Saturday March 12

Saturday Evening Companion Meeting

7:40 pm (Endocrine Pathology Society): Genomic Landscapes of Poorly-differentiated and Anaplastic Thyroid Carcinoma: Clues for Better Classification, Risk Stratification and Therapy – Ronald Ghossein [MSKCC]

8:00 pm (International Society of Urological Pathology): Update on the 2016 WHO Classification of Bladder Neoplasia – Victor Reuter [MSKCC]

Sunday March 13

Sunday Afternoon Companion Meeting

1:30 pm-5:00 pm (International Society of Bone and Soft Tissue Pathology): Cristina Antonescu, Co-Moderator

2:35 pm (International Society of Bone and Soft Tissue Pathology): Ewing and Ewing-like Sarcomas – Cristina Antonescu [MSKCC]

5:30-7:30 pm – Housestaff Fellowship Fair

Washington State Convention Center – Rooms 611-612

7:30 pm-9:30 pm (Evening Specialty Conference – Gynecologic Pathology): Rob Soslow, Moderator

Monday March 14

Monday Morning Platform Sessions

8:00 am-12:00 pm (Proffered Papers – Section D – Gastrointestinal Pathology): Efsevia Vakiani, Co-Moderator
8:00 am-12:00 pm (Proffered Papers – Section G – Pulmonary Pathology): Natasha Rekhtman, Co-Moderator

8:15 am - Are Microglandular Adenosis and Breast Acinic Cell Carcinomas Related Lesions? (Weigelt, Reis-Filho – Breast Pathology – Section B)

8:15 am - Bilateral Invasive Mucinous Adenocarcinomas (Former Mucinous Bronchioloalveolar Carcinoma): Molecular Analysis Confirms Intrapulmonary Spread Rather Than Separate Primary Tumors (Leduc, Tian, S. Dogan, Ladanyi, Travis, Rekhtman – Pulmonary Pathology – Section G)

9:00 am - Frequent HRAS Mutations in Ectomesenchymoma (ECM): Overlapping Genetic Abnormalities with Embryonal Rhabdomyosarcoma (ERMS) (Agaram, Antonescu – Potpourri: Pediatric Pathology – Section H)

11:00 am - The Mutational Landscape of Breast Adenomyoepitheliomas (Edelweiss, Weigelt, Reis-Filho – Breast Pathology – Section B)

11:15 am - Comprehensive Morphological Assessment of Colorectal Cancers Characterized by The Cancer Genome Atlas (TCGA) Identifies Specific Morphology-Molecular Alteration Associations (Shia, Berger, Vakiani, Hechtman, Klimstra – Gastrointestinal Pathology – Section D)

11:15 am - Inter-Observer Agreement in Endometrial Carcinoma (EC) Diagnosis Varies Depending on TCGA Subgroup Assignment (Soslow – Gynecologic Pathology – Section E)

11:45 am - The Cancer Genome Atlas-Based Molecular Classifier Identifies Prognostically Significant Subgroups of Grade 3 Endometrioid Carcinoma of the Endometrium (Soslow – Gynecologic Pathology – Section E)

Monday Morning Poster Session


[Poster #25] Distant Metastases in Breast Cancer Patients with Oncotype Dx Recurrence Score Lower Than 18 (Brogi, Wen)

[Poster #38] Papillomas without Atypia: Can Excision Be Spared? (Pareja, Murray, Brogi, Corben)

[Poster #39] Tumor Infiltrating Lymphocytes (TILs) in Triple Negative Breast Cancer (TNBC): A Three-Tier System Predicts Survival (Pareja, Brogi, Wen)

[Poster #43] Benign Vascular Lesions of the Breast Do Not Require Excision (Sebastiano, Brogi, Corben, Murray)
[Poster #110] *EBV Status and Molecular Alterations in Gastric Carcinomas with Lymphoid Stroma* (Klimstra, Shia)

[Poster #114] *An Intimate Dance: Patterns and Clinical Relevance of PD-L1 and PD-1 Expression in Colorectal Carcinoma* (Lee, Santos-Cavalcanti, Hechtman, Vakiani, Klimstra, Shia)

[Poster #124] *Histopathologic Features of Colorectal Carcinoma in Patients with HIV Infection* (Santos-Cavalcanti, Shia, Vakiani, Sigel)

