Curriculum Vitae

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Associate Professor, Department of Radiation Oncology
University of Maryland School of Medicine

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Contact Information

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Foreign Languages:	Afrikaans (fluent), Dutch (working knowledge)

Education

1979	A Levels, Camden School for Girls, London, UK
1983	B.Sc., University College London, London, UK, Honors in Human Genetics
1990	Ph.D., Royal Post-Graduate Medical School, University of London, London, UK, Biological Sciences

Post-Graduate Education and Training

1990-1994	Post-Doctoral Fellowship, Section of Hematology/Oncology, University of Chicago Mentors: Professors Michelle Le Beau and Timothy McKeithan

Employment History

Academic Appointments

1994-1996	Research Associate, Section of Hematology/Oncology, University of Chicago
1996-1998	Research Associate - Assistant Professor, Section of Hematology/Oncology, University of Chicago
1998-2005	Lecturer, King's College School of Medicine, Guy's Campus, London, UK
1998-2005	Head, Genomic Instability Laboratory, King's College School of Medicine, Guy's Campus, London, UK
2005-present	Associate Professor, Department of Radi2019ation Oncology, UMSOM,
2005-present	Member, Program in Oncology, UMSOM
2010-present	Member, Center for Stem Cell Biology and Regenerative Medicine, UMSOM
2015-present	Adjunct Associate Professor, VARI's Center for Epigenetics, Van Andel Research Institute, Grand Rapids, Michigan
2016	Awarded Tenure, Department of Radiation Oncology, UMSOM

2019 Full Professor

Administrative Appointments

2011-2012	Interim Director of Radiobiology
2017	Co-leader of Experimental Therapeutics Program, UMGCCC

Professional Society Memberships

2002-2004	The Myelodysplastic Syndrome (MDS) Forum (UK)
2002-present	The American Association for Cancer Research (AACR)
2002-present	The Organization for Women in Cancer Research (WICR)
2006-present	The American Society of Hematology (ASH)

Honors and Awards

1992-1995	Leukemia Society of America Fellow Award (LLS), The Molecular Basis for Fragile Sites in Cancer ($90,000)
1994	Lilly Visiting Scholar Award, Genetics, Ethics and Society, St. Xavier's University, Chicago ($2,000)
2007	Nominated for "Woman of the Year", Leukemia Lymphoma Society Maryland Chapter
2012	Inaugural Laura Ziskin Prize in Translational Cancer Research, Stand Up To Cancer (SU2C) ($250,000) http://www.umgcc.org/news/laura-ziskin-prize.htm
2015	Member - Stand Up To Cancer – Epigenetics Dream Team
2016	FOLZ Foundation, Philanthropic Award, Grand Rapids Community Foundation, Grand Rapids, Michigan, $50,000

Travel Awards

1992	Upjohn Travel Award from the American Association for Cancer Research (AACR) for a meritorious abstract
1998	Elimination of Leukaemia Fund, UK Travel Award, AACR meeting on DNA Repair, Florida
2001	Elimination of Leukaemia Fund, UK Travel Award, AACR meeting, New Orleans
2002	Royal Society Travel Grant, Keystone Symposium on DNA Helicases and Cancer, Keystone, Colorado
2002	Elimination of Leukaemia, UK Travel Award, AACR meeting, San Francisco
2004	Royal Society Travel Award, AACR meeting, Orlando, Florida
2004	Elimination of Leukaemia Fund, UK Travel Award, American Society of Hematology (ASH), San Diego
2005	Elimination of Leukaemia Fund, UK Travel Award, to complete final reports for Myelodysplastic Syndrome (MDS) Projects

Administrative Service

Departmental Service – University of Maryland School of Medicine

2011-2012	Chair, Radiation Oncology Pilot Grant Committee
2011-2012	Member, Radiation Oncology Executive Leadership Committee
2011-2016	Member, Radiation Oncology Resident Admissions Committee

Institutional Service – University of Maryland School of Medicine

2006-2011	Reviewer, American Cancer Society (ACS) Institutional Review Grant (IRG), Pilot Project Grants at the University of Maryland Greenebaum Cancer Center (served 1x annually)
2007-present	Member, Cancer Biology Curriculum Committee
2008-2013	Organizer, Free Radical Interest Group (FRIG) monthly seminars (year round)
2009-present	Member, Graduate Program in Life Science (GPLS) Curriculum Committee
2009-present	Member, Master's Curriculum Committee
2009-2011	Member, School of Medicine Council
2011-present	Member, T32 Cancer Biology Steering Committee
2012-present	Member, Master's Program in Translational Research, Core Course
2013-present	Member, Translation Laboratory Sciences Advisory Committee
2013-present	Reviewer, T32 Grants (1x annually)
2013	Reviewer, Seed Grant Program UMB and UMCP (served 1x)
2014	Reviewer, Dean's Challenge Grant (served 1x)
2015	Reviewer, Graduate Application for Graduate Program in Toxicology (serve 1x)
2015	Reviewer, Graduate Application for Graduate Program in Biochemistry (serve 1x)
2015-present	Member, Funding Submission Peer Review Committee, Radiation Oncology
2018-present	Member of CIBR Advisory committee
2019	Member of MSTP T32 program Application

Local Service

2005	Moderator, Chromosomes and Cancer: From Translocations to Targeted Therapies, University of Chicago (served 1x)
2006	Chair Person, Baltimore Area Repair Symposium (BARS) – raised $15,000 (served 1x)
2008	Moderator, Myelodysplastic Syndromes: Pre-clinical and Translational Science, Baltimore Area Repair Symposium (BARS) (served 1x)
2008	Chair, DNA Damage and Repair Session, American Society for Therapeutic Radiology and Oncology (ASTRO) Meeting (served 1x)
2011	Moderator, Clinical Translation of Epigenetic in Cancer Therapy, San Diego, CA (served 1x)
2011-present	Reviewer, Nathan Schnaper Summer Intern Program candidates (serve 1x annually)
2012	Co-Organizer and Moderator, 5th Annual Maryland Stem Cell Research Symposium, Annapolis, MD (served 1x)
2012	Speaker, Stem Cell Center Fund Raiser, Black Olive Inn, Maryland (served 1x)

2013	Moderator, Radiation Oncology Review Course, University of Maryland (served 1x)
2017 - present	Co-Organizer of the ET Retreat, University of Maryland, September, 2017 (serve 1x annually)
2019	Chair Person, Baltimore Area Repair Symposium (BARS) 2020– raised $3,000 (served 1x)

National/International Service

2014	Coordinator, American Society of Hematology (ASH) Abstract Review, Category 601: Chromosomal Rearrangements and DNA Repair, San Francisco (served 1x)
2014	Moderator, Category 601: Chromosomal Rearrangements and DNA Repair, American Society of Hematology (ASH), San Francisco (served 1x)
2015	Chair, Minisymposia , Cancer Epigenetics, American Association of Cancer Research (AACR) Annual Meeting, Philadelphia, PA (serve 1x)
2016	Chair, Special Lecture, 18th Annual John Goldman Conference on Chronic Myeloid Leukemia: Biology and Therapy, Houston Texas (served 1x)
2017	Chair DNA Repair Session, AACR New Frontiers in Cancer Research, Cape Town South Africa, (served 1x)

Committees

2016	Program Committee for the AACR New Frontiers in Cancer Research Conference on January 18-22, 2017 in Cape Town, South Africa (served 1x)
2016-present	AACR Regional Advisory Subcommittee on Africa (served 2x)
2017	AACR-AstraZeneca Fellowship in Ovarian Cancer Research Committee (served 1x)
2018	Forbeck focus meeting on Epigenetic Therapy (serve 1x)
2019	Member of the AACR Hematologic Malignancies Research Grants Scientific Review Committee (serve 1x)

Journal Reviewer

1990-present	*Genes, Chromosomes & Cancer* (served 2-4x annually)
1992-present	*Cytogenetics and Cell Genetics* (served 2-4x annually)
1998-present	*Oncogene* (served 3-4x annually)
2002-present	*British Journal of Haematology* (served 1-2x annually)
2003-present	*Blood* (served 4-6x annually)
2003-present	*British Journal of Cancer* (served 1-2x annually)
2003-present	*Cancer Research* (served 4-6x annually)
2004-present	*Expert Review of Molecular Diagnostics* (served 1x annually)
2007-present	*Leukemia Research (served* 4-6x annually)
2007-present	*Proceeding of the National Academy of Sciences (served* 1-2x annually)
2008-present	*Nucleic Acids Research (served* 2-3x annually)
2008-present	*DNA Repair (served* 1-2x annually)
2009-present	*Molecular Cancer Research (served* 4-6x annually)
2012-present	*Molecular Cancer and Therapy (served* 2-4x annually)
2015-present	*The Journal of Pathology* (served 1x)

