cancer and further the objectives of the CU Cancer Center.

*Period of performance for Dr. Caino's seed grant:* 1/1/2018 – 12/31/2018

*Project goals for Dr. Caino's seed grant:* Elucidate the Role of mitochondrial Rho GTPases (MIROs) in prostate cancer invasion.

*Specific aim for Dr. Caino's seed grant:* The goal of this project was to study MIRO 1 and 2 as part of a “neuronal” network responsible for mitochondria trafficking and tumor cell invasiveness.

## 12. **Bibliography**

1. **Caino MC**, Oliva JL, Jiang H, Penning TM, Kazanietz MG. “Benzo[a]pyrene-7,8-dihydrodiol promotes checkpoint activation and G2/M arrest in human bronchoalveolar carcinoma H358 cells”. *Mol Pharmacol*. 2007 Mar;71(3):744-50.
2. Oliva JL\*, **Caino MC\***, Senderowicz AM, Kazanietz MG. “S-Phase-specific activation of PKC alpha induces senescence in non-small cell lung cancer cells.”. *J Biol Chem*. 2008 Feb 29;283(9):5466-76. **\*, equally contributed to this work.**
3. Xiao L\*, **Caino MC \***, et al. “Phorbol ester-induced apoptosis and senescence in cancer cell models”. *Methods Enzymol*. 2008;446:123-39. **\*, equally contributed to this work.**
4. **Caino MC**, Meshki J and Kazanietz MG. “Hallmarks of senescence in carcinogenesis: novel signaling players”. *Apoptosis*. 2009 Apr;14(4):392-408. Review.

5. Griner EM, **Caino MC**, Sosa MS, Colón-González F, Chalmers MJ, Mischak H, Kazanietz MG. “A novel cross-talk in diacylglycerol signaling: the Rac-GAP {beta}2-chimaerin is negatively regulated by PKC{delta} mediated phosphorylation”. *J Biol Chem*. 2010 Mar 24. PMID: 20335173. PMCID:PMC2878072.
6. Meshki J\*, **Caino MC\***, von Burstin VA, Griner E, Kazanietz MG. “Regulation of prostate cancer cell survival by protein kinase C epsilon involves bad phosphorylation and modulation of the TNFalpha/JNK pathway”. *J Biol Chem*. 2010 Aug 20;285(34):26033-40. PMID: 20566643. PMCID:PMC2924002. **\*, equally contributed to this work.**
7. Filone CM, Hanna SL, **Caino MC**, Bambina S, Doms RW, Cherry S. “Rift valley fever virus infection of human cells and insect hosts is promoted by protein kinase C epsilon”. *PLoS One*. 2010 Nov 24;5(11):e15483. PMID: 21124804. PMCID:PMC2991366.
8. **Caino MC**, von Burstin VA, Lopez-Haber C, Kazanietz MG. “Differential regulation of gene expression by protein kinase C isozymes as determined by genome-wide expression analysis”. *J Biol Chem*. 2011 Apr 1;286(13):11254-64. PMID: 21252239. PMCID:PMC3064181.
9. **Caino MC**, Lopez-Haber C, Kim J, Mochly-Rosen D, Kazanietz MG. “Protein kinase C epsilon is required for non-small cell lung carcinoma growth and regulates the expression of apoptotic genes”. *Oncogene*. 2012 May 17;31(20):2593-600. PMCID: PMC3432976.
10. **Caino MC**, Lopez-Haber C, Kissil JL, Kazanietz MG. “Non-small cell lung carcinoma cell motility, rac activation and metastatic dissemination are mediated by protein kinase C epsilon”. *PLoS One*. 2012;7(2):e31714. PMID: 22384062. PMCID:PMC3288050.
11. Chae YC, **Caino MC**, Lisanti S, Ghosh JC, Dohi T, Danial NN, Villanueva J, Ferrero S, Vaira V, Santambrogio L, Bosari S, Languino LR, Herlyn M, Altieri DC. “Control of tumor bioenergetics and survival stress signaling by mitochondrial Hsp90s”. *Cancer Cell*. 2012 Sep 11;22(3):331-44. PMID:22975376. PMCID: PMC3615709.
12. **Caino MC**, Chae YC, Vaira V, Ferrero S, Nosotti M, Martin NM, Weeraratna A, O’Connell M, Jernigan D, Fatatis A, Languino LR, Bosari S, Altieri DC. “Metabolic stress regulates cytoskeletal dynamics and metastasis of cancer cells”. *J Clin Invest*. 2013 Jul;123(7):2907-20. PMID:23921130. PMCID: PMC3998961.
13. Garg R\*, **Caino MC\***, Kazanietz MG. “Regulation of transcriptional networks by PKC isozymes: identification of c-Rel as Key transcription factor for PKC-regulated genes”. *PLoS One*. 2013 Jun 27;8(6):e67319. PMID:23826267. PMCID: PMC3694964. **\*, equally contributed to this work.**
14. Ghosh JC, Siegelin MD, Vaira V, Favarsani A, Tavecchio M, Chae YC, Lisanti S, Rampini P, Giroda M, **Caino MC**, Seo JH, Kossenkov AV, Michalek RD, Schultz DC, Bosari S, Languino LR, Altieri DC. “Adaptive mitochondrial reprogramming and resistance to PI3K therapy”. *J Natl Cancer Inst*. 2015 Feb 3;107(3). pii: dju502. PMID:25650317. PMCID: PMC4565533.
15. **Caino MC**, Ghosh JC, Chae YC, Vaira V, Rivadeneira DB, Favarsani A, Rampini P, Kossenkov AV, Aird KM, Zhang R, Webster MR, Weeraratna AT, Bosari S, Languino LR, Altieri DC. “PI3K therapy reprograms mitochondrial trafficking to fuel tumor cell invasion”. *Proc Natl Acad Sci USA*. 2015 Jul 14;112(28):8638-43. PMID: 26124089. PMCID: PMC4507184.
16. Rivadeneira D, **Caino MC**, Seo JH, Angelin A, Wallace D, Altieri DC. “Mitochondrial respiration controlled by Survivin directs positional organelle trafficking and tumor cell invasion”. *Sci Signal*. 2015 Aug 11;8(389):ra80. doi: 10.1126/scisignal.aab1624. PMID: 26268608. PMCID: PMC4539531.
17. **Caino MC** and Altieri DC. “Cancer cells exploit adaptive mitochondrial dynamics to increase tumor cell invasion”. *Cell Cycle* 2015;14(20):3242-7. doi: 10.1080/15384101.2015.1084448. PMID: 26317663. PMCID: PMC4825634.
18. **Caino MC** and Altieri DC. “Disabling mitochondrial reprogramming in cancer”. *Pharmacol Res*. 2015 Sep 10. pii: S1043-6618(15)00201-7. doi: 10.1016/j.phrs.2015.08.022. PMID: 26365877. PMCID: PMC4684442.