[Poster #171] *The Correlation of TP53 and RB1 Genetic Alterations and Immunohistochemical (IHC) Expression in Invasive and Non-Invasive Urothelial Carcinoma* (Zheng, Sarungbam, Tickoo, Fine, Chen, Berger, Gopalan, Sirintrapun, Reuter, Al-Ahmadi)

[Poster #181] *Loss of SWI/SNF Complex Protein Expression Is Associated with Dedifferentiation in Endometrial Carcinomas* (Hoang, Soslow)

[Poster #192] *Nuclear B-catenin Expression Provides a Consistent Immunohistochemical Correlate for PAX3 Rearrangements in Biphenotypic Sinonasal Sarcoma* (Antonescu)

[Poster #196] *Prognostic Histological Features in the Phenotypic Spectrum of Polymorphous Low Grade Adenocarcinoma (PLGA) and Cribriform Adenocarcinoma of Minor Salivary Gland (CAMSG): A Unicenter Retrospective Study of 69 Patients* (Xu, Ghossein, Katabi)

[Poster #197] *Prognostic Significance of Perineural Invasion (PNI) in Oral Tongue Squamous Cell Carcinoma (OTSCC): A Clinicopathologic Study of 381 Patients* (Xu, Katabi, Ghossein)

[Poster #218] *Clinicopathologic Features of Erdheim-Chester Disease (ECD): A Histiocytic Neoplasm Characterized by Deregulation of RAS/RAF/MEK/ERK Pathway* (C. Park, Rosenblum, A. Dogan)

[Poster #267] “Oncocytic-type” of Intraductal Papillary Mucinous Neoplasm (IPMN): An Analysis of 25 Cases (Klimstra, Sigel, Basturk)

**Monday Afternoon Hot Topics**

12:00-1:00 pm – Hot Topics in Pathology 01- Hematopathology: Topic 1 – Ahmet Dogan [MSKCC]

**Monday Afternoon Platform Sessions**

1:00 pm-3:00 pm (Proffered Papers – Section D – Breast Pathology): Edi Brogi, Co-Moderator

1:00 pm - *Spread through Air Spaces (STAS) Is an Independent Predictor of Recurrence in Lung Squamous Cell Carcinoma* (Travis – Pulmonary Pathology – Section B)
1:00 pm - TERT Hotspot Promoter Mutations and TERT Gene Amplification in Phyllodes Tumors of the Breast (Reis-Filho, Murray, Edelweiss, Ross, Brogi, Ladanyi, Weigelt – Breast Pathology – Section D)

1:00 pm - Molecular Analysis of Low-Grade Cribriform Cystadenocarcinoma & Related In-Situ and Invasive Carcinomas (Antonescu – Head & Neck Pathology – Section F)

1:00 pm - Clinico-Pathologic Features of Fatal Non-Anaplastic Follicular Cell-Derived Thyroid Carcinomas (Non-ANA FCDCs) (Xu, Ghossein – Endocrine Pathology – Section H)

1:15 pm - Clonal Relationship among Synchronous Ipsilateral Fibroepithelial Lesions: Progression from Fibroadenomas to Phyllodes Tumors (Murray, Weigelt, Edelweiss, Weigelt, Brogi, Reis-Filho – Breast Pathology – Section D)

2:15 pm - Chromosomal Abnormalities of Tumors with Features of Mucinous Tubular and Spindle Cell Carcinoma of the Kidney yet with High Grade Cytology (Chen – Genitourinary Pathology – Section A)

2:15 pm - Next-Generation Sequencing of Pulmonary Large Cell Neuroendocrine Carcinoma Reveals Clinically-Relevant Subsets with Small Cell Carcinoma-Like and Non-Small Cell Carcinoma-Like Molecular Profiles (Rekhtman, Berger, Tian, Tavis, Ladanyi – Pulmonary Pathology – Section B)

2:45 pm - Diagnostic Criteria for Oncocytic Renal Neoplasms: A Survey of Specialist Renal Tumor Pathologists (Reuter – Genitourinary Pathology – Section A)

Monday Afternoon Poster Session

[Poster #101] Assessing % Gleason Pattern (GP) 4 in Needle Biopsies: An Interobserver Reproducibility Study (Fine, Sarungbam, Al-Ahmadi, Chen, Gopalan, Sirintrapun, Reuter, Tickoo)