2016-presnet	*Oncotarget* (served 2x)
2016-present	*Leukemia and Lymphoma* (served 1x)
2017-present	*Cell Reports* (served 1x)
2019-present	*PNAS, USA* (served 1x)

Editorial Board Member

2003-2007	*Cancer Letters*
2009-present	*Leukemia Research*

Reviewer – Grants/Abstracts

2003-present	Grants/Abstracts - Leukaemia Research Fund (serve 1x annually)
2003-present	Grants – Kay Kendal Research Fund (serve 1x annually)
2004-2007	Grants/Abstracts - Italian Association for Cancer Research (served 1x annually)
2005	Abstracts - Beyond Translocations to New Targets, American Society of Hematology (ASH) (served 1x)
2005/2008/2010	Grants/Abstracts – American Society of Hematology (ASH) (served 1 x annually)
2010	Grants - Radiation Oncology Pilot Grant Program (served 1x)
2012	Grants - NIH Study Section, Ad Hoc (served 1x)
2013	Abstracts – Molecular Pharmacology Drug Resistance (ASH) (served 1x)
2014	Chair and Reviewer, Abstracts – Chromosomal Rearrangements & DNA Repair, ASH (served 1x)
2015	Grants – NCI Special Emphasis Panel (R21 & R03), Bethesda, MD (served 1x)
2016/2017	Review Committee for AACR Fellowships for Hematologic Malignancies Research Scientific (serve 1x annually)
2017	Reviewer for the AACR Annual Meeting African Cancer Researchers Travel Awards (serve 1x)
2017	Review Committee of AACR Astra Zeneca Fellowship for Ovarian Cancer (serve 1x annually)
2018	Reviewer for the Global Scholar-in-Training Awards, AACR (serve 1x annually).
2019	Reviewer for LLS-TRP grants (serve 1x annually)
2019	Reviewer, BioMed, Morasha and Bikura Programs, Israel Science Foundation (ISF) (serve 1x annually).

Reviewer – Poster Discussion (served 1x)

2015	17th Annual John Goldman Conference on Chronic Myeloid Leukemia: Biology and Therapy, Estoril, Portugal

Teaching

1989	Organizer, Diploma of Clinical Pathology, Cancer Cytogenetics Practical Course, Royal Postgraduate Medical School, UK (served 1x)
1992	Lecturer, "Genetics and Cancer", Path 301: Cellular Pathology Course, University of Chicago, 30-50 medical residents, 2 hrs/semester (served 1x)

1994-1997	Organizer, Hematology/Oncology Research Seminar Series, University of Chicago, 15-20 graduate students, post-doctoral fellows and faculty, 5 hrs/semester (served 1x annually)
1996	Organizer and Lecturer, Lilly Foundation Sponsored Lecture Series, Medical Science and Ethics, B.Sc. Course, St. Xavier's University, Chicago, 30-50 undergraduates, graduate students and faculty, 3 hrs/semester (served 1x)
1998	Lecturer, *"Cancer Cytogenetic"*, Diploma in Clinical Pathology Course, King's College, London, UK, 20 attendees (medical residents) 3 hrs/semester (served 1x)
1999	Lecturer, *"Genomic Instability in MDS"*, Diploma in Clinical Pathology Course, King's College, London, UK, percent of course taught: 10% (served 1x)
2002	Lecturer, "Genomic Instability", Regional Haematology Study Day, King's College, London, UK, percent of course taught: 10% (served 1x)
2005-present	Lecturer, Human Genetics (HGEN 601) *"Non-homologous end joining"*, University of Maryland, 10-15 graduate students, 1.5 hrs/semester (serve 1x annually)
2007-present	Co-Course Master, (2007-2009) and Lecturer, Advanced Cancer Biology (GPLS 790) "*DNA Repair and Cancer"*, University of Maryland, 15-25 students, 1.5 hrs/semester (serve 1x annually)
2008-2010	Lecturer, Graduate Program in Life Sciences (GPLS Core Course), Radiation Oncology, *"Chromatin and Histones"*, University of Maryland, 50-60 students, 2.5 hrs/semester (serve 1x annually)
2009-2011	Course Master and Lecturer, Cancer Biology: Research to Clinic, (GPLS 665) 3-4.5 hrs/semester, (served 1x annually)
2009-2010, 2013	Course Master and Lecturer, Bench to Bedside: Steps in Translational Research (GPLS 791) 2 lecturers - *"Introduction to Course"* and *"Chromosomes and Cancer"*, University of Maryland, 3.5 hrs/semester, 7-10 students (served 3x)
2009-present	Lecturer, Graduate Program in Life Sciences (GPLS Core Course), *"Cancer Genetics"*, University of Maryland, 50-60 students, 3 hrs/semester (serve 1x annually)
2012-present	Lecturer, Oncopharmacology, (GPLS 624) *"DNA Repair and Cancer"*, University of Maryland, 10-15 students, 3 hrs/semester (serve 1x annually)
2012-2013	Co-Course Master and Lecturer, Cancer Biology: Research to Clinic (GPLS 665), 2 lectures - *"Leukemia – Biology I & II"*, University of Maryland, 13-14 students, 3 hrs/semester (served 1 x annually)
2014-present	Co-Course Master and Lecturer, Cancer Biology: Research to Clinic (GPLS 665), *"Introduction to the Course"* and *"Leukemia Biology I and II"*, University of Maryland, 3-9 students, 4.5 hrs/semester (served 1x annually)
2016-present	Lecturer, Human Genetics (GPLS 601), "*Genomic Instability"*, 1.5 hrs/semester, (serve 1x annually)

Radiobiology & Medical Physics Course – (University of Maryland) Resident Lectures (1x annually)

2006-2009	"*Normal Tissue Response 1 & 2",* 4-6 students, 2.0 hrs/semester
2006-2012	"*Angiogenesis"*, 4-6 students, 1.0 hr/semester
2006-2018	*"Mechanisms of Cell Death",* 4-6 students, 1.0 hr/semester
2006-2018	"Molecular *DNA Repair"*, 4-6 students, 1.0 hr/semester
2012-2018	"*Chromosome DNA Damage",* 4-6 students, 1.0 hr/semester

Professors Rounds UMSOM (1x annually)

2007-present Ph. D., 0.5hr/semester
2011 – present MS Students, 0.5hr/semester

Annual Radiobiology & Medical Physics Review Course - (National) Lecturer (1x annually)

2007-2015 *"Apoptosis and Molecular Techniques"*
2016-2018 *"Cancer and molecular signaling"*

Mentoring

University of Chicago

1995-1997 Tiong Ong, M.D., Fellow

King's College, London, UK

1998-2004 Terry Gaymes, Ph.D., Post-Doctoral Fellow
1999-2004 Anjala Pradhan, Ph.D., Graduate Student
2000-2002 Dilek Aktas, M.D., Clinical Fellow
2001-2004 Nicola Brady, Ph.D., Post-Doctoral Fellow
2001-2004 Manyee Cheng, Ph.D., Post-Doctoral Fellow
2002-2003 Anne Wooley, B.S., Undergraduate Student
2003-2004 Maria Baou, B.S., Undergraduate Student
2003-2005 Nada Brown, Ph.D., Graduate Student

University of Maryland

Undergraduates Nathan Schnaper Summer Program

2007 Alisa Thavikulwat, M.D., *Topic:* Role of ATM in Leukemia (1st project)
2008 Alisa Thavikulwat, M.D., *Topic:* Role of DNA Ligase III in Leukemia (2nd project)
2009 Christine Kositz, M.D., *Topic:* Role of Histone Deactylase Inhibitors (HDI) in Leukemia
2010 Meridith Newton, M.D., *Topic:* Role of Ku70 in Repair Resulting from HDI Treatment
2011 Vishaili Purohit, M.D., *Topic:* Role of RAC/STAT5 in DNA Repair in Leukemia Cells
2013 Kelly Snead, B.S., *Topic:* Epigenetic Therapy Sensitizing Ovarian and MDS to PARP Inhibitors
2014 Rimsha Galees Afzal, B.S., *Topic:* Role of Myc in Genomic Integrity in Stem Cells
2015 Tyler Rutherford, B.S., *Topic*: PARP Trapping in Primary Cells from AML Patients
2018 Reena Ghoswami, B.S., PARP trapping in PARP inhibitor and DNMT inhibitor treated AML and lung cancer.
2019 Nicole Illesca B.S., TBA.