19. **Caino MC** and Altieri DC. “Molecular Pathways: Mitochondrial Reprogramming in Tumor Progression and Therapy”. *Clin Cancer Res.* 2016 Feb 1;22(3):540-5. doi: 10.1158/1078-0432.CCR-15-0460. PMID: 26660517. PMCID: PMC4738153.
20. Seo JH, Rivadeneira D, **Caino MC**, Speicher DW, Tao HY, Vaira V, Bosari S, Kossenkov AV, Languino LR, Altieri DC. “The mitochondrial unfoldase-peptidase ClpXP complex controls oxidative stress and metastasis”. *PLoS Biol.* 2016 Jul 7;14(7):e1002507. doi: 10.1371/journal.pbio.1002507. PMID: 27389535. PMCID: PMC4936714.
21. Chae YC, Vaira V, **Caino MC**, Tao HY, Kossenkov AV, Ottobriani L, Martelli C, Lucignani G, Bertolini I, Locatelli M, Bryant KG, Ghosh JC, Lisanti S, Ku B, Bosari S, Languino LR, Speicher DW, Altieri DC. “Mitochondrial Akt regulation of hypoxic metabolic reprogramming”. *Cancer Cell.* 2016 Aug 8;30(2):257-72. doi: 10.1016/j.ccell.2016.07.004. PMID: 27505672. PMCID: PMC5131882.
22. **Caino MC**, Seo JH, Aguinaldo A, Wait E, Bryant KG, Kossenkov AV, Hayden JE, Vaira V, Morotti A, Ferrero S, Bosari S, Gabrilovich DI, Languino LR, Cohen AR, Altieri DC. “A neuronal network of mitochondrial dynamics regulates metastasis”. *Nat Commun.* 2016 7, 13730 doi: 10.1038/ncomms13730. PMID: 27991488. PMCID: PMC5187409.
23. Behera R., Kaur A, Webster MR, Kim S, Ndoye A, Alicea GM, Kugel CH, Wang JX, Ghosh K, Cheng PF, Lisanti S, Marchbank K, Dang V, Levesque MP, Dummer R, Xu X, Herlyn M, Aplin AE, Roesch A, **Caino MC**, Altieri DC, Weeraratna AT. “Inhibition of age-related therapy resistance in melanoma by rosiglitazone-mediated induction of Klotho”. *Clin Cancer Res.* 2017 Jun 15;23(12):3181-3190. doi: 10.1158/1078-0432.CCR-17-0201. PMID: 28232477. PMCID: PMC5474161.
24. **Caino MC**, Seo JH, Wang Y, Rivadeneira DB, Gabrilovich DI, Kim ET, Weeraratna AT, Languino LR, Altieri DC. “Syntaphilin controls a mitochondrial rheostat for proliferation-motility decisions in cancer”. *J Clin Invest.* 2017 Sep 11. pii: 93172. doi: 10.1172/JCI93172. PMID: 28891816. PMCID: PMC5617650.