[Poster #150] Validation of Pattern-Based Classification of Endocervical Adenocarcinoma (EAC) (K. Park)

[Poster #153] Invasive Stratified Mucin-Producing Carcinoma and Stratified Mucin-Producing Intraepithelial Lesion (SMILE): 15 Cases Presenting a Spectrum of Cervical Neoplasia with Description of a Distinctive Variant of Invasive Adenocarcinoma (K. Park)

[Poster #155] Genomic Characterization of Gastric-Type Endocervical Adenocarcinomas (Murali, Weigelt, K. Park)

[Poster #159] Sinonasal Tract Cribriform Adenocarcinoma of Minor Salivary Glands (CAMSG): Description of a Recently Recognized Neoplasm in a Previously Unrecognized Anatomic Location (Antonescu)

[Poster #172] High Risk Human Papillomavirus in Primary Squamous Cell Carcinoma of the Parotid Gland (Xu, Wang, Katabi, S. Dogan)
[Poster #178] The Utility of p16 Immunostaining in Fine Needle Aspiration (FNA) Material in Human Papilloma Virus (HPV)-Related Head and Neck Squamous Cell Carcinoma (HNSCC) (Xu, Ghossein, Lin, Katabi)

[Poster #201] Near Bi-Phenotypic Antigen Expression Defines an Acute Myeloid Leukemia (AML) Cohort with High-Risk Molecular Genetic and Cytogenetic Features (Roshal)

[Poster #213] Identification of Mutated CALR Protein Is Useful in the Diagnosis and Prognostic Stratification of JAK-2 Negative, MPL-Negative Myeloproliferative Neoplasms (Quinones, Jungbluth, Sen, A. Dogan)

[Poster #253] Lessons Learned from Next Generation Sequencing in Use of Immunohistochemistry (IHC) for EGFR L858R and ALK in Lung Cancer Predictive Testing (Montecalvo, Rekhtman, Arcila, Berger, Travis)

[Poster #260] Cerebrospinal Fluid Specimen Evaluation in Patients with Hematopoietic Neoplasms: The Need for an Integrated Approach (Buonocore, Roshal, Lin)

[Poster #282] Pathology Review of Research Biopsies Highlights Inter- and Intra-Tumor Variability: Towards Improving Quality and Utility for Next-Generation Biospecimen Research (Roehrl)

[Poster #296] EDTA-Based Decalcification of Bone and Bone Marrow- Ideal Tool for Protein and Nucleic Acid Preservation - A Pilot Study (Nafa, A. Dogan, Hameed)

[Poster #302] Cytology Waste or Molecular Treasure? A Proposed Algorithm for Molecular-Oriented Cytology Specimen Utilization (Tian, Arcila, Lin)

Monday Evening Specialty Conference

7:30 pm (Evening Specialty Conference – Surgical Pathology): Case 5 – Cristina Antonescu [MKSCC]

Tuesday March 15

Tuesday Morning Platform Session

8:00 am - Comprehensive Molecular Characterization of 412 Muscle Invasive Urothelial Carcinomas of the Bladder – Final Analysis of The Cancer Genome Atlas (TCGA) Project (Al-Ahmadie, Reuter – Genitourinary Pathology – Section A)

8:00 am - Recurrent Novel CIC Gene Abnormalities in Angiosarcoma: A Molecular Study of 120 Cases with Concurrent Investigation of PLCG1, KDR, MYC, and FLT4 Gene Alterations (Zhang, Agaram, Antonescu – Bone and Soft Tissue Pathology – Section G)
8:45 am - Comprehensive Molecular Analysis of Plasmacytoid Variant Urothelial Carcinoma (Al-Ahmadie, Gopalan, Chen, Fine, Tickoo, Arcila, Berger, Reuter – Genitourinary Pathology – Section A)

11:00 am - Significant Prognostic Factors in Invasive Ampullary Adenocarcinoma (AC): Clinicopathologic Analysis of 367 Cases (Basturk – Gastrointestinal Pathology – Section D)

11:00 am - Analysis of Estrogen Receptor (ER) Immunohistochemistry (IHC) in Breast Cancer with ESR1 Mutations Detected by Hybrid Capture-Based Next Generation Sequencing (NGS) (Ross, Konno, Brogi, Berger, Wen – Breast Pathology – Section B)