Post-Graduates

2005-2006	Dan Grosu, M.D., *Topic:* DNA Repair in Myeloid Leukemia
2005-2008	Annahita Sallmyr, Ph.D., *Topic*: DNA Repair in Chronic Myeloid Leukemia
2007-2011	Jinshui Fan, Ph.D., *Topic*: DNA Repair in FLT3/ITD Leukemias/Stem Cells
2008-2014	Carine Robert, Ph.D., *Topic*: Histone Deacetylase Inhibitors in Myeloid Leukemias
2011-2018	Pratik Nagaria, Ph.D., *Topic*: DNA Repair in Breast Cancer and Pluripotent Stem Cells. Continues in an adjunct capacity to the present.
2017-present	Rachel Abbotts, M.D./Ph.D., *Topic:* PARP and DNMT Inhibitors in Lung and Ovarian Cancer

Radiation Oncology Residents/Medical, Pre-Med and M.D./Ph.D. Students – Summer Program

2006	Matt Strickland, Medical Student, *Topic*: Levels of Gamma H2AX in Leukemia Cells
2008	Ali Reza Mirmiran, Resident, *Topic*: DNA Damage Response in Cancer Cells
2010	Vishal Duggal, Medical Student, *Topic*: Low Dose HDI and Demethylating Agents in Leukemia
2012	Daniel Eichberg, Medical Student, *Topic:* Precision Targeting of DNA Repair in Cancer (**note:** On 3/6/15, student won the Elijah Adams Biochemistry Prize, $300.00 for his Honors' paper)
2013	Kelly Snead, *Topic*: Epigenetic Therapy Sensitizing Ovarian and MDS to PARP Inhibitors
2015	Katherine Coburn, M.D./Ph.D., *Topic*: The Investigation of PARP Inhibitors in Combination with DNMT Inhibitors for Therapy in Resistant ER/PR/HER+ Breast Cancers

Mentoring and Thesis Project Committee Member – M.S. Students

2008-2010	Dipika Gemani, B.S., *Topic*: NRF2 in Myeloid Leukemias
2008-2011	Lisa Tobin, M.S., *Topic*: DNA Repair in Myeloid Leukemias
2011-2012	Parth Sawhney, M.S., *Topic*: DNA Repair in Myeloid Leukemias
2011-2013	Nidal Muvarak, M.S., *Topic*: DNA Repair in Myeloid Leukemias
2015-2016	Adeoluwa Adewuyi, B.S., *Topic*: DNA Repair in Myeloid Leukemias
2015-2016	Christopher Biondi, B.S., *Topic*: Mechanisms Underlying Epigenetic Therapy in Lung Cancer
2016-2017	Bryan Pelkey, B.S., *Topic:* DNA Repair in Breast Cancer
2016-2017	Daniel Fontaine, B.S., *Topic:* DNA Repair and Non-Small Cell Lung Cancer
2016-2018	Lora Stojanovic, B.S., *Topic:* PARP and DNA Methyl Transferase Inhibitors in Ovarian Cancer

Mentoring and Thesis Project Committee Member – Ph.D. Students

2011-2015	Khadiza Chowdhury, B.S., *Topic*: DNA Repair in Breast Cancer
2014-2017	Nidal Muvarak, M.S., *Topic*: DNA Repair in Myeloid Leukemias
2015-present	Lena McLaughlin, B.S., *Topic*: DNA Repair in Triple Negative Breast Cancer

2016-present	Aksinijah Shamah, B.S., *Topic:* Microenvironmental Responses of AML Cells to PARP Inhibitors and DNA Demethylating Agents
2017-present	Anna Delomo, B.S., *Topic:* HDAC Inhibitors, TKIs and PARP Inhibitors in Leukemia
2019	Lora Stojanovic Topic: TBA
2019	Julia Rutherford Topic: TBA

Thesis Project Committee Member (only) – Ph.D. Students

2005-2007	Sangeetha Vijakumar, Graduate Program in Life Sciences
2005-2008	Melissa Hefferin, Graduate Program in Life Sciences
2006-2009	Jocelyn Reader, Graduate Program in Life Sciences
2007-2011	Umut Aypar, Graduate Program in Life Sciences
2008-2011	Tiffany Scharadin, Graduate Program in Life Sciences/Biochemistry
2008-2012	Stephen Bowen, Graduate Program in Life Sciences
2010-2015	Patricia Buckley, Graduate Program in Life Sciences/Biochemistry
2014-2015	Haley Simpson, Graduate Program in Life Sciences/Medicine
2014-2017	Dhanraj Deshmukh, Graduate Program in Life Sciences/Toxicology
2014-2017	Kshama Doshi, Graduate Program in Life Sciences/Medicine
2014-2017	David McCarty, Graduate Program in Life Sciences/Medicine
2014-present	Jin Xu, Graduate Program in Life Sciences/Biochemistry
2015-2016	Justine Yu, Molecular Medicine/Genome Biology (changed mentorship)
2015-present	Rupa Guha, Graduate Program in Life Sciences/Pharmacology
2018-present	Michael Creed, Graduate Program in Life Science/Pediatrics
2018-present	Jonelle Lee, Graduate Program in Life Sciences
2019	Selina Teh, Graduate program in Cancer Biology –Johns Hopkins University

Thesis Qualifying Exam Committee Member (only) - PhD

2015-2016	William Fondrie, Molecular Medicine/Genome Biology
2015-2016	Nelson Chuang, Molecular Medicine/Medicine
2018	Jonelle Lee, Graduate Program in Life Sciences
2019	Diane Terry, Graduate Program in Molecular Medicine

Thesis Project Committee Member (only) – M.S. Student

2009-2010	Eric Diss, Graduate Program in Life Sciences/Biochemistry

Grant Support

Active Grants – University of Maryland

10/1/15-9/30/19 (PI, 10%) NCE
"DNA Demethylating Agent and PARP Inhibitor Therapy Targeting Aberrant DNA Repair in Acute Myeloid Leukemia (AML)"

Leukemia & Lymphoma Society (LLS): P-TRP-5885-15
Annual Direct Costs: $200,000
Total Direct Costs: $600,000
Role: Investigate the role of PARP inhibitors and epigenetic drugs in AML.

7/1/18-6/30/20 (PI Rassool, 10%) Renewed
"DNA Demethylating Agent and PARP Inhibitor Therapy Targeting Aberrant DNA Repair in Acute Myeloid Leukemia (AML)"
Leukemia & Lymphoma Society (LLS): P-TRP-5885-15 R
Annual Direct Costs: $300,000
Total Direct Costs: $600,000
Role: Test DAC/Talazoparib drug combination in phase 2 clinical trial in AML with correlative studies

10/01/19-9/30/21 (Co-inv., Rassool 10%; PI, S. Baylin, JHU) Renewed
"Bringing Epigenetic Therapy to the Management of Ovarian and Other Cancers"
Adelson Med. Res. Foundation: 2002469473
Annual Direct Costs: $100,000
Total Direct Costs: $300,000
Role: Investigate the role of PARP inhibitors and epigenetic drugs in ovarian cancer.

12/1/15-11/30/19 (Co-Inv., 10%; PI Baer)
"Multicenter phase 1/2 study of combination therapy with the DNA methyltransferase inhibitor decitabine and the poly ADP ribose polymerase (PARP) inhibitor talazoparib (BMN 673) for untreated acute myeloid leukemia (AML) in adult patients unfit for cytotoxic chemotherapy or relapsed/refractory AML
Van Andel-SU2C, Inc.
Clinical Trials: ~$1.390M
Rassool lab **$156,342.0**
Role: Provide correlative studies for Phase 1 clinical trial.

07/01/17-6/30/19 (PI Rassool, 10%)
"*Mechanisms for sensitivity to HDAC inhibitors involving PARP trapping in leukemias"*
NIH - 1R21 CA208937-01A1
Annual Direct Costs: $150,000
Total Direct Costs: $375,000
Role: Investigate the role of PARP inhibitors and HDACi in AML.

11/01/17-9/30/20 (PI Rassool, 10%)
"Use of DNA Demethylating Agents and PARP Inhibitors in Lung cancer"
Van Andel Research Institute-SU2C, Inc.
Annual Direct Costs: $50,000

Total Direct Costs: $150,000
Role: Investigate the role of PARP inhibitors and epigenetic drugs in lung cancer, including role in enhanced immune attraction.