Since starting at the University of Colorado:

25. Williams M, **Caino MC**. “Mitochondrial Dynamics in Type 2 Diabetes and Cancer”. *Front Endocrinol.* 2018 Apr 27;9:211. doi: 10.3389/fendo.2018.00211. eCollection 2018. Review. PMID: 29755415. PMCID: PMC5934432.
26. Seo JH, Agarwal E, Bryant KG, **Caino MC**, Kim ET, Kossenkov AV, Tang HY, Languino LR, Gabrilovich DI, Cohen AR, Speicher DW, Altieri DC. “Syntaphilin Ubiquitination Regulates Mitochondrial Dynamics and Tumor Cell Movements”. *Cancer Res.* 2018 Aug 1;78(15):4215-4228. doi: 10.1158/0008-5472.CAN-18-0595. Epub 2018 Jun 13. PMID: 29898993. PMCID: PMC6072605.
27. Wheeler LJ, Watson ZL, Qamar L, Yamamoto TM, Sawyer BT, Sullivan KD, Khanal S, Joshi M, Ferchaud-Roucher V, Smith H, Vanderlinden LA, Brubaker SW, **Caino MC**, Kim H, Espinosa JM, Richer JK, Bitler BG. “Multi-Omic Approaches Identify Metabolic and Autophagy Regulators Important in Ovarian Cancer Dissemination”. *iScience.* 2019 Aug 6;19:474-491. PMID: 31437751. PMCID: PMC6710300.
28. Lee YG, Nam YJ, Shin KJ, Yoon S, Park WS, Joung JY, Seo JK, Jang J, Lee S, Nam D, **Caino MC**, Suh PG, Chae YC. “Androgen-induced expression of DRP1 regulates mitochondrial metabolic reprogramming in prostate cancer”. *Cancer Letters.* 2019 Dec 12. pii: S0304-3835(19)30623-8. PMID: 31838085.
29. Furnish M, **Caino MC**. “Altered mitochondrial trafficking as a novel mechanism of cancer metastasis”. *Cancer Rep.* 2020 Feb;3(1):e1157. PMID: 32671955. Review. \* **Top Cited Paper, Cancer Rep 2022**
30. Li J, Agarwal E, Bertolini I, Seo JH, **Caino MC**, Ghosh JC, Kossenkov AV, Liu Q, Tang HY, Goldman AR, Languino LR, Speicher DW, Altieri DC. “The mitophagy effector FUNDC1 controls mitochondrial reprogramming and cellular plasticity in cancer cells”. *Sci Signal.* 2020 Jul 28;13(642):eaaz8240. PMID: 32723812.