11:15 am - Flow Cytometric Characterization of PD1 Expression in Tumor Infiltrating T-cells in B-cell Lymphoproliferative Disorders Identifies Distinct, Disease Specific Patterns (Quinones, A. Dogan – Hematopathology – Section C)

11:30 am - Genetic Alterations Detected in Urine Cytology Specimens from Patients with High Risk Non-Muscle Invasive Urothelial Carcinoma Treated with BCG (Lin, Berger – Cytopathology – Section F)

11:30 am - Recurrent BCOR Internal Tandem Duplication (ITD) and YWHAE-NUTM2B Fusions in Undifferentiated Round Cell Sarcoma (URCS) of Infancy – Overlapping Genetic Features with Clear Cell Sarcoma of Kidney (CCSK) (Antonescu – Bone and Soft Tissue Pathology – Section G)

Tuesday Morning Interactive Microscopy

10:00-11:30 am – Crazy Gynecologic Acronyms (LMP, SBT, STIC, TILT AND STIL): A Review of Challenging Uterine Adnexal Neoplasms – Rob Soslow [MSKCC]

Tuesday Morning Poster Session

[Poster #28] The Genetic Landscape of Neuroendocrine Breast Carcinomas (Weigelt, Reis-Filho)

[Poster #41] Unique Insights into Cardiac Metastases and Tumor Biology from a Cancer Center’s Rapid Research Autopsy Program (Roehrl)

[Poster #103] Succinate Dehydrogenase (SDH)-Deficient Renal Cell Carcinoma, a Report of 7 Cases with an Emphasis on High Grade Morphologic Features (Hao, Al-Ahmadie, Gopalan, Sirintrapun, Fine, Tickoo, Reuter, Chen)

[Poster #114] Clear Cell Papillary Renal Cell Carcinoma Shows Marked Depletion of Mitochondrial Content: A Comparative Differential Diagnostic Study (Sarungbam, Bialik, Sirintrapun, Al-Ahmadie, Gopalan, Fine, Chen, Reuter, Tickoo)
[Poster #154] Genomic Analysis of Low-Grade Serous Ovarian Tumors Associated with High-Grade Serous Carcinoma or Undifferentiated Carcinoma (Murali, Soslow, Cheng)

[Poster #183] Successful Secure HD Streaming Teleytology for Remote Cytologic Evaluation (Sirintrapun, Lin)

[Poster #188] An Enterprise Approach for Pathology Reporting Utilizing PDF Functionality for the Electronic Medical Record (Sirintrapun, Reuter, Klimstra)

[Poster #247] Targeted Next Generation Sequencing Reveals Unique Mutation Profile of Primary Melanocytic Tumors of the Central Nervous System (Murali)

**Tuesday Afternoon Platform Session**

1:00 pm - Clinicopathologic and Molecular Analysis of Pancreatic Ductal Adenocarcinoma in Patients with Lynch Syndrome (Shia, Klimstra – Pancreas Pathology – Section F)

1:15 pm - Undifferentiated Carcinoma with Osteoclast-like Giant Cells of the Pancreas: Clinicopathological Analysis of 20 Cases Highlights a More Protracted Clinical Course Than Currently Appreciated (Basturk – Pancreas Pathology – Section F)

1:15 pm - Leukemic Stem Cell Responses to Induction Chemotherapy Identify Novel Prognostic Biomarkers in Acute Myeloid Leukemia (Raciti, C. Park – Hematopathology – Section G)

1:30 pm - Our Rapid Research Autopsy Program: A Solid Platform for Next Generation Clinical Trials (Roehrl – Autopsy – Section B)

1:45 pm - Immune-Related Adverse Events (irAEs) Following CTLA-4 and PD-1/PD-L1 Blockade in Advanced Melanoma: A Comprehensive Rapid Autopsy Study (Roehrl – Autopsy – Section B)

2:15 pm - Marked Geographic Differences in the Pathologic Diagnosis of Non-Invasive (Tis) vs Minimally Invasive (T1) Gallbladder Cancer: Santiago Consensus Conference Highlights the Need for the Unifying Category "Early Gallbladder Cancer" (EGBC) (Basturk, Klimstra – Pancreas Pathology – Section F)