12/01/2017 – 11/30/19 (PI Rassool (0%)
" Additional Funds to continue to explore the role of Talazoparib and DNA methyl transferase inhibitors in enhancing anti-tumor immune responses in AML"
Van Andel Research Institute-SU2C, Inc.
Annual direct costs: $50,000
Total direct costs: $100,000
Role: Study the immune response with PARPi/DNMTi combination therapy

08/1/16-07/31/21 PI Kevin Cullen (Rassool 10%)

NIH/NCI P30 CA134274
Cancer Center Support Grant
The Cancer Center Support Grant (CCSG) provides the resources and infrastructure to facilitate the coordination of interdisciplinary programs across a broad spectrum of research from basic laboratory research to clinical investigation to population science.
Role: Co–leader, Experimental Therapeutics Program

7/01/2019 – 6/31/24 MPI: Baylin, Rassool (10%), Easwaran
"*DNA methyl transferase gene expression in colon cancer"*
NIEHS (2R01ES011858)
Annual Direct Costs (Rassool): $100,00
Total Direct Costs (Rassool): $500,000
Role: Examine the role of DNMT and PARP in DNA damage and repair

10/1/19-11/30/22 (Co-Inv., 10%; PI Miller IU)
*"*A Phase II study of Guadecitabine and Talazoparib in patients with triple negative and hormone resistant metastatic breat cancer
Pfizer.
Clinical Trials: ~$1. Million
Rassool lab: $90,000
Role: Provide correlative studies for Phase 1 clinical trial.

<u>Pending Grants</u> – University of Maryland

10/1/19-9/30/21 Rassool, PI Rassool
Epigenetic Therapy sensitize to PARP inhibitors and ionizing radiation, increasing immune responses: Therapeutic strategies in NSCLC.
DOD Lung Cancer
Annual Direct Costs: $200,000

Completed Grants – University of Chicago

01/96-01/97 (PI, 10%)
"The FHIT gene and FRA3B in Breast Cancer"
NCI Breast Cancer Pilot Grant
Total Direct Costs: $35,000

01/97-01/98 (PI, 10%)
"The FRA3B in Ductal Carcinoma of the Breast"
Blowitz-Ridgeway Award, American Cancer Society (Illinois)
Total Direct Costs: $35,000

Completed Grants – King's College, London, UK

09/98-09/01 (PI, 100%)
"Genomic Instability in Myelodysplastic Syndromes (I)"
Elimination of Leukaemia Fund, UK (Private Foundation)
Total Direct Costs: $699,090

09/98-09/01 (PI, 10%)
"The Genetic Basis for Familial Acute Myeloid Leukaemia"
Royal Society (Private Foundation)
Total Direct Costs: $16,000

04/99-02/02 (PI, 10%)
"Identification and Characterization of Genes in Familial Myelodysplastic Syndromes"
Joint Research Council Ph.D. Studentship, King's College, London
Total Direct Costs: $63,960

09/01-09/04 (PI, 50%) **RENEWAL** (of above)
"Genomic Instability in Myelodysplastic Syndromes (II)"
Elimination of Leukaemia Fund, UK (Private Foundation)
Total Direct Costs: $327,750

09/01-09/04 (PI, 50%)
"Does Therapy-Related Malignancy Result from an Inability to Repair DNA Damage"
Elimination of Leukaemia Fund, UK (Private Foundation)
Total Direct Costs: $422,979

2002 (PI, 10%)

"Analysis of Altered Non-Homologous End-Joining in CLL Using Cell-Free Extracts"
Summer Grant, Burroughs Wellcome (Private Foundation)
Total Direct Costs: $1,856

Completed Grants – University of MD

06/05-06/06 (PI, 10%)
"ROS and MDS"
Intramural Grant (pilot), University of Maryland, Baltimore
Total Direct Costs: $30,000

06/06-06/07 (MPI, 10%) and Paul Shapiro
"The Role of STAT5 and Rac1 in ROS Production"
MSB Pilot Grant (pilot), University of Maryland, Baltimore
Total Direct Costs: $30,000
Role: Deriving mechanisms for the role of STAT5 and Rac1 in ROS production.

03/01/07-02/28/09 (PI, 5%)
"The Role of 'Back-up Repair' in Genomic Instability in CML"
Research Grant, DOD, contract number: W81XWH-07-1-0140
Annual Direct Costs: $100,000
Total Direct Costs: $100,000 (1 yr. no cost extension)

08/01/07-07/31/10 (Co-Inv., 10%), PI, S. Gore (at Johns Hopkins)
"Mechanisms of Combined Epigenetic Therapy in Myeloid Malignancies"
NIH grant number: R01CA125635; Sub award number: 2000364532
Annual Direct Costs: $70,092
Total Direct Costs: $213,940
Role: Deriving pre-clinical data for mechanisms of combined epigenetic therapy in myeloid malignancies.

07/01/08-06/30/11 (MPI, 10%); MPI, S. Baylin
"Dissecting the Genetic and Epigenetic Origins Underlying Tumorigenic Potential of Human Embryonic and Adult Stem Cells"
TEDCO (Maryland) Grant Number: 08072925
Annual Direct Costs: $500,000
Total Direct Costs: $1,500,000
Role: DNA & repair studies in stem cells.

10/01/08-09/30/10 (PI, 20%) (extended to 2010)
"The Role of WRN/Ligase III/XRCC1 in Genomic Instability in CML"
Leukemia & Lymphoma Society, Translational Award, grant number: 6085-07
Annual Direct Costs: $180,018
Total Direct Costs: $540,054

11/01/09-10/31/12 (PI, 20%)
"DNA Repair Inhibitors in Leukemia"
V Foundation (Private Foundation)
Annual Direct Costs: $181,818
Total Direct Costs: $600,000

09/30/10-05/31/13 (Co-Inv. 10%; PI Roghmann)
Clinical Research Curriculum Award
NIH/NCRR
Grant Number: 5K30R022682-05
Annual Direct Costs: $274,882
Total Direct Costs: $858,616
Role: Created Translational Research Program & GPLS 791 course.

07/01/10-6/30/14 (PI 15%)
"*Efficacy of remodeling the DNA damage response in induced pluripotent stem cells engineered by different methods"*
Continuation of previous TEDCO
TEDCO (Maryland) Grant Number: N/A
Annual Direct Costs: $200,000
Total Direct Costs: $600,000

07/01/12-06/30/14 (Co-Inv., 10%; PI Scheibner)
"Regulation of DNA double strand break repair in human hematopoietic stem cells by microRNAs"
Exploratory Grant TEDCO (Maryland)
Annual Direct Costs: $100,000
Total Direct Costs: $200,000
Role: DNA damage repair in hematopoietic stem cells.

06/01/14-09/30/14 (Co-Inv., 10%; PI - S. Baylin (JHU)
"Bringing Epigenetic Therapy to the Management of Ovarian and Other Cancers"
Adelson Foundation (Pilot)
Annual Direct Costs: $20,000
Total Direct Costs: $20,000
Role: To investigate the role of PARP inhibitors and epigenetic drugs in ovarian cancer.

07/01/14-06/31/16 (PI 10%)
"Efficiently reprogramed cells with a MYC signature display high fidelity repair of DNA damage"
TEDCO Maryland Stem Cell Fund
Annual Direct Costs: $100,000
Total Direct Costs: $200,000

07/01/15-06/30/17 (PI, 10%)
"*Mechanisms for sensitivity to PARP inhibitors in cancer involving ALT NHEJ"*
NIH - R21 5R21CA186974-02
Annual Direct Costs: $150,000
Total Direct Costs: $375,000

10/01/14-09/30/16 (Co-Inv., 10%; PI - S. Baylin (JHU)
"Bringing Epigenetic Therapy to the Management of Ovarian and Other Cancers"
Adelson Foundation (Pilot)
Annual Direct Costs: $100,000
Total Direct Costs: $200,000
Role: To investigate the role of PARP inhibitors and epigenetic drugs in ovarian cancer.

11/01/14-10/30/17 (Co-Inv., 10%); PI - S. Baylin (JHU)
"Use of DNA Demethylating Agents for Cancer Therapy"
Van Andel-SU2C, Inc.
Annual Direct Costs: $100,000
Total Direct Costs: $300,000
Role: To investigate the role of PARP inhibitors and epigenetic drugs in lung cancer.

07/01/14-06/30/18 (Co-Inv., 5%; PI - M. Baer)
"Inhibition of Pim Kinases in Acute Myeloid Leukemia"
VA Merit Review Award
Annual Direct Costs: $200,000
Total Direct Costs: $600,000
Role: To investigate role of Pim kinase inhibitors in DNA repair in leukemia.

Patents, Inventions and Copyrights

1. Co-Inventor on patent with Alan Tomkinson (STC Ref No. 2012-0250).
   Diagnostic Biomarkers to Identify Breast Cancer Patients Whose Disease Will Respond to a Combination of DNA Ligase and PARP Inhibitors
   US Patent Number 9,132,120 issued on September 15, 2015; to expire July 27, 2033
   Patent application jointly owned with the University of New Mexico.

