

**Article title: The added value of PSMA PET/MR radiomics for prostate cancer staging****Journal:** European Journal of Nuclear Medicine and Molecular Imaging**Authors:** Solari EL, Gafita A, Schachoff S, Bogdanović B, Villagrán Asiares A, Amiel T, Hui W, Rauscher I, Visvikis D, Maurer T, Schwamborn K, Mustafa M, Weber W, Navab N, Eiber M, Hatt M, Nekolla SG

Model	Discretization	Selected features
patient baseline	-	n=3: age, weight, iPSA
radiomics baseline	-	n=3: PET VOI volume, PET SUV max, ADC max
T1w	32 bins	n=9: 1. Skewness; 2. GLDM: Large Dependence High Gray Level Emphasis; 3. Minimum; 4. Max 2D Diameter Column; 5. GLSZM: Zone Variance; 6. GLSZM: High Gray Level Zone Emphasis; 7. NGTDM: Complexity; 8. GLSZM: Gray Level Variance; 9. GLCM: Cluster Tendency
T2w	8 bins	n=7: 1. Minor Axis Length; 2. Maximum 2D Diameter Column; 3. GLRLM: Gray Level Non Uniformity; 4. Surface Area; 5. Least Axis Length; 6. Kurtosis; 7. GLSZM: Size Zone Non Uniformity
ADC	bins of 200 [10 <sup>-6</sup> mm <sup>2</sup> /s]	n=7: 1. GLCM: Autocorrelation; 2. GLSZM: Small Area High Gray Level Emphasis; 3. GLDM: Small Dependence High Gray Level Emphasis; 4. GLDM: Dependence Variance; 5. GLCM: Joint Entropy; 6. GLSZM: Large Area Low Gray Level Emphasis; 7. Maximum 2D Diameter Column
PET	bins of 0.25 SUV	n=9: 1. GLDM: Dependence Entropy; 2. NGTDM: Contrast; 3. GLCM: Contrast; 4. NGTDM: Complexity; 5. 40% mean SUV; 6. Maximum 2D Diameter Row; 7. 90th Percentile; 8. GLDM: High Gray Level Emphasis; 9. Total SUV
PET+T1w	PET: bins of 0.25 SUV T1w: 32 bins	n=10: 1. PET: Maximum 2D Diameter Row; 2. T1w: Minimum 3. T1w: Maximum 2D Diameter Column; 4. T1w GLDM: Dependence Variance; 5. T1w GLSZM: Large Area Low Gray Level Emphasis; 6. T1w GLSZM: Zone Variance; 7. PET GLDM: Dependence Entropy; 8. PET: Total SUV; 9. T1w: Kurtosis; 10. T1w: 90 <sup>th</sup> Percentile
PET+T2w	PET: bins of 1 SUV T2w: 16 bins	n=7: 1. T2w: Minor Axis Length; 2. T2w: Mesh Volume; 3. T2w: Maximum 2D Diameter Column; 4. PET: Maximum 2D Diameter Row; 5. T2w: Surface Area; 6. T2w GLDM: Dependence Non Uniformity; 7. T2w: Least Axis Length
PET+ADC	PET: bins of 0.25 SUV ADC: bins of 200 [10 <sup>-6</sup> mm <sup>2</sup> /s]	n=9: 1. PET: Maximum 2D Diameter Row; 2. ADC GLDM: Small Dependence High Gray Level Emphasis; 3. ADC GLDM: Dependence Variance; 4. ADC: Maximum 2D Diameter Column; 5. ADC: Surface Area; 6. ADC GLSZM: Large Area High Gray Level Emphasis; 7. ADC GLSZM: Large Area Emphasis; 8. ADC GLRLM: Gray Level Variance; 9. PET: Total SUV

**Supplementary Table 3.** Characteristics of the best-performing models for each image modality (*top, grey*: baseline models; *center, green*: single-image radiomics; *bottom, orange*: double-image radiomics). The “baseline” models were trained with clinical data only and common radiomics only, respectively.

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