31. Alicea GM, Rebecca VW, Goldman AR, Fane ME, Douglass SM, Behera R, Webster MR, Kugel CH 3rd, Ecker BL, **Caino MC**, Kossenkov AV, Tang HY, Frederick DT, Flaherty KT, Xu X, Liu Q, Gabrilovich DI, Herlyn M, Blair IA, Schug ZT, Speicher DW, Weeraratna AT. “Changes in Aged Fibroblast Lipid Metabolism Induce Age-Dependent Melanoma Cell Resistance to Targeted Therapy via the Fatty Acid Transporter FATP2”. *Cancer Discov.* 2020 Sep;10(9):1282-1295. PMID: 32499221.
32. Towers CG, Wodetzki D, Thorburn J, Smith KR, **Caino MC**, Thorburn A. “Mitochondrial-derived vesicles compensate for loss of LC3-mediated mitophagy”. *Dev Cell.* 2021 Jun 24;S1534-5807(21)00481-0. PMID: 34171288.
33. Furnish M, Boulton DP, Genther V, Grofova D, Ellinwood ML, Romero L, Lucia MS, Cramer SD, **Caino MC**. “MIRO2 regulates prostate cancer cell growth via GCN1-dependent stress signaling”. *Mol Cancer Res.* 2022 Apr 1;20(4):607-621. doi: 10.1158/1541-7786.MCR-21-0374. PMID: 34992146. \* **AACR Editor’s pick, MCR 2022.**
34. Ghosh JC, Perego M, Agarwal E, Bertolini I, Wang Y, Goldman AR, Tang HY, Kossenkov AV, Jang GH, Wilson JM, Notta F, Libby CA, Languino LR, Plow EF, Morotti A, Ottobrini L, Speicher DW, **Caino MC**, Cassel J, Salvino JM, Robert ME, Vaira V, Altieri DC. “Ghost mitochondria drive metastasis through adaptive GCN2/AKT therapeutic vulnerability”. *Proc Natl Acad Sci USA.* 2022 Feb 22;119(8):e2115624119. doi: 10.1073/pnas.2115624119. PMID: 35177476.
35. Boulton DP, **Caino MC**. “Mitochondrial fission and fusion in tumor progression to metastasis”. *Frontiers Cell Dev Biol.* 2022 Feb 24. doi: 10.3389/fcell.2022.849962.
36. O’Neill KI, Kuo LW, Williams MM, Lind HE, Crump LS, Hammond NG, Spoelstra NS, **Caino MC**, Richer JK. “NPC1 confers metabolic flexibility in Triple Negative Breast Cancer”. *Cancers* 2022, 14(14), 3543.

### **13. Self-improvement of mentorship, teaching and leadership skills**

#### **2020: Remote teaching skills and Equity training**

- Rapid remote teaching (2 h). CU Office of Digital Education, UCDenver.
- Zoom Basics and Advanced Features (2 h). CU Office of Digital Education, UCDenver.
- Creating Video Assignments (2 h). CU Office of Digital Education, UCDenver.
- Canvas basics (2 h). CU Office of Digital Education, UCDenver.
- Minimizing Conflict and Improving Effectiveness series (4 h). CU Ombuds Office, UCDenver.
- Effective Online Instruction: Managing your online presence (2 h). Association of College and University Educators (ACUE).
- Effective Online Instruction: Planning and Facilitating Quality Discussions (2 h). Association of College and University Educators (ACUE).
- Supporting Yourself and Your Trainees During the Coronavirus Pandemic (2 h). NIH Office of Intramural Training and Education.
- Implicit bias training (2 h). CU Office of diversity, Equity and Inclusion, Anschutz.
- Equity Certificate Program (8 h). Office of Diversity, Equity and Inclusion, UCDenver.

#### **2021: Mentoring and Managerial skills training**

- Learning Objectives and Rubrics (2 h). Graduate School, UCDenver.
- Communicating as a leader (2 h), UCD AMC
- Crucial conversations (16 h), UCD AMC
- Understanding emotional intelligence (4 h), UCD AMC
- Facilitation skills (9 h), UCD AMC
- Extended DISC training (4 h), UCD AMC

- Annual Bias training for Recruitment Committees (1 h), UCD AMC

2022: Mentoring and Leadership training

- Facilitating Entering Mentoring training, Center for the Improvement of Mentored Experiences in Research (CIMER, 40 h), Wisconsin Center for Educational Research
- MAVEN Institute Scientific Leadership Development Program (96 h)
- Crucial accountability (16 h), UCD AMC
- Annual Bias training for Recruitment Committees (1 h), UCD AMC
- Interactive Workshop Series on Holistic Admissions for Graduate Programs (5 h), Educational Testing Service (ETS).