2. Patent application applied for inventors: Rassool, Robert and Baylin
   Invention Disclosure: FR-2013-075
   Sensitizing Leukemias to PARP Inhibitors via Low Dose Epigenetic Therapy
   July 30, 2015 – Patent Cooperation Treaty – International Bureau published under No. WO 2015/112598

   US Continuation Patent Application Number: 15/254,716
   Title: "Therapy Regimen and Methods to Sensitize Cancer Cells Treated with Epigenetic Therapy to PARP Inhibitors in Ovarian Cancer"

UMB Docket Number: FR-2013-075 (US CON 2)
Johns Hopkins Ref: C12345

US Continuation Patent Application Number: 15/254,738
Title: "Therapy Regimen and Methods to Sensitize Cancer Cells Treated with Epigenetic Therapy to PARP Inhibitors in Lung Cancer"
UMB Docket Number: FR-2013-075 (US CON)
Johns Hopkins Ref: C12345

Publications

Peer-Reviewed Journal Articles

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2. Parreira L, Kearney L, **Rassool F**, Babapulle VB, Matutes E, Parreira A, Tavares de Castro J, Goldman JM, Catovsky D. Correlation between chromosomal abnormalities and blast phenotype in blast crisis of Ph-positive CGL. Cancer Genet Cytogenet 1986:22(1):29-34. PMID: 3456825. *(performed cytogenetic analysis, provided interpretation and participated in writing manuscript)*
3. Apperley JF, **Rassool F**, Parreira A, Geary CG, Harrison C, Stansfield D, Goldman JM. Philadelphia-positive metaphases in the marrow after bone marrow transplantation for chronic granulocytic leukaemia. Am J Hematol 1986:22(2):199-204. PMID: 3518418. *(performed cytogenetic analysis, provided interpretation and participated in writing manuscript)*
4. Alevizaki M, Shiraishi A, **Rassool FV**, Ferrier GJ, MacIntyre I, Legon S. The calcitonin-like sequence of the beta CGRP gene. FEBS Lett 1986:206(1):47-52. PMID: 3489641. *(determined genetic alterations, performed analysis, provided interpretation and participated in writing manuscript)*
5. Ganesan TS, **Rassool F**, Guo AP, T'h'ng KH, Dowding C, Hibbin JA, Young BD, White H, Kumaran TO, Galton DA, Goldman JM. Rearrangement of the bcr gene in Philadelphia chromosome-negative chronic myeloid leukemia. Blood 1986:68(4):957-960. PMID: 2875753. *(determined genetic alterations, performed analysis, provided interpretation and participated in writing manuscript)*
6. Brito-Babapulle F, Apperley JF, **Rassool F**, Guo AP, Dowding C, Goldman JM. Complete remission after autografting for chronic myeloid leukemia. Leuk Res 1987:11(12):1115-7. PMID: 2891879. *(performed cytogenetic analysis, provided interpretation and participated in writing manuscript)*
7. Ganesan TS, **Rassool F**, Guo AP, Young BD, Galton DA, Goldman JM. Rearrangement of the bcr gene in Philadelphia-chromosome-negative chronic myeloid leukaemia. Haematol Blood Transfus 1987:31:153-9. PMID: 3481750. *(determined genetic alterations, performed analysis, provided interpretation and participated in writing manuscript)*
8. T'h'ng KH, Garewal G, Kearney L, **Rassool F**, Melo JV, White H, Catovsky D, Foroni L, Luzzatto L, Goldman JM. Establishment and characterization of three new malignant lymphoid cell lines. Int J Cancer 1987:39(1):89-93. PMID: 3098690. *(performed cytogenetic analysis, provided interpretation and participated in writing manuscript)*

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10. Dreazen O, Klisak I, **Rassool F**, Goldman JM, Sparkes RS, Gale RP. The bcr gene is joined to c-abl in Ph1 chromosome negative chronic myelogenous leukemia. Oncogene Res 1988:2(2):167-175. PMID: 3217110. *(determined genetic alterations, performed analysis, provided interpretation and participated in writing manuscript)*

11. Arthur CK, Apperley JF, Guo AP, **Rassool F**, Gao LM, Goldman JM. Cytogenetic events after bone marrow transplantation for chronic myeloid leukemia in chronic phase. Blood 1988:71(5):1179-86. PMID: 3282566. *(determined genetic alterations, performed analysis, provided interpretation and participated in writing manuscript)*
12. **Rassool F**, Foroni L, Rahemtulla A, Dreazen O, Wiedeman L, Guo AP, Legon S, Catovsky D, Luzzatto L, Goldman J. The genomic breakpoint in a patient with Philadelphia-positive acute leukemia is 5' of the breakpoint cluster region. Cancer Genet Cytogenet 1988:32(2):217-27. PMID: 3259155.
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15. Brito-Babapulle F, Bowcock S, Marcus R, Apperley J, T'hng KH, Dowding C, **Rassool F**, Guo AP, Catovsky D, Galton D and Goldman JM. Autografting for patients with chronic myeloid leukaemia in chronic phase: peripheral blood stem cells may have a finite capacity for haemopoiesis. Br J Hematol 1989:73(1):76-81. PMID: 2572271. *(performed cytogenetic analysis, provided interpretation and participated in writing manuscript)*
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18. **Rassool F**, Martiat P, Taj A, Klisak I, Goldman J. Interstitial insertion of varying amounts of ABL-containing genetic material into chromosome 22 in Ph-negative CML. Leukemia 1990:4(4):273-7. PMID: 2164119.
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28. **Rassool F**. Inherited susceptibility to cancer: clinical, predictive and ethical perspectives. BMJ 1999:318(7197):1563. PMID: 10356041.
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39. Gaymes TJ, Padua RA, Pla M, Orr S, Omidvar N, Chomienne C, Mufti GJ, **Rassool FV**. Histone deacetylase inhibitors (HDI) cause DNA damage in leukemia cells: a mechanism for leukemia-specific HDI-dependent apoptosis? Mol Cancer Res 2006:4(8)563-73. PMID: 16877702.
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Asterisk *: co-senior author

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1. Abbotts R, Topper M, Biondi C, Fontaine D, Stojanovic L, Nagaria P, Choi E-Y, Lapidus R, Mahmood J, Baylin SB, **Rassool FV***. Enhancing the Therapeutic Effects of PARP Inhibitors and DNA Demethylating Agent combination therapy, using Low Doses of Ionizing Radiation in Non Small Cell Lung Cancers (**in revision PNAS**).
2. McLaughlin L[1,5,6], Shamah A[1,5,6], Choi E-Y[2,5], Xia L[3], Zou Y[4,] Baer MR, Lapidus RG[2,5,] Baylin SB[3], Topper M[3*], **Rassool FV[1,5*#]**. Combining DNA Methyl Transferase and PARP Inhibition Induces TNF alpha – Interferon Signaling To Drive Homologous Recombination Deficiency (**in preparation for submission to Cell**)

Book Chapters

1. Li L, Robert C, **Rassool FV**. The Role of Error-Prone Alternative Non-Homologous End-Joining in Genomic Instability in Cancer, DNA Repair and Human Health, Edited by Sonya Vengrova, Croatia, In Tech Open Access Publisher, 2011. ISBN: 978-953-307-612-6.
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75. Pelkey, B, Nagaria P, **Rassool FV.** Role of PARP Trapping in Regulation of DSB Repair and PARP Inhibitor Sensitivity in Cancers. B.M. Pelkey. 56th Annual Meeting and ToxExpo. March, 2017.
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85 Kogan A, Mclaughlin L, Topper M, Nidal Muvarak[1,2], Stojanovic L, Creed M, Soren Bentzen S, Civin C, Baer MR, Kingsbury T, Baylin S, Abbotts R, **Rassool FV**. DNA Demethylating Agents Generate a BRCAness Effect: Prediction for sensitivity to PARP inhibitors in AML. BARS 2018, Cancer Center Retreat 2018.

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88 McLaughlin L, Kogan A, Lapidus R, Choi E-Y, Zou Y, Baylin SB, Topper M, **Rassool FV**. DNMT and PARP inhibitor combination therapy induces and interferon-driven homologous recombination defect in triple negative breast cancers and acute myeloid leukemia AACR Atlanta 2019 (oral presentation).

89 Stojanovic L, Mclaughlin L, Zou Y, Baylin SB, **Rassool FV**. DNA Methyltransferase Inhibitors in Combination with PARP inhibitors Generate Synthetic Lethality in BRCA-proficient Ovarian Cancer. GRC Retreat 2019.