2:15 pm - Uterine Adenosarcoma and Phyllodes Tumor of the Breast Have Similar Repertoires of Somatic Genetic Alterations (Weigelt, Murray, Ross, Soslow, Ladanyi, Brogi, Reis-Filho – Pathobiology – Section H)

2:30 pm - Robotic Telecytology for Successful Remote Cytologic Evaluation without On-Site Cytopathology Staffing (Sirintrapun, Lin – Informatics – Section A)

2:30 pm - Epithelial Atypia in the Gallbladder: Diagnosis and Classification in an International Consensus Study (Basturk, Klimstra – Pancreas Pathology – Section F)

2:30 pm - Metaplastic Breast Carcinomas and Gynecologic Carcinosarcomas: Variations of the Same Theme or Distinct Entities? (Wen, Reis-Filho, Weigelt – Pathobiology – Section H)
**Tuesday Afternoon Poster Session**

[Poster #23] *NTRK1 Associated Gene Fusions in Pediatric Fibroblastic / Myofibroblastic Neoplasms: A Molecular Study of 58 Cases* (Agaram, Zhang, Antonescu)

[Poster #34] *Follicular Dendritic Cell Sarcomas: Insights into Its Molecular Landscape* (A. Dogan, Ladanyi, Klimstra, Arcila)

[Poster #42] *Primary Adult Skeletal Osteosarcoma: A Clinicopathological and Molecular Study* (Wang, Nafa, Hameed)

[Poster #57] *Establishing Recommendations for Her2 Staining in Cytology Cell Block Material* (Konno, Edelweiss)

[Poster #129] *High FAK in the Background of Low c-MET and Low RON Levels Is Associated with Worse Survival in Stage I-III Colorectal Adenocarcinoma Patients* (Roehrl)

[Poster #130] *Nuclear Maspin Expression Is an Independent Prognostic Marker in Microsatellite Stable Stage II Colorectal Carcinoma* (Roehrl)

[Poster #132] *Diagnosing Colorectal Medullary Carcinoma: Interobserver Variability and Clinicopathological Implication* (Lee, Vakiani, Hechtman, Klimstra, Shia)

[Poster #134] *Mismatch Repair-Deficient Neuroendocrine Carcinomas of the Lower GI Tract* (Santos-Cavalcanti, Lee, Vakiani, Hechtman, Klimstra, Shia)

[Poster #137] *Clonality of Urothelial Carcinoma Developing in the Bladder Following Radical Nephroureterectomy* (Chen, Sirintrapun, Gopalan, Fine, Tickoo, Reuter, Berger, Al-Ahmadie)

[Poster #140] *Comprehensive Molecular Analysis of Small Cell Carcinoma of the Bladder* (Hao, Reuter, Tickoo, Gopalan, Sirintrapun, Fine, Chen, Weigelt, Berger, Al-Ahmadie)

[Poster #144] *Mutational Profile Using Next Generation Sequencing May Aid in Distinguishing Urachal Adenocarcinoma from Bladder Adenocarcinoma* (Sirintrapun)

[Poster #215] *A Unique Variant of Indolent Mantle Cell Lymphoma Exclusively Involving Gastrointestinal Tract* (Sae-Ow, A. Dogan)

[Poster #264] *20q Gain Is an Oncogenic Driver Event That Occurs Preferentially in KRAS/ BRAF Wild Type Colorectal Carcinoma* (Pagan, Berger, Shia, Vakiani, Ladanyi, Hechtman)

[Poster #265] *Recurrent, Truncating SOX9 Mutations Are Associated with KRAS and PI3K Pathway Mutations and May Be Oncogenic in Colorectal Carcinoma* (Hechtman, Vakiani, Shia, Iacobuzio-Donahue)

[Poster #268] *Immuno-Proteomics of Colon Cancer: PSMA1 Is Implicated in Colorectal Carcinogenesis and Has Prognostic Significance* (Roehrl)
[Poster #283] Utility of Oral Fluid (Saliva) for Molecular Profiling in Hematologic Malignancy
(Killian, Arcila, Ladanyi)

[Poster #284] Cigarette Smoke Associated Genetic Alterations Found in Urine Specimens from Patients with Superficial Non-Muscle Invasive High Grade Urothelial Carcinoma (M. Zhang, Berger, Lin)

[Poster #287] TGFβ Is an Upstream Regulator of mTORC2-Dependent Bladder Cancer Migration and Invasion (Al-Ahmadi)

