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Author: Temviriyankul, Piya

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**TRANSLATION SYNTHESIS:
CELLULAR AND ORGANISMAL FUNCTIONS**

Piya Temviriyankul

Cover: Ancient Buddhist temple mural depicting a Thai daily life scene at Wat Phumin, Nan province, Thailand.

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**TRANSLESION SYNTHESIS:
CELLULAR AND ORGANISMAL FUNCTIONS**

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Promotor: Prof. Dr. Leon H.F. Mullenders

Co-promotors: Dr. Niels de Wind
Dr. Jacob G. Jansen

Overige leden: Prof. Dr. Hein te Riele¹
Prof. Dr. Jaap Brouwer²
Prof. Dr. Jan H.J. Hoeijmakers³

¹ Division of Biological Stress Response, The Netherlands Cancer Institute

² Department of Molecular Genetics, Leiden University

³ Department of Genetics, Erasmus University Medical Center

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“And in that moment, I swear we were infinite”

The Perks of Being a Wallflower, Stephen Chbosky

ABBREVIATIONS

9-1-1	Rad9-Rad1-Hus1
(6-4)PPs	(6-4) pyrimidine-pyrimidone photoproducts
ATM	ataxia-telangiectasia mutated protein
ATR	ataxia- telangiectasia and Rad3-related protein
ATRIP	ATR-interacting protein
BER	base excision repair
BPDE	benzo[<i>a</i>]pyrene diolepoxide
Chk1	checkpoint kinase 1
CPDs	cyclobutane pyrimidine dimers
DA	DNA damage avoidance
DDR	DNA damage response
DDT	DNA damage tolerance
DSB	DNA double-strand break
γ -H2AX	phosphorylation of histone H2AX at serine 139
4-HNE	4-hydroxynonenal
GG-NER	global genome nucleotide excision repair
HR	homologous recombination
KAP1	KRAB-ZFP-associated protein 1
MEFs	mouse embryonic fibroblasts
MN	micronuclei/micronucleus
NER	nucleotide excision repair
NHEJ	non-homologous end joining
PCNA-Ub	ubiquitinated proliferating cell nuclear antigen
Pol η	DNA polymerase Eta
Pol ι	DNA polymerase Iota
Pol κ	DNA polymerase Kappa
Pol ζ	DNA polymerase Zeta
RPA	replication protein A
ssDNA	single-stranded DNA
TLR	translesion replication
TLS	translesion synthesis
UBM	ubiquitin-binding motif
UBZ	ubiquitin-binding zinc finger motif
UV	ultraviolet light

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