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Major Invited Speeches

Local

1. **Rassool F**. Eugenics, Mellon Continuing Education Lecture, University of Chicago, IL, 1994.
2. **Rassool F**. Direct Cloning of the Common Fragile Site at 3p14.2: A Large Region, Chromosome 3 Workshop, University of Michigan, MI, 1994.
3. **Rassool F**. Altered Double Strand Break Repair in Myeloid Malignancies and Pre-Leukaemic Syndromes, Radiation Oncology, University of Maryland Baltimore, Baltimore, MD, 2003.
4. **Rassool F**. DNA Damage and Repair in Leukaemogenisis: Scenarios for Chromosomal Instability, Medicine, University of Maryland Baltimore, Baltimore, MD, 2004.
5. **Rassool F**. DNA Damage and Repair in Leukaemogenesis: Implications for the Action of Histone Deacetylase Inhibitors, Medicine, Johns Hopkins University, 2004.
6. **Rassool F**. Genomic Instability in Myeloid Malignancies, Radiation/Oncology Research Seminar, University of Maryland Baltimore, Baltimore, MD, 2005.
7. **Rassool F**. Genomic Instability in Myeloid Malignancies, Johns Hopkins Seminar Series, Baltimore, MD, 2005.
8. **Rassool F**. Chromosomal Instability and Myeloid Malignancies: Underlying Mechanisms, Fragile Site Group, NIDDK, Bethesda, MD, 2006.
9. **Rassool F**. DNA Damage and Repair Infidelity: A Model for Genomic Instability in Myeloid Malignancies? Baltimore Area Repair Symposium (BARS), Baltimore, MD, 2006.
10. **Rassool F**. ROS, DNA Damage and Alternative NHEJ Repair: Pathways for Genomic Instability in Myeloid Malignancies, Translational Research Seminar Series, Johns Hopkins University, Baltimore, MD, 2009.
11. **Rassool F**. Increased ROS in FLT3/ITD "knock-in" Mice, Free Radical Interest Group (FRIG), University of Maryland Baltimore, Baltimore, MD, 2009.
12. **Rassool F**. Characterization and Targeting of Abnormal Double Strand Break Repair in Leukemias and Breast Cancer, National Institute of Aging Baltimore, DNA Repair Network, Baltimore, MD, 2010.
13. **Rassool F**. Can Abnormal DNA Repair in Myeloid Malignancies Be A Therapeutic Target? Toxicology Seminar, Program in Toxicology, University of Maryland Baltimore, Baltimore, MD, 2010.
14. **Rassool F**. FLT3/ITD Mutations Exhibit Elevated Repair Errors Generated Through Alternative DNA Double Strand Break Repair Pathways: Implications for Genomic Instability, Baltimore Area Research Symposium (BARS), Baltimore, MD, 2010.
15. **Rassool F**. Efficacy of Remodeling the DNA Damage Response in Induced Pluripotent Stem Cells Engineered by Different Methods, Free Radical Interest Group (FRIG), University of Maryland Baltimore, Baltimore, MD, 2011.
16. **Rassool F**. Efficacy of Remodeling the DNA Damage Response in Induced Pluripotent Stem Cells Engineered by Different Methods, Maryland Stem Cell Symposium, Towson University, Towson, MD, 2011.
17. **Rassool F**. Characterization and Targeting of Abnormal Double Strand Break Repair in Breast Cancer, Breast Cancer Seminar, Johns Hopkins University, Baltimore, MD, 2012.
18. **Rassool F**. Targeting Abnormal DNA Repair in Therapy-Resistant Breast Cancers, Shepherd Pratt Hospital, Baltimore Area Research Symposium (BARS), Baltimore, MD, 2012.

19. **Rassool, F**. DNA Double Strand Break Repair Response in Induced Pluripotent Cells (IPSCs): Role of Cell of Origin, Plenary session I, Maryland Stem Cell Symposium, Annapolis, MD, 2012.
20. **Rassool F**. Targeting of Abnormal DNA Repair to Overcome Resistance to Therapy in Cancer and Leukemia, MRS Seminar, Johns Hopkins University, Baltimore, MD, 2012.
21. **Rassool F**. Targeting of Abnormal DNA Repair to Overcome Resistance to Therapy in Cancer and Leukemia, Grand Rounds, Johns Hopkins University, Baltimore MD, 2012.
22. **Rassool F**. Characterizing and Targeting for Therapy, Abnormal DNA Repair in Cancer, School of Medicine Council, University of Maryland Baltimore, Baltimore, MD, 2013.
23. **Rassool F**. Role of C-MYC and c-MYC-Regulated MiRNAs Increasing ALT NHEJ Activity in Tyrosine Kinase-Activated Leukemias, Baltimore Area Research Symposium (BARS), Baltimore, MD, March, 2014.
24. **Rassool F**. Abnormal Double Strand Break Repair in Cancer and Leukemias: Regulation and Targets for Therapy, Molecular and Structural Biology (MSB) Retreat, University of Maryland Greenebaum Cancer Center, Baltimore, MD, June 2014.
25. **Rassool F**. Schnaper Lecture: Introduction to Translational Research, University of Maryland Baltimore, Baltimore, MD, July, 2014.
26. **Rassool F**. Professors Rounds, Schnaper Summer Program, Rassool Lab Research, University of Maryland Baltimore, Baltimore, MD, July, 2014.
27. **Rassool F**. Combining PARP Inhibitors with DNA Demethylating Agents – A Potent Anti-Leukemia, Strategy Toxicology Seminar, University of Maryland Baltimore, Baltimore, MD, Nov 18, 2014.
28. **Rassool F**. Exploiting the Roles of PARP in Anti-Cancer Therapeutic Strategies, Biochemistry Seminar, University of Maryland Baltimore, Baltimore, MD, Nov. 24, 2014.
29. **Rassool F**. Exploiting the Roles of PARP in Anti-Cancer Therapeutic Strategies, Molecular and Structural Biology (MSB) Meeting University of Maryland Baltimore, Baltimore, MD, Nov 24, 2014.
30. **Rassool F**. Exploiting the Roles of PARP in Anti-Cancer Therapeutic Strategies, Translational Sciences Seminar Series, Sidney Kimmel Cancer Center, Johns Hopkins University, Baltimore, MD, February 2015.
31. **Rassool F**. Exploiting the Roles of PARP in Anti-Cancer Therapeutic Strategies, Translational BARS, Baltimore, MD, February 2015.
32. **Rassool F**. Epigenetic therapy and PARP inhibitors: preclinical studies in lung cancer. Pre-Clinical Translational Research Retreat, JHU 2016.
33. **Rassool F**. Festival of Science"Cancer Research: Translational Discoveries to Next Generation Treatments", November, 2016.
34. **Rassool F**. LLS Maryland Chapter breakfast, May, 2017
35. **Rassool F.** Reprograming the DNA Repair Response: Creating Opportunities for Therapy in Non Small cell Lung Cancer BARS, Baltimore, March, 2018.
36. **Rassool F.** The role of PARP inhibitors and DNA methyl transferase inhibitors in enhancing anti-tumor immune responses in multiple tumor types. DTRS, December 10, 2018.

National

37. **Rassool F**. Combination of DNA methyltransferase and PARP inhibitors as a novel therapy strategy in non-small cell lung cancer? Thoracic Oncology Research Retreat, JHU June 25.
38. **Rassool F.** Combining PARP inhibitors with DNA methyltransferase inhibitors: underlying

mechanisms ET Retreat, University of Maryland, September, 2017.