5:30-7:30 pm — MSKCC Pathology Alumni Reception

(Jefferson Room/Sheraton Seattle Hotel)

Tuesday Evening Specialty Conference

7:30 pm (Evening Specialty Conference – Bone and Soft Tissue Pathology): Case 1 – Narsi Agaram [MKSCC]

Wednesday March 16

Wednesday Morning Short Course

8:00 am-12:00 pm – Short Course #36: Inherited Gynecologic Cancer Syndromes – Pathologically and Clinically Based Risk Assessment and Genetic Counseling: What every practicing pathologist should know (Rob Soslow [MSKCC] / Angela Arnold [MSKCC] / Teri Longacre)

Wednesday Morning Poster Session

[Poster #8] Characteristics of Lymphovascular Invasion in Different Histologic Subtypes of Invasive Breast Carcinoma (Edelweiss, Weigelt, Giri, Reis-Filho)

[Poster #28] Morphologic Features and Prognostic Value of Lymphovascular Invasion in Lymph Node Positive Breast Carcinoma (Sebastiano, Giri)

[Poster #90] Mismatch Repair Protein Deficiency Is Not Present at a Higher Rate in HIV-Infected Patients with Colorectal Carcinoma (Santos-Cavalcanti, Shia, Vakiani, Sigel)
[Poster #91] High PSB7 Expression in Colorectal Cancer Predicts Poor Overall Survival among Older Female Patients and Female Patients Treated with Adjuvant Chemotherapy (Roehrl)

[Poster #142] Uterine Adenosarcomas Are Mesenchymal Neoplasms (Weigelt, Soslow, Reis-Filho)

[Poster #159] Refined Characterization of Hepatoid Differentiation in Gynecologic Tract Neoplasms (Soslow)

[Poster #191] SNP Arrays and Targeted Genomic Sequencing Identify Distinctive Genomic Alterations In Testicular Diffuse Large B-Cell Lymphoma (Gur, Wang, Jungbluth, Arcila, A. Dogan)

Wednesday Afternoon Poster Session


[Poster #85] Sex and Genetic Alterations in High Grade Urothelial Carcinoma on Urine Cytologic Specimens (Buonocore, Berger, Lin)

[Poster #154] Adenocarcinoma Ex-Goblet Cell Carcinoid (XGC) Is a Morphologically Distinct “Appendiceal-Type Crypt Cell” Adenocarcinoma with Highly Aggressive Behavior and Frequent Association with Peritoneal/Intra-Abdominal Dissemination: An Analysis of 77 Cases (Basturk)

[Poster #160] Comprehensive Proteomic Characterization of Pancreatic Adenocarcinoma (Roehrl)

[Poster #210] Endometrial Biopsies Can Be Used Reliably to Predict Final Endometrial Carcinoma Classification Using Both Histopathologic and Molecular Based Strategies (Hoang, Soslow)

[Poster #236] Routine Comprehensive Genomic Profiling of T-Cell Neoplasms Improves Diagnostic Accuracy and Identifies Actionable Therapeutic Targets (Gomez-Gelvez, Arcila, A. Dogan)

[Poster #252] CD164: A Novel Marker Distinguishing Hematopoietic Stem/Progenitor Cells (HSPC) from Leukemic Stem Cells (Royston, C. Park)

Wednesday Evening Specialty Conference

7:30 pm (Evening Specialty Conference – Neuropathology): Case 1 – Cristina Antonescu [MKSCC]

7:30 pm (Evening Specialty Conference – Neuropathology): Case 2 – Jason Huse [MKSCC]
**Thursday March 17**

*Thursday Morning Short Course*

8:00-11:30 am – Short Course #21: Important Aspects of Skin Adnexal Pathology (Melissa Pulitzer [MSKCC] / Thomas Brenn / Alexander Lazar / Jaime Calonje)

*Thursday Evening Specialty Conference*

7:30 pm (Evening Specialty Conference – Gastrointestinal Pathology): *Case 2* – Olga Basturk [MKSCC]

**Friday March 18**

*Friday Morning Short Course*

8:00-11:30 am – Short Course #53: Problems, Pitfalls and an Integrated Approach to Lymphoproliferative Disorders in the Skin (Melissa Pulitzer [MSKCC] / John Goodlad)