39. **Rassool F**. Cloning of the FRA3B Region at Chromosome 3p14.2, American Association of Human Genetics, San Diego, CA, 1995.
40. **Rassool F**. A series of three lectures: Ethics and Human Genetics Medical Science and Ethics Lectures, Annual Lecture Series, St. Xavier's University, Chicago, IL, 1996.
41. **Rassool F**. The Non-Homologous End-Joining (NHEJ) DNA Repair Pathway is Aberrant in Myeloid Leukaemia: Evidence That Ku86 is Required for Increased Frequency and Size of Deletions (oral presentation), AACR, New Orleans, LA, 2001.
42. **Rassool F**. Increased Activity and Infidelity of Non-Homologous End-Joining (NHEJ) in Bloom's Syndrome and Myeloid Leukaemias: Evidence That Ku86 is Required for Increased Frequency and Size of Deletion (oral presentation), American Society of Haematology (ASH), Orlando, FL, 2001.
43. **Rassool F**. Increased Constitutive Replication-Associated DNA Damage in Bloom's Syndrome (BS) is Associated with Increased Infidelity of Non-Homologous End-Joining (NHEJ): Implication for Chromosomal Instability in BS? (oral presentation), AACR, San Francisco, CA, 2002.
44. **Rassool F**. Increased Constitutive Replication-Associated DNA Damage in Bloom's Syndrome (BS) is Associated with Increased Infidelity of Non-Homologous End-Joining (NHEJ): Implication for Chromosomal Instability in BS? Oral Presentation Keystone Symposium: DNA Helicases and Cancer, Lake Tahoe, NV, 2002.
45. **Rassool F**. Histone Deacetylase Inhibitors Mimic the Double Strand Break Repair Response to Irradiation in vitro, AACR, Orlando, FL, 2004.
46. **Rassool F**. The Werner's Syndrome Protein Plays a Complex Role in NHEJ-Related Genomic Instability, AACR, Orlando, FL, 2004.
47. **Rassool F**. Increased DNA Damage and Error-Prone Repair in Myeloproliferative/Myelo-dysplastic Mice with Disease Progression: Key Indicators for Increased Genomic Instability, ASH, San Diego, CA, 2004.
48. **Rassool F**. HDAC Inhibitors as DNA Damaging Agents, Workshop on Clinical Translation of Epigenetics in Cancer Therapeutics, Charleston, SC, 2005.
49. **Rassool F**. DNA Damage and Repair Infidelity: Mechanisms for Genomic Instability in Myeloid Malignancies, Lovelace Biomedical and Environmental Research Institute, Albuquerque, NM, 2006.
50. **Rassool F**. FLT3 Mutations and Genomic Instability, ASH, San Francisco, CA, 2007.
51. **Rassool F**. DNA Damage as a Target of HDAC Inhibition, Epigenetics Workshop, Phoenix, AZ, 2007.
52. **Rassool F**. ROS, DNA Damage and Error-Prone Repair: Model for Genomic Instability in MDS, MDS Symposium, AACR, San Diego, CA, 2008.
53. **Rassool F**. The Role of a New and Up-Regulated DNA Repair Protein Complex Containing DNA Ligase III and WRN, in Genomic Instability in CML, Leukemia Lymphoma Society Translational Research Program Progress Review Meeting, New York, 2008.
54. **Rassool F**. Error-Prone Repair of DSB by "Back-Up" Non-Homologous End-Joining: a Model for Creating Genomic Instability in CML? MDS Symposium, M.D. Anderson, Houston, TX, 2008.
55. **Rassool F**. DNA Damage and Repair, Key Molecular Pathways in Myeloid Malignancies, Grand Rounds, M.D. Anderson, Houston, TX, 2008.
56. **Rassool F**. Histone Deacetylase Inhibitors (HDi) Decrease Repair Using Alternative Non-Homologous End-Joining (NHEJ) in Acute Leukemia Cells, Epigenetics in Cancer Therapy, Coral Gables, FL, 2009.

57. **Rassool F**. NRF2 in Imatinib Resistance, Chronic Myeloid Leukemia - Biological Basis of Therapy, Washington, DC, 2010.
58. **Rassool F**. Epigenetic Drugs as Modifiers of NHEJ Repair, 41st EMS Symposium, Fort Worth, TX, 2010.
59. **Rassool F**. Targeting of Abnormal DNA Repair to Overcome Resistance to Therapy in Cancer and Leukemia, MRS Seminar, Johns Hopkins University, Baltimore, MD, 2012.
60. **Rassool F**. Targeting of Abnormal DNA Repair to Overcome Resistance to Therapy in Cancer and Leukemia, Grand Rounds, Johns Hopkins University, Baltimore, MD, 2012.
61. **Rassool F**. Characterization, Targeting and Regulation of DSB Repair in Embryonic Stem Cells, Cancers and Leukemias, University of New Mexico, Albuquerque, NM, 2012.
62. **Rassool F**. DNA Repair and Cell Signaling, Radiation Oncology, National Review Course, University of Maryland Baltimore, Baltimore, MD, 2012.
63. R**assool F**. **Plenary session talk:** Double Strand Break Repair: Role of Cell of Origin, Maryland Stem Cell Fund, Annapolis, MD, 2012.
64. **Rassool F**. Clinical Translation of Epigenetics in Cancer Therapy: Targeting Abnormal DNA Repair and Epigenetic Inhibitors in Myeloid Malignancies: Strategies for Therapy, Asheville, NC, 2013.
65. **Rassool F**. DNA Repair and Cell Signaling, Radiation Oncology National Review Course, University of Maryland, Baltimore, MD, 2013.
66. **Rassool F**. C-MYC and c-MYC-Regulated MiRNAs Amplify Transcription of LIG3 and PARP1, Increasing ALT NHEJ in Tyrosine Kinase-Activated Leukemias, ASH, New Orleans, LA, 2013.
67. **Rassool F**. Demethylating Agents Reprogram FLT3/ITD-Positive Leukemias, Sensitizing Them to Poly-(ADP)-Ribose Polymerase Inhibitors POST, ASH, New Orleans, New Orleans, LA, 2013.
68. **Rassool F** and Baylin S. Ziskin Award Presentation, Stand Up to Cancer, Los Angeles, CA, January, 2014.
69. **Rassool F**. Abnormal Double Strand Break Repair in Cancer and Leukemias: Regulation and Targets for Therapy, Van Andel Research Institute, Grand Rapids, MI, 2014.
70. **Rassool F**. Abnormal Double Strand Break Repair in Cancer and Leukemias: Regulation and Targets for Therapy Presentation to Biomarin Pharmaceutical Company, AACR, San Diego, CA, 2014.
71. **Rassool F**. Abnormal Double Strand Break Repair in Cancer and Leukemias: Regulation and Targets for Therapy, Fells Institute, Philadelphia, PA, 2014.
72. **Rassool F**. Combining PARP Inhibitors with DNA Demethylating Agents – A Potent Anti-Leukemia Strategy and Rationale for a Clinical Trial, Van Andel Research Institute, Stand-up To Cancer, Grand Rapids, MI, October, 2014.
73. **Rassool F**. Combining PARP Inhibitors with DNA Demethylating Agents – A Potent Anti-Leukemia Strategy, Myeloid Leukemia Workshop, ASH, San Francisco, CA, 2014.
74. **Rassool F**. Chairperson, Minisymposium, Cancer Epigenetics, AACR Annual Meeting, Philadelphia, PA, April 18-22, 2015.
75. **Rassool F**. Exploiting the Functions of PARP in Cancer Therapy, Emory University School of Medicine, Winship Cancer Institute of Emory University, Atlanta, GA, May 28, 2015.
76. **Rassool F**. Exploiting the Functions of PARP in Cancer Therapy, Beckman Research Institute (BMI) of City of Hope Seminar Series, Duarte, CA, June 3, 2015.
77. **Rassool F**. (4 talks) **1)** Acute Myeloid Leukemia Project (SGI-110 + Talazoparib PARPi), **2)** PARP Concept (SGI-110 + PARPi), **3)** Acute Myeloid Leukemia Project (SGI-110 + Talazoparib),

4) PARP Concept, Annual Meeting and SU2C-AACR Progress Review Team Visit, Van Andel Research Institute, Grand Rapids, Michigan, August 26-28, 2015.

78. **Rassool F**. Exploiting the Functions of PARP in Cancer Therapy, University of Indiana, Bloomington, IN, Nov 9, 2015.
79. **Rassool F**. Chalk Talk SU2C. VARI Scientific Retreat, Crystal Mountain, Michigan June 2016.
80. **Rassool F**. Combination of DNA methyltransferase and PARP inhibitors as a novel therapy strategy for multiple cancers: key results in AML and triple negative breast cancer. Targeting Epigenetics and Genome Regulation to Improve Urologic Health AUA Headquarters | Linthicum, MD. July 16-17, 2016.
81. **Rassool F**. Exploiting the Functions of PARP in Cancer Therapy, Temple University, Philadelphia, PA, August, 2016.
82. **Rassool F**. Invited speaker Leukemia Lymphoma Society, New York City, October 2017
83. **Rassool F**. Invited speaker American Society of Hematology DNA damage response, Atlanta December 2017
84. **Rassool F**. AML Project update and new proposals, SU2C Annual meeting, August 15-17, 2017.
85. **Rassool F**. Invited speaker, Science Symposium: "Leveraging Epigenetics to Enhance Cancer Therapeutics" University of Southern California, CA, August 15, 2017.
86. **Rassool F**. Invited speaker. "Translating Combination DNA Methyl Transferase and PARP inhibitor Therapies: Emerging Mechanisms". Forbeck Meeting, Lake Geneva, Wisconsin, October 5-6, 2018.

International

87. **Rassool F**. The FRA3B and FHIT in Cancer, Weatherall Institute of Molecular Medicine, Oxford, UK, 1998.
88. **Rassool F**. Philadelphia Negative, BCR-ABL-Positive CML, Leukaemia Research Fund Young Scientist of the Year, one-day symposium, London, UK, 1998.
89. **Rassool F**. Deletions within the FRA3B and Cancer, Department of Haematology, Bournemouth Hospital, Dorset, UK, 1998.
90. **Rassool F**. Human Fragile Sites and Cancer, 18th International Congress of Genetics Beijing, China, 1998.
91. **Rassool F**. The Basis for Genomic Instability in Myelodysplastic Syndromes, Genomic Instability at Fragile Sites, Nottingham, UK, 1998.
92. **Rassool F**. Familial Myelodysplastic Syndrome Is Not Associated With Microsatellite Instability: Study of a Family Users and Markers, International MDS Meeting, Prague, Poland, 1999.
93. **Rassool F**. The Uses of FISH Techniques in Studying Cancer, Workshop for Head and Neck Cancer, Guy's King's Thomas's School of Medicine, London, UK, 2001.
94. **Rassool F**. Increased Infidelity of Non-Homologous End-Joining (NHEJ) in Bloom's Syndrome and Myeloid Leukaemias: Evidence that Ku70 and/or 86 Are Required for Increased Frequency and Size of Deletions, British Society of Haematology, Brighton, UK, 2002.
95. **Rassool F**. Altered Double Strand Break Repair in Myeloid Malignancies and Preleukaemic Syndromes. Imperial College of Science and Technology Hammersmith Hospital, London, UK, 2002.
96. **Rassool F**. Double Strand Breaks and NHEJ Pathways in Leukaemia, Guy's Hospital, London, UK, 2002.

97. **Rassool F**. Non-Homologous End-Joining and Genomic Instability in Cancer, Edinburgh University, Edinburgh, UK, 2003.
98. **Rassool F**. Altered Double Strand Break Repair in Myeloid Malignancies and Pre-Leukemic Syndromes, Inaugural Meeting of MDS Forum, London, UK 2003.
99. **Rassool F**. The Role of Double Strand Break Repair in Myeloid Malignancies, The Royal Free Hospital, London, UK, 2003.
100. **Rassool F**. Mechanisms for Genomic Instability in MDS and AML, 7th International MDS Symposium, Paris, France, 2003.
101. **Rassool F**. and Pradhan, A. (PhD student) Differentially Expressed Genes in Familial MDS, 7th International MDS Symposium, (prize for best abstract), Paris, France, 2003.
102. **Rassool F**. Increased Error-Prone NHEJ in Myeloid Leukaemias, Salisbury Regional Genetics Laboratories, Salisbury, UK, 2003.
103. **Rassool F**. DNA Damage and Error-Prone Repair in MDS Mice, European Haematology Association, Stockholm, Germany, 2005.
104. **Rassool F**. DNA Damage and Repair Infidelity: A Model for Genomic instability in myeloid malignancies? CML Workshop, Genoa, Italy, 2005.
105. **Rassool F**. Histone Deacetylase Inhibitors (HDI) Cause DNA Damage in Leukemia Cells: A Mechanism for Leukemia-Specific HDI Dependent Apoptosis? The Seventh International Congress of Differentiation, Therapy Versailles, France, 2006.
106. **Rassool F**. How Does DNA Damage and Unfaithful DNA Repair Contribute to Genomic Instability and Disease Progression? CML Workshop, Bermuda, 2006.
107. **Rassool F**. Error-Prone Repair of DSBS: A Model in Genomic Instability in Cancer, Recent Progress in Cancer Biology and Therapeutics Symposium, Argentina, 2007.
108. **Rassool F**. Error-Prone Repair of Double Strand Breaks by "back-up" Non-Homologous End-Joining (NHEJ): A Model for Creating Genomic Instability in CML? ESH/EHA Mandelieu, France, 2007.
109. **Rassool F**. ROS, DNA Damage and Error-Prone Repair in FLT3/ITD Leukemias, Inserm Seminar, Paris, France, 2007.
110. **Rassool F**. Error-Prone Repair of DSB by "Back-Up" Non-Homologous End-Joining: A Model for Creating Genomic Instability in CML? Myeloproliferative Disease Workshop, San Juan, Puerto Rico, 2007.
111. **Rassool F**. ROS, DNA Damage and Error-Prone Repair, Cancer Biology Seminar, Munich, Germany, 2008.
112. **Rassool F**. Inhibiting Double Strand Break Repair and Alternative Non-Homologous End-Joining: Potential Therapeutic Targets in chronic Myeloid Leukemia with Resistance to Imatinib, Cancer Therapeutics Meeting, Bangkok, Thailand, 2008.
113. **Rassool F**. ROS, DNA Damage and Repair in Leukemic Stem Cells, Stem Cell Workshop, ESH/EHA, Mandelieu, France, 2009.
114. **Rassool F**. Alternative Non-Homologous End-Joining is a Novel Therapeutic Target in a Subset of Imatinib Resistant Chronic Myeloid Leukemias, Eleventh International Chronic Myeloid Leukemia – Biological Basis of Therapy, Bordeaux, France, 2009.
115. **Rassool F**. Therapeutic Targeting of Abnormal Repair of Double Strand Breaks in Leukemias, Frankfurt Symposium, Molecular Pathogenesis of Leukemia: Insights and Challenges, Frankfurt, Germany, 2010.
116. **Rassool F**. FLT3/ITD Mutations Exhibit Elevated Repair Errors Generated Through Alternative DNA Double Strand Break Repair Pathways, Impairing B Lymphocyte Development in FLT3/ITD

"knock-in" Mice: Implications for Genomic Instability, EHA/ESH Workshop, Barcelona, Spain, 2010.

117. **Rassool F**. FLT3/ITD Mutations Regulate DNA Double Strand Break Repair: Implications for Genomic Instability, EHA/ESH: Acute Myeloid Leukemia "Molecular", Mandelieu, France, 2011.
118. **Rassool F**. Targeting of Abnormal DNA Repair to Overcome Resistance to Therapy in Cancer and Leukemia, Jean Bernard Seminar on Leukemia and Tumor Biology, Hospital Saint-Louis Paris France, 2012.
119. **Rassool F**. DNA Ligase and PARP Inhibitors: Therapeutic Targets in Imatinib Resistant CML. 14th International Conference on Chronic Myeloid Leukemia: Biology and Therapy, Baltimore, MD, 2012.
120. **Rassool F**. **Keynote Speaker:** Genomic Instability. Genomic Instability Pathways in Chronic Myeloid Leukemia: Drivers of Disease Progression and Resistance, but Also Targets for Therapy? 15th International Conference on Chronic Myeloid Leukemia: Biology and Therapy. Estoril, Portugal, September 2013.
121. **Rassool F**. Combination DNA Methyltransferase and PARP Inhibitors as a Novel Therapy Strategy for Poor Prognosis Acute Myelogenous Leukemia, Gordon Research Conference: Cancer Genetics & Epigenetics, Lucca, Italy, April 12-17, 2015.
122. **Rassool F.** Exploiting the functions of PARP for cancer therapy. Hospital Saint Louis, Paris, May, 2016.
123. **Rassool F.** Exploiting the functions of PARP for cancer therapy, Tumorigenesis through Dysregulation, IAAO2016 Symposium, Tokyo, Japan, July 22 & 23, 2016.
124. **Rassool F.** Combination of DNA methyltransferase and PARP inhibitors as a novel therapy strategy for multiple cancers: Key data in AML and triple negative breast cancer. AACR New Frontiers in Cancer Research, Cape Town South Africa, January 18-22, 2017.
125. **Rassool F**. Abnormal DNA repair, genomic instability and opportunities for therapy in leukemia and cancer. University of Cape Town, January 25, 2017.
126. **Rassool F**. Abnormal DNA repair, genomic instability and opportunities for therapy in leukemia and cancer. University of Auckland, New Zealand, October 25, 2017.
127. **Rassool F**. Combining PARP inhibitors with DNA Methyl Transferase Inhibitors: underlying mechanisms. Garvan Research Institute, Sydney Australia, October 27, 2017.
128. **Rassool F**. Reprograming the DNA Repair Response: Creating Opportunities for Therapy in Non Small cell Lung Cancer Naples, July 2018.
129. **Rassool F.** Abnormal DNA repair, genomic instability and opportunities for therapy in leukemia and cancer. Frontiers in Cancer Science, Singapore November 2018.
130. **Rassool F.** Abnormal DNA repair, genomic instability and opportunities for therapy in leukemia and cancer. Taipei, Taiwan, November 2018.
131. **Rassool F.** Marrying Drug-induction of viral mimicry, the inflammasome and DNA repair defects in cancer. Gordon Conference Cancer Genetics and Epigenetics April, 2019, Renaissance Tuscany Il Ciocco in Lucca (Barga) Italy.
132. **Rassool F**. Role for targeting DNA repair in AML. Educational session, EHA, Amsterdam, Netherlands, June 13-16, 2019.